

# VISION 2020



**SWARNA ANDHRA PRADESH**



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## OVERVIEW

# Andhra Pradesh: Vision 2020

Andhra Pradesh has set itself an ambitious vision. By 2020, the State will have achieved a level of development that will provide its people tremendous opportunities to achieve prosperity and wellbeing and enjoy a high quality of life.

To attain this level of development, the State will have to embark on a vigorous effort to create economic growth. Development, particularly social development, will require the creation of economic opportunity, mainly through the growth of the economy. Economic opportunity can be created even in the most adverse circumstances. Japan and Germany created great opportunities in the post-war era by developing excellence in manufacturing. Singapore, with minimal natural resources, raised the standard of living of its people by creating a free port and a trading hub in its island nation. In the same way, through innovation and resourcefulness, Andhra Pradesh will have to stimulate the growth of the three major sectors of its economy: agriculture, industry, and services.

Economic growth will stimulate development in two ways. First, it will increase incomes for the people by creating employment opportunities. Second, it will generate additional resources for the Government. The Government will invest these resources mainly in social development, that is, eradicating poverty, improving education and health, promoting rural and urban development, and providing services such as housing, water, power, transportation, and so on.

Of course, this can be achieved only with the active participation of the people in the development of the State. The Government, therefore, looks to the people to

become its partners in progress, striving together to achieve the level of development that Vision 2020 stands for.

What will life in the State be like if this level of social development and economic growth is achieved?

By 2020, every individual in Andhra Pradesh will be able to lead a comfortable life, filled with opportunities to learn, develop skills, and earn a livelihood. Poverty will have been eradicated and current inequalities will have disappeared. Disadvantaged groups—scheduled castes, scheduled tribes, backward classes, and minorities—as well as other groups in need of special attention, such as women and children, will be empowered and provided with the opportunities they need to achieve their full potential. The genuinely vulnerable—the old, the infirm, and the disabled—will be able to lead a secure and dignified life. Every child in the State will be well fed, healthy and will go to school and learn. A girl child born in this year will have as many chances as her brothers will to go to school, find a job and live a healthy and productive life.

No family will lack basic needs like food, clothing and shelter. Every family will be able to live in hygienic surroundings, and enjoy the benefits of clean air and water. Power will be available to run appliances, radios and televisions; transport will be at hand to go to work or seek entertainment and so will telephones to get important jobs done or simply keep in touch with relatives and friends. Families will continue to promote social values, encourage hard work, and continually strive for a better life.

Andhra Pradesh will have a skilled workforce that stands for quality, productivity, workmanship and initiative; and policies and procedures that make it easy to do business in the State. Agriculture, industry and services businesses will have power, transport, telecommunications, in fact, all the infrastructure they require to grow strongly and profitably. This will make investors favour Andhra Pradesh in their investment decisions.

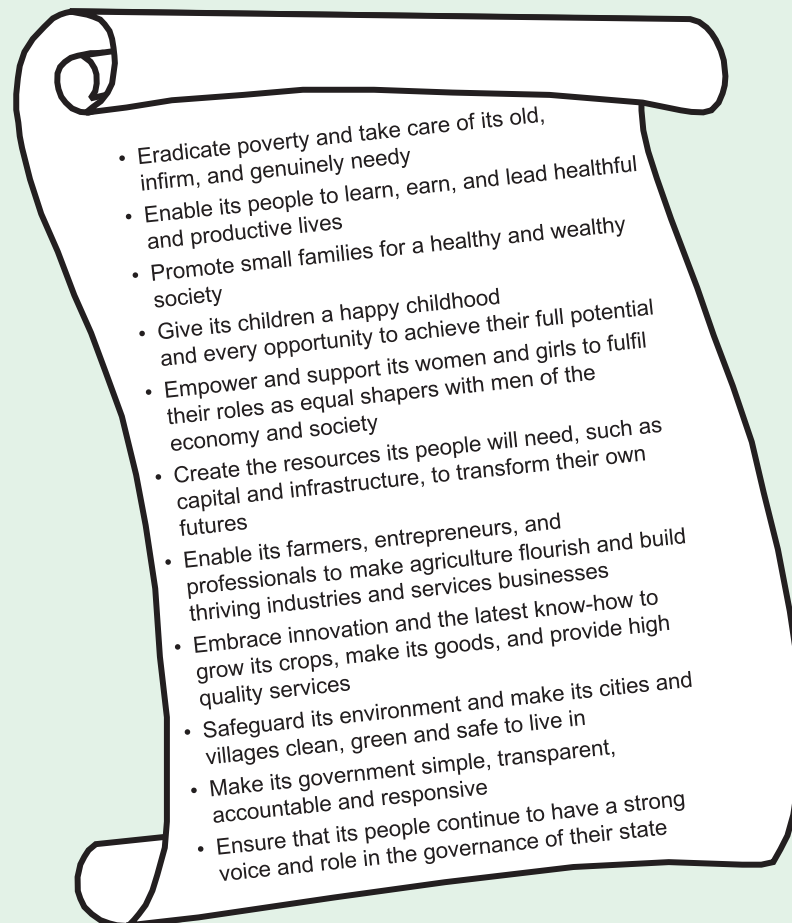
Andhra Pradesh's people will be able to look forward to exciting opportunities in a flourishing economy with thriving agriculture, industry and services sectors. If they live in rural areas, they will earn profitable livelihoods from a revitalised agriculture sector, find jobs on poultry farms, food processing or fisheries units, or be able to set up their own small-scale enterprises.

If they live in Andhra Pradesh's cities, they will be able to work in exports firms, garments manufacturing enterprises, construction and real estate companies, travel agencies, tourism offices, and software development firms, among many others. In both villages and cities, they will be able to set up retail outlets, restaurants, and other such services. To equip them to be successful in their jobs and businesses, they will have access to knowledge and training through vocational education and skill-building institutions and the benefits of technology transfer and small technologies.

Everyone will benefit from a government that is truly 'for the people', which enables individuals and businesses to achieve their full potential, and is transparent and

Exhibit 1

**ANDHRA PRADESH'S MISSION**

- 
- Eradicate poverty and take care of its old, infirm, and genuinely needy
  - Enable its people to learn, earn, and lead healthful and productive lives
  - Promote small families for a healthy and wealthy society
  - Give its children a happy childhood and every opportunity to achieve their full potential
  - Empower and support its women and girls to fulfil their roles as equal shapers with men of the economy and society
  - Create the resources its people will need, such as capital and infrastructure, to transform their own futures
  - Enable its farmers, entrepreneurs, and professionals to make agriculture flourish and build thriving industries and services businesses
  - Embrace innovation and the latest know-how to grow its crops, make its goods, and provide high quality services
  - Safeguard its environment and make its cities and villages clean, green and safe to live in
  - Make its government simple, transparent, accountable and responsive
  - Ensure that its people continue to have a strong voice and role in the governance of their state

efficient in its functioning. In short, Andhra Pradesh will be a vibrant and prosperous place, a State that sets the standards for a high quality life.

To achieve this vision, Andhra Pradesh has set itself the following mission (**Exhibit 1**):

- Eradicate poverty and take care of its old, infirm, and genuinely needy.
- Enable its people to learn, earn, and lead healthful and productive lives.
- Promote small families for a healthy and wealthy society.
- Give its children a happy childhood and every opportunity to achieve their full potential.
- Empower and support its women and girls to fulfil their roles as equal shapers with men of the economy and society.
- Create the resources its people will need, such as capital and infrastructure, to transform their own futures.
- Enable its farmers, entrepreneurs, and professionals to make agriculture flourish and build thriving industries and services businesses.
- Embrace innovation and the latest know-how to grow its crops, make its goods, and provide high quality services.
- Safeguard its environment and make its villages and cities clean, green and safe to live in.
- Make its government simple, transparent, accountable and responsive.
- Ensure that its people continue to have a strong voice and role in the governance of their State.

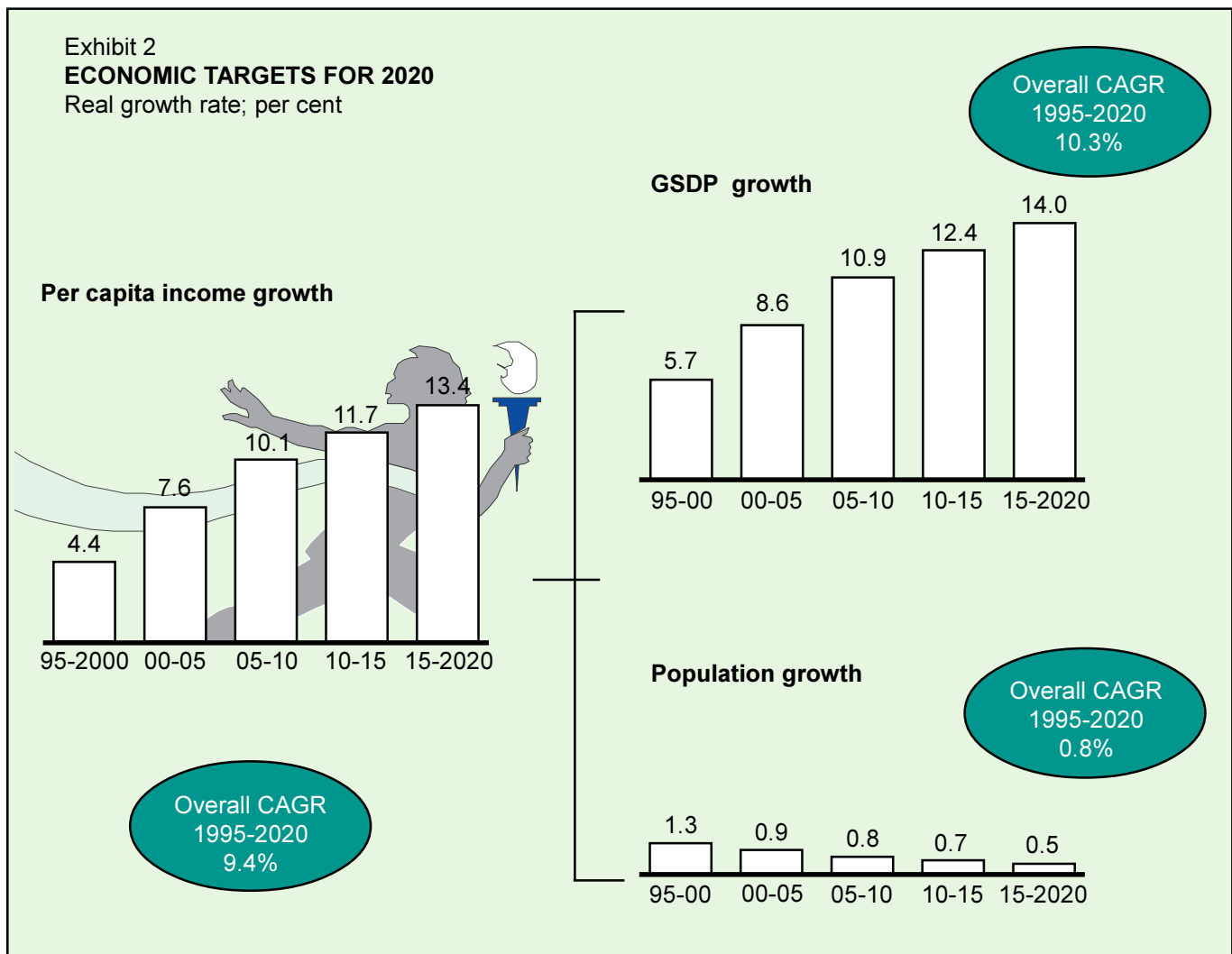
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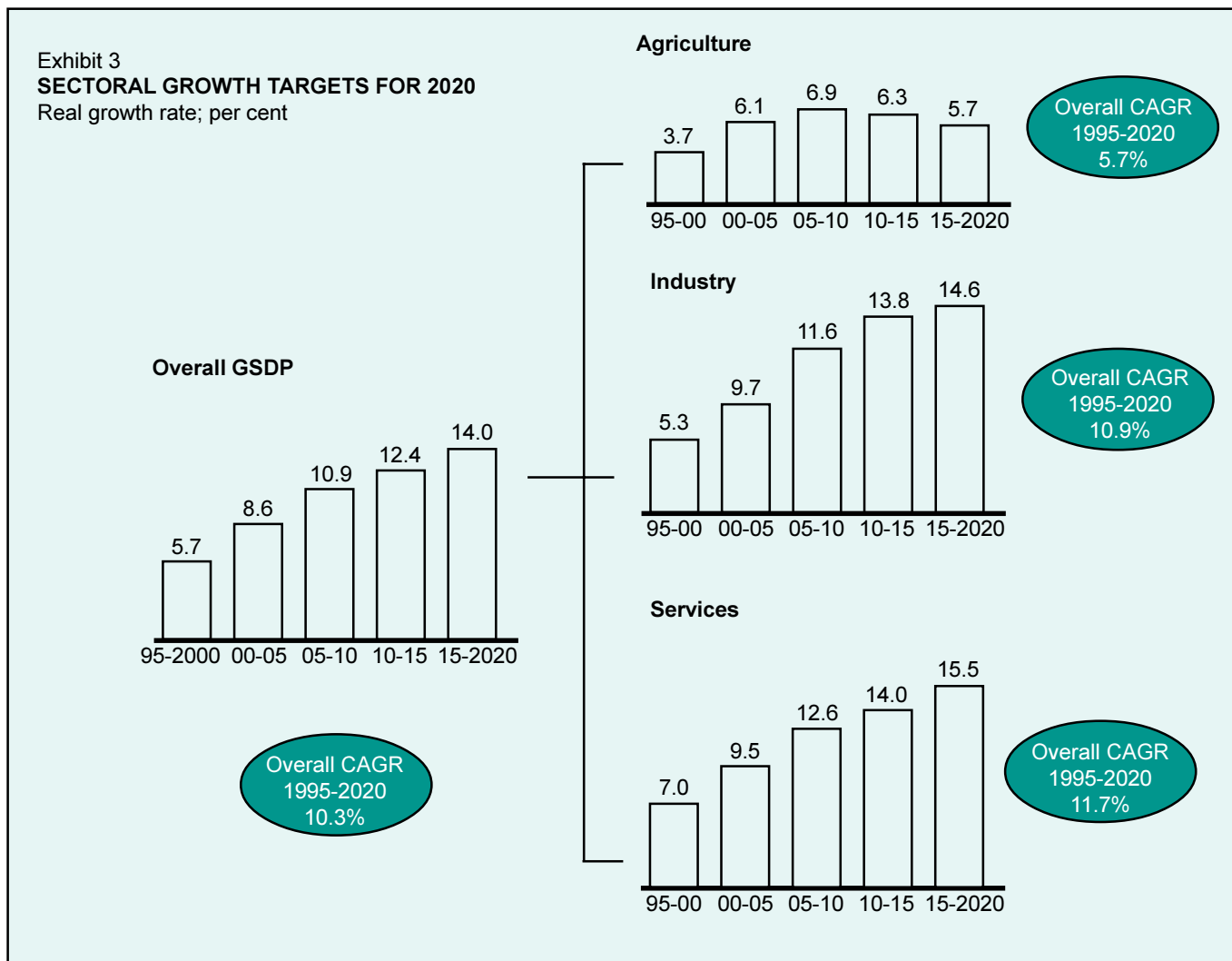
This is an exciting and ambitious vision and a challenging mission to realise. What does Andhra Pradesh need to do to achieve these goals?

Andhra Pradesh's economy will have to be stimulated to grow by 9-10 per cent a year, on an average, in real terms for the next 25 years. The average per capita income will need to increase nine times, with incomes for the poor growing much more rapidly. Population growth will have to be contained at less than 1 per cent (0.8 per cent) a year and at least 18-20 million new jobs will have to be created (**Exhibit 2**).



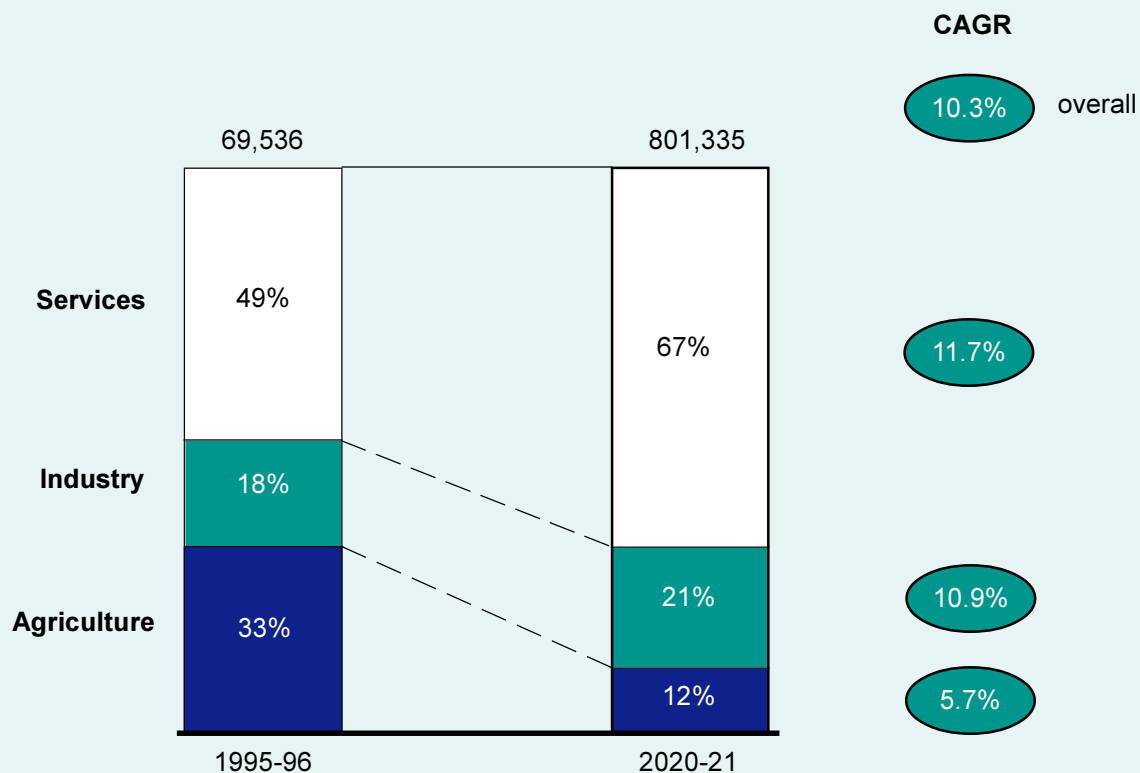
Each major sector of the economy—agriculture, industry, and services—will have to grow strongly. Agriculture will have to quadruple in size and grow at an average rate of 6 per cent a year (in real terms), making Andhra Pradesh a powerhouse in Indian agriculture. Industry will have to grow to 13 times its current size and achieve an annual growth of 11 per cent. The services sector will need to expand to almost 16 times its current size and grow at the rate of 12 per cent a year (**Exhibit 3**). Comprising more than 60 per cent of the economy by 2020, this sector will have to be the major generator of new jobs, especially in rural areas. Overall, while agriculture will continue to grow strongly, the economy will undergo a transformation from a predominantly agrarian to an industry- and services-led economy (**Exhibit 4**).





The targeted growth rates are not unprecedented. Several countries have accomplished growth in this range before. For example, China and Korea have averaged around 9 per cent growth (8.9 and 8.7 per cent respectively) for two decades (till the mid-1990s). With regard to sectoral growth, China achieved an average annual growth rate of 5.9 per cent for its agriculture sector for a ten-year period (1980-90). Over the same period, Chile's agriculture sector grew at the annual rate of 5.6 per cent. In terms of industrial growth, between 1980 and 1990, Korea achieved an annual growth rate of 13.1 per cent while China recorded 11.1 per cent. In the same decade, China's services sector grew at the rapid rate of 13.6 per cent.

Exhibit 4  
**CHANGE IN STRUCTURE OF THE ECONOMY IN 2020**  
 Per cent; constant 1995-96 prices; Rs. crore



To achieve the growth levels targeted, the Government will have to seek transformation on many dimensions: at least Rs.16,00,000<sup>1</sup> crore will have to be invested in building infrastructure in the State<sup>2</sup>. The productivity of Andhra Pradesh's people will need to be rapidly increased through investments in education and health. The State is committed to achieving total literacy by 2010 and, by 2020, infant and child mortality rates of 10 per 1,000 (live births) and 20 per 1,000 respectively, and life expectancy of 68.1 years for men and 70.6 years for women.

<sup>1</sup> At constant 1995-96 prices.

<sup>2</sup> At least Rs.4,00,000 crore will have to be invested in the next 10 years to achieve the growth levels targeted.

This social and economic development will have to be buttressed by making justice available to all and maintaining law and order. The State will address itself even more vigorously to promoting peace and safety in Andhra Pradesh by controlling crime, extremism, factionalism, and communalism. Efforts will be made to remove the belief that speedy justice is unavailable to the common man and the police will be made more accountable and people-friendly.

Finally, to promote rapid development, the State Government will need to transform itself and quickly adopt a new role: from being primarily a controller of the economy, it must become a facilitator and catalyst of its growth.

How will Andhra Pradesh be able to do all this? Today, global forces are creating unprecedented opportunities for growth. Many growth opportunities have also emerged from India's ongoing economic reforms. Andhra Pradesh is in a good position to capture these opportunities—and has already made some breakthroughs in doing so. Going forward, the State can capitalise on its many strengths to create strong and rapid growth.

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- **Global forces are throwing open new avenues to growth:** The world economy is becoming increasingly integrated. Realising that significant economic growth can now come from participating in world markets, nations are increasingly opening up their economies and doing away with barriers—trade, regulation, and other—which hamper the flow of investment or goods between markets. Companies are constantly looking for new markets in which to sell their products and new regions in which to locate their businesses so that they become more and more competitive. Investors are searching the world for profitable investments, providing capital to anyone who has the best returns to offer. Tremendous advances in knowledge and information technology are driving this process even faster: companies (and governments) can now make quantum leaps in productivity and efficiency, leapfrogging several stages of development their predecessors had to undergo.
- **India is opening its doors to growth:** Realising that it too can make this quantum leap, India has started its transition into an international, market-based economy: it has initiated the opening of its economy to foreign investors and, to some extent, its markets to the products of foreign companies. It is gradually removing barriers to trade and industry. Along with these changes in the economic sphere have come changes in the political one: power is increasingly devolving from

the Centre to the states, allowing India's states to become more self-reliant in the true spirit of federalism.

- **Andhra Pradesh has achieved some breakthroughs:** In its quest to achieve strong economic growth, Andhra Pradesh has already made some significant advances. The State has attracted private investment in infrastructure; for instance, two private power plants, India's first fast-track IPP (Independent Power Producer) projects, are coming up at Jegurupadu and Kakinada. The State is increasing its attractiveness to investors by simplifying procedures (for example, establishing the State Investment Promotion Board to hasten the approval of investment proposals). And it is fast building a reputation as a key Information Technology centre in India. Finally, Andhra Pradesh has initiated pioneering programmes such as Water Users' Associations, Electronic Government, and Janmabhoomi, to ensure participatory governance and transparency, improve services, and simplify procedures.
- **Andhra Pradesh has many strengths to build on:** Andhra Pradesh has many advantages it can build on to realise its growth aspirations. The State ranks among the top five Indian states in terms of cultivable land. It has ample water resources: 60 per cent of Andhra Pradesh has ample rainfall and two major rivers of the country, the Krishna and the Godavari, flow through the State. It has the second largest mineral reserves in the country: massive deposits of coal, limestone and bauxite are to be found here.

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*Andhra Pradesh has many advantages it can build on to realise its growth aspirations.*

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Andhra Pradesh is also strategically located. It has the second longest coastline in the country, providing several gateways for international trade. For instance, its ports provide quick access to countries such as Singapore and Malaysia. Moreover, located more or less in the centre of India, it is within easy reach of key Indian cities—Delhi, Mumbai, Calcutta, Bangalore and Chennai. The State also has emerging economic centres of national importance in Hyderabad and Visakhapatnam, the two fastest growing cities in the country. Furthermore, Andhra Pradesh has a great deal of agricultural wealth. It leads all other states in the production of poultry and is among India's top producers of fruits and rice. In addition, the State is rapidly building a reputation with Indian and international investors, especially in knowledge-based sectors such as Information Technology.

To these strengths, Andhra Pradesh will add speedy reform and capability building, giving it a significant competitive edge. Most Indian states and many

other countries are anticipating opportunities and moving to capture them. What will separate the winners from the losers will be the ability to move fast, reform government, create infrastructure and develop human resources. Andhra Pradesh will move quickly on all these fronts to ensure that it emerges a winner.

The challenge ahead is to put all these opportunities and advantages to work to achieve Andhra Pradesh's Vision 2020. In other words, Andhra Pradesh needs a new and comprehensive growth agenda.

What could this growth agenda be? To achieve the level of development it has targeted, Andhra Pradesh will need a three-fold approach: (1) building capabilities, i.e., developing human resources, improving the quality of life in the State, and attracting investment in its economy; (2) focusing on high-potential sectors as its engines of growth; and (3) transforming governance, i.e., channelling the Government's efforts into enabling and facilitating economic growth (**Exhibit 5**). Finally, the State will have to take bold and innovative steps to finance the implementation of the vision.

This growth agenda is not an ill-founded aspiration. Rather, it is based on a realistic assessment of the problems and opportunities before the State as well as its achievements. The rest of this chapter lays out the current scenario in the State, as well as the strategies for each of the three elements of the growth agenda. It also explains how the resources required for achieving the vision will be raised.

### **SCENARIO: PAST AND PRESENT**

Despite its best endeavours, Andhra Pradesh is yet to realise its potential in terms of both social and economic development.

More than half the State's population is illiterate today. Andhra Pradesh ranks 26th out of 32 States/Union territories in the country in terms of overall literacy and 29th in literacy for Scheduled Castes and Scheduled Tribes. Though health in Andhra Pradesh has improved significantly, the State still lags behind many Indian states on key health indicators. Urban infrastructure and services are largely inadequate leading to a poor quality of life. Furthermore, despite economic growth and increasing urbanisation, the rural population has limited opportunity to productively participate in the economy. As a result, inequities between disadvantaged groups and the rest of the population have not diminished, some

Exhibit 5

## THE GROWTH AGENDA FOR ANDHRA PRADESH

Andhra Pradesh  
in 2020

Building the capabilities of  
the State's people and  
improving the quality of life

### Best people

- Skilled, productive, healthy people
- Safety net for vulnerable sections of society

### Best place to live

- Sustainable environment
- Clean/liveable cities/villages
- Efficient rural/urban civic services

### Best place to invest

- Adequate and good quality infrastructure
- Favourable policy and procedural environment

Focusing on primary  
"growth engines"/  
important sectors

### Agriculture

- Poultry
- Dairy
- Horticulture
- Rice
- Fisheries
- Agro-industry

### Industry

- Construction
- Mining
- Pharmaceuticals
- Small-scale industries
- Labour-intensive export oriented industries (garments/ leather products)
- Infrastructure

### Services

- IT
- Tourism
- Small-scale services
- Logistics
- Knowledge-based services
- Education
- Healthcare

Transforming  
Government to play a  
facilitating role in  
economic development

Clean, Capable and Transparent Government that facilitates, not controls, economic development

areas of the State have remained backward in terms of development, and poverty remains a key issue for the State.

With regard to the economy, the State's overall growth rate has been 4.6 per cent a year till recently, lower than the country's average of 5.2 per cent a year and that of India's six fastest growing states (5.7 per cent). All three sectors of Andhra Pradesh's economy, agriculture, industry, and services, have recorded slower growth than the all-India average. Agricultural growth has been affected by an underdeveloped agricultural value chain and regulation that hampers productivity. Industrial growth has been hindered by poor infrastructure, a lack of skilled labour and complex

regulation. Growth in the services sector has been affected by a limited government focus on services, a lack of private investment, inadequate education facilities, and underdeveloped infrastructure.

On the fiscal front, Andhra Pradesh experienced a severe crisis from the mid-80s onwards due mainly to declining revenues and rising public expenditure on subsidies, salaries, and welfare programmes. Currently, the State is running a fiscal deficit of 3.4 per cent of GSDP. Revenues have remained low for a variety of reasons, both legislative and administrative.

Against this bleak picture, however, must be set the various steps the Government has taken to restore the health of its economy. These include a concerted effort to build human capital, augment infrastructure, improve its finances, attract investment in focus areas of the economy, and decentralise governance.

The State has increased allocations for education and health, and embarked on a programme to achieve universal primary education and strengthen primary healthcare. It has also introduced more sharply focused social welfare schemes, with an emphasis on poverty eradication and skill building for weaker sections.

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*The State has increased allocations for education and health, and embarked on a programme to achieve universal primary education and strengthen primary healthcare.*

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In addition, the Government has acted to augment infrastructure in critical areas such as power and irrigation. In power, it has implemented a short-term programme to create additional capacity of about 2,000 MW mainly through private investment and a medium-term investment programme to create about 6,500 MW of power. In irrigation, the Government has stepped up investment in canal irrigation and encouraged private groundwater irrigation.

The State Government has also taken several steps to improve its finances. These include rationalising subsidies, reforming the tax structure, undertaking power sector reforms, and inviting private sector participation in the infrastructure sector. Perhaps, the most visible success of the Government's effort to revive the economy is the aggressive policy and action to promote investment in focus areas. The emergence of the State as a major destination for investment in Information Technology is a case in point.

Another change in its approach lies in involving the people in governance. The State is committed to the devolution of power through the implementation of the 73rd and 74th Constitutional Amendments. Furthermore, to ensure participatory governance and transparency and improve services, the State has instituted the

Janmabhoomi initiative and is promoting self-help groups such as Water Users' Associations (WUAs) and School Education Committees.

The Janmabhoomi initiative closely involves the people in the choice as well as execution of development works of a defined nature and value. These works are undertaken by the people themselves without any intermediaries. To operationalise this concept, the Government has delegated the technical and administrative powers to sanction works, simplified procedures and ensured transparency in the estimates of works undertaken, including a social audit of works completed.

Self-help groups are encouraged to work with the Government to identify and solve the problems they face. Thus, through the WUAs, farmers now collectively determine the optimal distribution and use of water among themselves. Similar successes have been achieved through many other self-help groups such as Development of Women and Children in Rural Areas and Chief Minister's Empowerment of Youth.

These initiatives on many fronts have set the stage for the quantum leap Andhra Pradesh is seeking: equitable social development and rapid economic growth. To achieve these twin objectives, the State will marshal all its efforts and every resource available behind its growth agenda. The rest of this chapter lays out the strategies for each element of the growth agenda: building capabilities, focusing on high potential sectors of the economy, and transforming governance.

## **BUILDING CAPABILITIES**

To build the capabilities of its people, the State will have to empower them so that they can act as catalysts of development. Furthermore, to achieve its ambitious targets for social justice and growth, Andhra Pradesh will have to develop its human resources, i.e., ensure that its people are educated, healthy, and skilled. This will necessarily include providing them with a high quality of life. People who must spend large parts of their time struggling for even basic requirements like water or transport to work, and who cannot live in good housing or clean and comfortable surroundings, cannot be productive and healthy participants in society and the economy.

To achieve these developmental goals, the Government will have to create and promote investment in world class infrastructure—power, water, roads, housing,



communications and transport. Infrastructure will also have to be created to spur economic growth. This calls for investment on a scale far beyond the resources of the Government, pointing to the need to attract large-scale private investment. To secure this investment, Andhra Pradesh will need to provide a regulatory environment that enables private investment and facilitates business.

The rest of this section explains how these milestones to development will be achieved.

### Developing human resources

To make its people secure, skilled and healthy, the State will focus on poverty eradication and social welfare, education, and healthcare.

- **Poverty eradication and social welfare:** The foremost endeavour of the State will be to eradicate poverty. This will be achieved through the following initiatives:

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*The Government will pursue specific strategies to remove disparities between different categories of its people and between different regions of the State.*

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1. **Strengthening public employment schemes:** The objective will be to create a cushion of security by providing the poor with employment. Public employment through works programmes, etc., should be the principal method to provide food security for the poor, 80 per cent of who live in rural areas. This approach will have a double benefit: it will help build rural infrastructure and promote rural development.

2. **Implementing a focused Public Distribution System:** Access to food as a universal entitlement will be a key ingredient in the State's war against hunger and poverty. This goal will be achieved through an effective food security programme. To ensure the sustainability of this effort, the programme will be aimed at clearly identified groups: the poor, vulnerable, and risk-prone.

3. **Launching social security schemes for the aged, disabled, and widowed:** To provide a comprehensive safety net, the State will launch a mix of pension and other schemes for genuinely vulnerable groups.

4. **Removing current disparities:** The Government will pursue specific strategies to remove disparities between different categories of its people and between different regions of the State. This will include empowering all disadvantaged groups and protecting their rights; continuing with affirmative action to provide

them with access to educational and employment opportunities; providing them access to state and civil institutions; and enacting and enforcing legislation that protects the interests of vulnerable groups.

Backward areas will be developed through a special focus on providing employment and improving development indicators such as education and health.

**Exhibit 6** provides an overview of the approach to realising the vision for poverty eradication and social welfare.

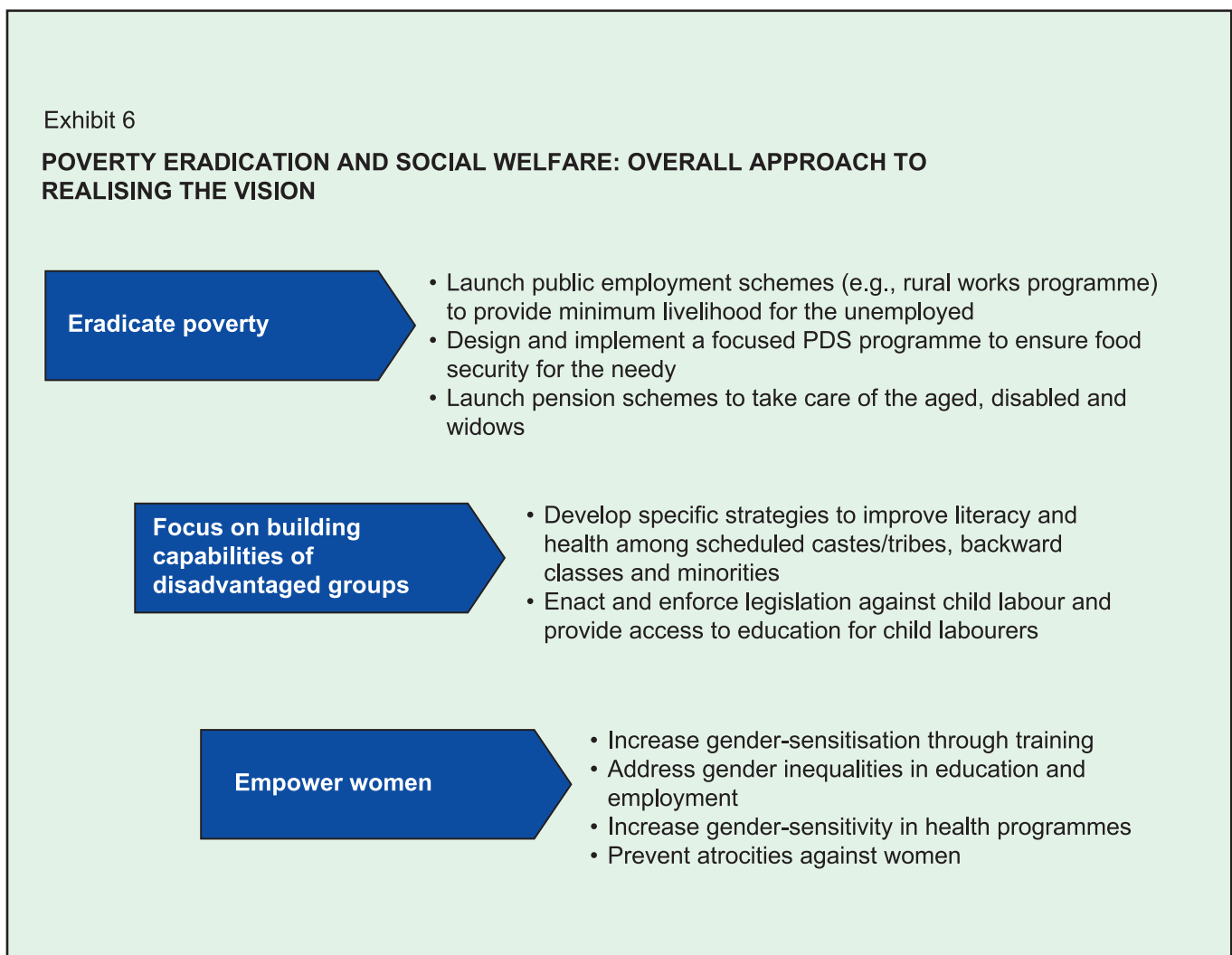


Exhibit 7

**EDUCATION: OVERALL APPROACH TO REALISING THE VISION**

**Ensuring full literacy by 2010**

- Ensuring access to primary education for all
- Creating demand for education
- Focusing on specific groups and districts with low literacy levels

**Promoting education among women**

- Increasing demand for primary and secondary education among girls
- Increasing access to education for girls
- Fostering higher education for women

**Focusing vocational and higher education on marketable skills**

- Providing more options in vocational and technical education at secondary/higher secondary level
- Providing more specialised courses in higher education that reflect the needs of the economy and society

**Encouraging private sector initiatives in education especially in higher education**

- Declaring education an industry
- Identifying emerging areas of study
- Ensuring quality education through appropriate accreditation and evaluation systems

**Creating effective frameworks for managing and funding education**

- Putting in place a decentralised participatory management framework (local control through School Committees)
- Ensuring government spending is largely directed towards primary and secondary education

- **Education:** Education in the State will be strengthened to achieve two aims: universal access to primary education and skill-building. Primary education will be strengthened by providing more schools, managing them better and making teaching more effective. In parallel, secondary and higher education will be augmented, mainly through the provision of courses specifically aimed at equipping students with skills that cater to the needs of the economy and society. Adult literacy programmes will also be pursued to achieve the goal of total literacy by 2010 (**Exhibit 7**).

Exhibit 8

**HEALTH: OVERALL APPROACH TO REALISING THE VISION**

State provision of primary and secondary healthcare to all, especially to the poor and vulnerable

Special focus on improving health levels among women, disadvantaged groups, and in backward regions



Major emphasis on containing population growth through increasing family planning awareness and improving child and maternal healthcare

Strong prevention focus: disease prevention, better nutrition, personal hygiene and fitness, and better sanitation

Private sector participation encouraged in tertiary healthcare and medical education; State to ensure access for the poor and vulnerable

- **Health:** To raise health levels, the State will focus on providing universal access to primary healthcare; enhancing secondary and tertiary healthcare and providing affordable access to these services; and strengthening disease prevention programmes. In addition, the State will focus on containing population growth, for instance, through the comprehensive Reproductive and Child Health programme aimed at spreading awareness about family planning and improving the health of women, infants and children (**Exhibit 8**).

Achieving the development goals outlined above poses a challenge of epic proportions. The Government already spends considerably on education, health and poverty alleviation, and yet has been unable to achieve the desired results. Furthermore, the scale of investment required far exceeds the capacity of Government finance. Thus, the programme for developing Andhra Pradesh's people must incorporate three new approaches: low-cost, innovative solutions; decentralising public services and involving the people in their management; and involving the private sector and development agencies in achieving developmental goals.

- **Low-cost, innovative solutions:** Given the constraints on funding, one strategy to achieve the targets set is to find solutions that are low-cost, innovative, use existing infrastructure and resources, and can be quickly implemented. Three such initiatives are described below.

One way to ensure that every child in Andhra Pradesh gets at least a good basic education is to improve the student-teacher ratio in primary schools. While the State will hire enough teachers to achieve this objective, it will also encourage the more effective use of the services of 'Education Volunteers'. These volunteers will help teachers ensure higher levels of learning in their students, increase enrolment and prevent drop-outs.

Similarly, since creating a formal network of sub-centres to expand the coverage of primary healthcare will be difficult and take a long time to accomplish, the goal can be attained in large part by deploying a network of Community Health Workers (CHWs), backed by a system of referrals to Sub-Centres, throughout the State. CHWs are village residents trained by the Government in providing simple health services. This model has been effective both in experiments in the State (e.g., Rangareddy and Hyderabad districts) and in other parts of the world (e.g., Brazil).

In the same way, rural works programmes could provide minimum employment to the unemployed poor (as explained earlier) and, thus, a more cost-effective solution to providing food security for them. While making them productively employed, such programmes would also create local assets like roads and minor irrigation systems.

- **Involving the people in managing services:** Experience has shown that a good way to make services efficient and responsive is to decentralise them and ensure that the people have a role in managing them.

Many countries have decentralised the management of public services. In the late 70s, Chile decentralised the government healthcare system by devolving responsibility to local government. Budget and personnel responsibilities were transferred to municipalities, which began to operate and control primary healthcare services. Closer home, Andhra Pradesh's own experiment in water management demonstrates the power of people's participation. School Committees have been granted the right to help manage primary schools.

The 73rd and 74th Constitutional Amendments already provide for the devolution of power and responsibilities to local government. Also, the State's own legislation in relation to local bodies provides some basis for people's participation. The principal challenge is to make these frameworks operational.

- **Attracting the private sector and development agencies:** While the Government will always remain the provider of essential services like basic education and health, it cannot and should not remain the sole provider of all such services. Experience all over the world has shown that the private sector, operating in a competitive situation, is better able than governments to provide efficient, rationally priced and high quality services in many areas. The State's support in such areas should gradually be limited to ensuring access for the poor to these services.

The introduction of private sector participation will not only provide the people with better quality and affordable services, it will free Government resources and attention for higher priority developmental goals. Investment by the private sector, for instance in higher education and specialised healthcare, will be substantially increased to lighten the budgetary pressure on the Government.

In addition, the Government will secure assistance from international development agencies such as the World Bank and the Department for International Development (DFID). In Korea, for instance, aid from international agencies played a critical role in providing primary education.

## Providing a high quality of life

To raise the quality of life for its people, the State will need to make its villages and cities better places to live in by ensuring that they have clean air and water, services

such as sanitation and waste management, and infrastructure, such as power, housing, and transport.

Most of the approaches outlined in the previous section apply equally to making Andhra Pradesh a better place to live: providing basic services; ensuring compliance with minimum environmental standards; finding low cost solutions; leveraging private funds; and involving local communities in the management of services.

- **Providing basic services:** Andhra Pradesh will commit itself to providing basic civic services such as water, sanitation, housing and transport to all its people throughout the State. The Government will use a mix of local and State funding, depending on local resources, to set up basic services.
- **Making environmental concerns an integral part of development planning:** Andhra Pradesh will plan the use and management of its environmental resources in an integrated way, ensure that environmental standards are based on the carrying capacity of a region, and internalise environmental considerations in policy-making. The State will also encourage compliance with standards through market-based enforcement mechanisms.
- **Finding low cost solutions:** Several options exist to innovate and create low cost models for setting up civic services. For instance, the conventional, standardised sanitation system need not be built everywhere. NGOs in West Bengal have developed a menu of lower cost options, costing less than a fifth of the current system. Local communities could choose models they can afford and upgrade them over time.
- **Utilising private sector funds:** The world over, cities access capital markets in many ways to create urban infrastructure: municipalities issue municipal bonds (as has been done in Ahmedabad recently); urban utilities are created that access capital markets like any other private company; private operators participate in setting up specific services like solid waste management and effluent treatment plants. The State's municipalities will actively explore such opportunities to bring in private sector funds.
- **Involving local communities:** Civic services and environmental standards are local issues, best monitored and managed by local governments and users'

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*The Government will empower local governments to manage services and create the mechanisms for local communities to articulate their demands.*

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Exhibit 9

**A PARADIGM SHIFT IN ENVIRONMENT MANAGEMENT**

**From**

- Lack of integrated environmental planning (e.g., policies do not always internalise environmental considerations)
- Development in a region takes place with scant regard to the 'carrying capacity' of the region. No stakeholder involvement in setting environmental standards
- Compliance monitoring is centralised and enforcement mechanism is not market-based, i.e., not based on incentive mechanisms

**To**

- Integrated environmental resources planning: State creates an integrated plan for conserving and utilising environmental resources and determines the 'carrying capacity' of each individual region. Policy makers use the resources plan and internalise it in their policies/projects
- Area-based standards based on carrying capacity of the zone are set for each zone by involving all primary stakeholders (e.g., NGOs, industry, local government,etc.)
- Market-based regulation is used as enforcement mechanism. Local committees/community are empowered to monitor compliance with standards

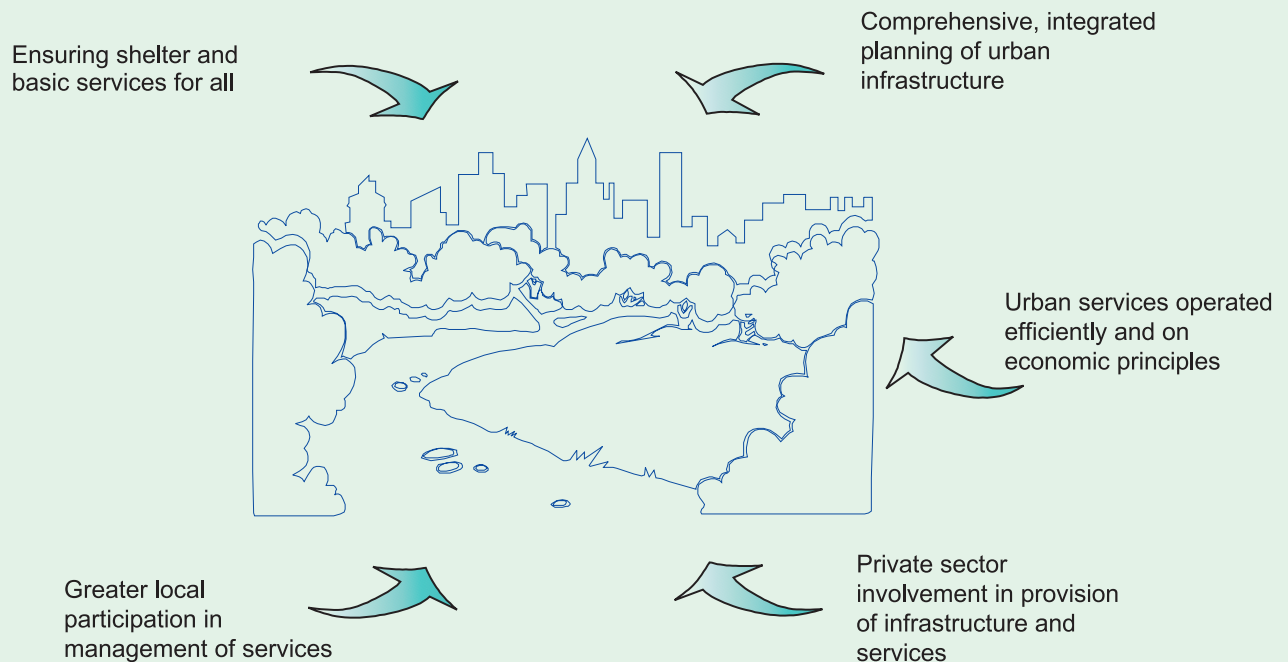
associations. The Government will, therefore, empower local governments to manage services and create the mechanisms for local communities to articulate their demands. It will also need to provide the financial and technical support local governments and communities will need to effectively play this role.

**Exhibit 9** explains how a paradigm shift in environment management can make Andhra Pradesh clean and green. **Exhibit 10** lays out strategies to improve the quality of life in urban areas while **Exhibit 11** outlines an integrated approach to improving the quality of life in rural Andhra Pradesh.



Exhibit 10

**APPROACH TO IMPROVING THE QUALITY OF URBAN LIFE**



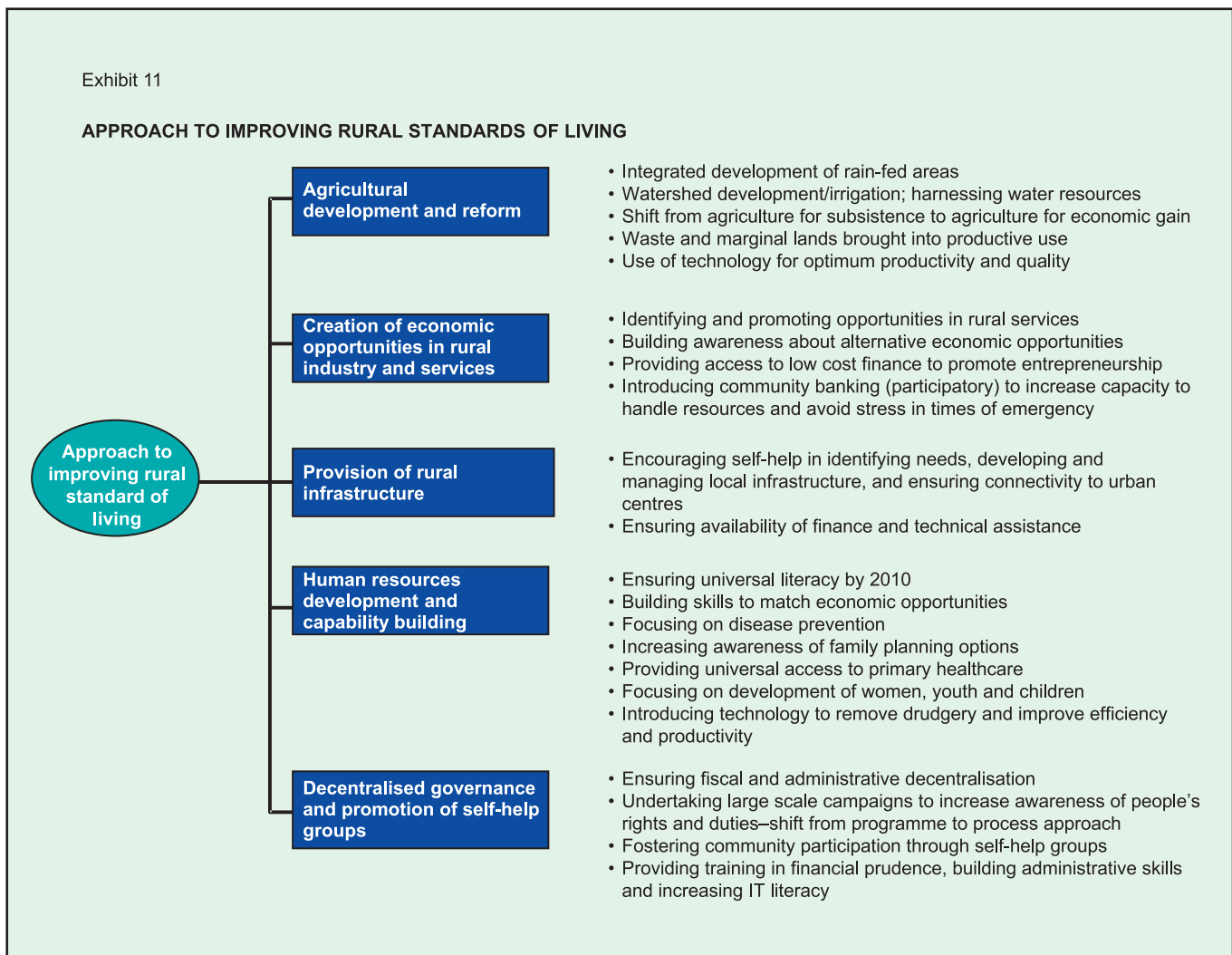
**Promoting investment**

To attract private investment, the State will first need to create the conditions that will allow private investors to successfully participate in its development. This involves building infrastructure and reforming regulation to create a conducive environment for business.

Infrastructure of three types, trunk, specialised and arterial, will need to be created. Trunk infrastructure comprising roads, ports, airports, power, etc., is required to connect key economic centres. For instance, expressways connecting Hyderabad,

Exhibit 11

**APPROACH TO IMPROVING RURAL STANDARDS OF LIVING**



Warangal, Karimnagar, Visakhapatnam, Nellore, Vijayawada and Anantpur will have to be constructed. Communications links between these cities and to other Indian states will have to be created. Creating trunk infrastructure will be one of the State's main priorities.

In parallel, Andhra Pradesh will need to build specialised infrastructure, such as cold storage facilities for fresh produce or large scale cargo movement facilities. Finally, arterial infrastructure connecting key economic centres and rural areas to the growth corridors must be constructed in tandem with the building of trunk infrastructure to ensure that the benefits of development are spread throughout the State.

Building trunk and arterial infrastructure alone, on the scale required, calls for an investment of over Rs.4,00,000 crore till 2010 (over Rs.16,00,000 crore till 2020). While the Government will invest in infrastructure much more than in the past, it will not be able to raise these funds on its own. Fortunately, it will not need to. Considerable funds are available from international sources. In 1996 alone, international investment in infrastructure in developing countries amounted to Rs.1,00,000 crore. Non-Resident Indians are another source of private investment. The Government will need to extensively tap these sources.

However, before it can involve the private sector in infrastructure building, the Government will need to create the necessary conditions for its participation. These include rationalising pricing; creating a new regulatory framework; and restructuring government infrastructure agencies.

- **Rationalising pricing:** Pricing in the infrastructure sector currently does not reflect the true economic cost of providing goods or services. But without rational pricing, the Government cannot continue to provide these services economically and neither can the private sector be induced to provide them. Rationalising pricing is thus a critical element in attracting private sector participation. However, while introducing such reform, to avoid hardship to weaker sections, the Government will continue to provide subsidies where necessary.
- **Creating a new regulatory framework:** The Government will need to provide an appropriate regulatory framework to enable private sector participation in infrastructure development. For example, autonomous bodies will need to be set up to determine tariffs and set quality standards for services. Andhra Pradesh can draw on the experience of countries like the Philippines, Malaysia and Argentina to develop a new framework for the infrastructure sector.
- **Restructuring government infrastructure agencies:** Government infrastructure agencies will need to operate autonomously and efficiently and, where possible, be subject to the same rules of competition as the private sector. For instance, these agencies should compete on an equitable basis with independent power producers to supply power to the grid. Such competition will breed efficiency, reduce costs and improve services. In addition, Government agencies will need to develop the skills to compete, and become performance-focused.

Some of these institutions could also be progressively privatised, keeping public interest in view. The distribution and generation segments of Andhra Pradesh's

electricity sector are cases in point. Andhra Pradesh could draw on international experience to manage this transition.

To further increase the State's attractiveness to investors, the Government will also need to simplify its procedure for approvals. The State Investment Promotion Board to expedite government clearances is a step in this direction. Going forward, the Government will need to undertake additional initiatives to simplify procedures such as creating cross-ministry investment promotion boards that minimise the number of decision-makers and steps involved.

Section 1 of this document spells out the approach to each element of the programme to build capabilities in the State: poverty eradication and social welfare, education, health, urban and rural development, environment, infrastructure and deregulation.

## FOCUSING ON SELECT GROWTH ENGINES

To achieve the 9-10 per cent growth targeted, the State will need to stimulate economic growth by focusing on specific sectors that offer high growth opportunities. These will be the growth engines of the economy: dynamic and fast growing agricultural, services and manufacturing enterprises. They will be the primary growth engines of the economy because they will contribute a sizeable part of the State's GSDP (Gross State Domestic Product) and employment.

Andhra Pradesh will focus on 19 primary growth engines: six in agriculture; six in industry; and seven in services. They are :

- Rice, poultry, dairy, horticulture, agro-industry and fisheries in agriculture.
- Construction, mining-based industries, labour-intensive export-oriented industries (e.g., garments and leather products), pharmaceuticals, small-scale industry and infrastructure in industry.
- Basic information technology services, knowledge-based services, logistics, tourism, small-scale services, healthcare and education in services.

Infrastructure, healthcare, and education are important because of their role in building capabilities. However, as experience in developed countries has shown,

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*To achieve the 9-10 per cent growth targeted, the State will need to stimulate economic growth by focusing on specific sectors that offer high growth opportunities.*

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these sectors can be highly revenue- and employment-generating and are therefore growth engines in their own right.

It is not useful to try to project how much each growth engine will contribute towards achieving the growth targets for each sector of the economy. For instance, 15 years ago, it would have been impossible to forecast the levels of growth the software and IT industries are now bringing to the Indian economy. What is pertinent, therefore, is to unleash the growth potential in important areas and create sustainable, high annual growth.

The focus on these growth engines does not mean that other important sectors such as engineering-based industries or financial services will not flourish. On the contrary, they will continue to grow, benefiting from the State's overall approach to and investments in improving the economy in general.

How were these growth engines identified? How will they create economic growth? What does the State Government need to do to facilitate the development of the growth engines?

The rest of this section answers these questions.

### Identifying the growth engines

Each growth engine satisfies at least one of the following criteria: it builds on the State's strengths; it has the potential to create great economic impact; it can capture opportunities created by global trends.

- **Builds on the State's strengths:** In a globally competitive world, each region has to exploit its comparative advantage to maximise economic opportunity. Western Australia, for example, has exploited its significant mineral wealth to develop one of the most competitive, technologically advanced mining industries in the world. New Zealand has used its large pasture lands to great advantage to build an efficient, cost-competitive, large-scale and export-oriented dairy industry that corners as much as 30 per cent of the world dairy trade. Malaysia has used its low labour costs to become a key centre for global electronics assembly. And Singapore has effectively used its strategic location (at the centre of the world's major shipping routes) to become a major trading centre and an international logistics hub, linking Asia to the rest of the world.

- **Has the potential for significant economic impact:** The growth engines need to be large and high growth industries. Furthermore, to ensure that growth is equitable, they should have the potential to generate large-scale employment. China, for example, has focused on the manufacture of export-oriented, labour-intensive goods like garments, leather products, and toys. With exports amounting to nearly \$50 billion, these industries are now a key element of China's economic growth. More importantly, they have generated large-scale employment for China's vast pool of workers.
- **Builds on opportunities created by global trends:** The expansion of global trade has created tremendous opportunities. Singapore, the Netherlands, and the US recognised this trend early and built major trade and logistics centres in their countries. By taking advantage of India's increasing participation in global trade and its geographic position, Andhra Pradesh will similarly innovate to create India's premier logistics centre.

Another key trend is at work: computing and communications technologies are overriding the limitations of physical distance, allowing many services to be provided remotely (that is, far away from the customer/patron of the service) and spawning entirely new and exciting IT-based industries. An increased emphasis on knowledge and a trend towards knowledge-based industries and services is pushing the limits of research and its applications, for example in biotechnology, and genetic science. Israel has leveraged its scientific talent to build a strong presence in Information Technology and biotechnology. Korea and the Philippines are taking advantage of increased connectivity to provide remote services in animation and entertainment to US-based corporations. And Malaysia has already set up an ambitious project—the Multimedia Supercorridor—to become a key player in the global IT and multimedia arena. Andhra Pradesh's IT and Knowledge Corridor initiatives are aimed at ensuring the high penetration of information technology services and telecommunications and developing new and rapidly growing industries.

Finally, global deregulation and the opening up of markets are creating opportunities for many other industries. The reduction and ultimate removal of quotas (with the phasing out of the Multi-Fibre Agreement) will create opportunities in garment manufacturing and exports. Greater adherence to Intellectual Property Rights will boost remote R&D services and pharmaceuticals manufacturing in India. Reduction in agricultural subsidies the world over will increase trade in agricultural commodities like rice.

In line with this approach, the rest of this section lays out the criteria behind the selection of each of the 19 primary growth engines identified in agriculture, industry and services.

**1. Agriculture:** Andhra Pradesh will follow a comprehensive strategy to achieve agricultural growth. This will include harnessing water resources, developing agriculture in rain-fed areas, spurring growth through agricultural reform, and developing high potential areas which can be agricultural growth engines. The rationale for the agriculture growth engines is as follows:

**Rice** Rice is such a large contributor to Andhra Pradesh's economy (contributing a quarter of agricultural GSDP) that even small improvements in the sector will create a large impact. Since rice-growing is the primary occupation of a large proportion of the State's agricultural labour, its further development will increase rural incomes and reduce poverty. Andhra Pradesh is very well placed to develop this sector. Its climate is well suited to growing rice and it is already one of the top three Indian states in rice production.

**Dairy** Dairy is a very large market in India (around Rs.80,000 crore) and is expected to grow at 15 per cent a year due to the high income elasticity of dairy products<sup>3</sup>. Large growth potential will also emerge once export markets open up through the World Trade Organisation (WTO) agreements. Developing this sector will have significant economic impact since it will create many jobs, particularly for rural women.

**Poultry** The poultry sector is large and likely to grow at 15 per cent over the next 10 years. This growth can create many higher income jobs in semi-rural areas. Again, Andhra Pradesh is well placed to develop its poultry sector: it is already the largest producer of eggs and poultry meat in the country and a significant producer of maize, a major input in poultry feed.

**Horticulture** The markets for fresh produce and processed foods are likely to grow considerably for two reasons. First, consumption will

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<sup>3</sup> Demand is said to be income elastic when even small increases in income give rise to large increases in consumption.

increase steadily as incomes rise with development. Second, exports potential will grow considerably once subsidies are eliminated and tariffs are rationalised under WTO agreements. As the second largest producer of fruits and one of the largest producers of vegetables in the country, Andhra Pradesh can create a strong position in domestic and export markets.

### **Fisheries**

Andhra Pradesh has rich fishery potential in inland, marine and brackish water fisheries. The State has the second largest coastline among Indian states (974) km and a continental shelf of 33,227 square km; a river course of over 8,500 km; and large fresh water and brackish water lakes. Brackish water areas are estimated to exceed 150,000 hectares. The development of this sector will create considerable impact, particularly by providing livelihoods for the poor.

### **Agro-industry**

Andhra Pradesh can capitalise on its agricultural advantages to further develop its agro-industries using raw materials such as cotton, sugar, tobacco, chillies, etc. Furthermore, agro-industry can create considerable economic impact through value addition, higher export earnings, and high employment, especially in rural areas.

- 2. Industry:** Expanding infrastructure, focusing on skill-building and simplifying procedures will be major elements in developing the industry growth engines. The growth engines that will create the highest economic impact in the short term are infrastructure and construction. Export-oriented garments and leather products industries, pharmaceuticals and mining and mineral processing will also be attractive opportunities in the medium term.

### **Infrastructure**

To jump-start economic growth, the State will need to focus on building infrastructure, the primary enabler of growth. Infrastructure development will have a tremendous impact on Andhra Pradesh's economy. The building of infrastructure will itself create large scale employment. Once constructed, the maintenance of this infrastructure and infrastructure services (e.g., running power plants) will also create jobs and thus income. But for Andhra Pradesh, the greatest impact of



infrastructure development will come from its multiplier effect on the economy, i.e., the boost it will provide to the output and productivity of other industries. Furthermore, if Andhra Pradesh builds infrastructure on the scale required, it will be able to attract a disproportionate share of private investment, thereby creating even more jobs and income for its people.

**Construction** Construction offers huge growth potential and economic impact. The sector will experience strong growth due to the construction boom that will follow the impetus to infrastructure creation. This growth will have a strong multiplier effect, i.e., it will create demand for industries like steel, cement, glass, etc., which are critical inputs in the building of plants, factories, and other infrastructure. All these activities will create many jobs for skilled labour.

**Garments and Leather Products** A focus on this sector will allow Andhra Pradesh to capitalise on its competitive labour costs and its long coastline (providing easy access to export markets). In fact, the major opportunity is in exports, particularly from falling trade barriers and the dismantling of quotas (for garments). Since these are labour-intensive industries, a focus on them will also create large-scale employment.

**Mining** Infrastructure development is creating tremendous demand for the State's key minerals, coal and limestone. Both are key inputs in power generation and construction. The State can capitalise on its rich deposits of these minerals, and of others like bauxite, to build a strong position in this sector. This will create considerable impact in terms of contribution to GSDP and job creation.

**Pharmaceuticals** Andhra Pradesh has a considerable base and expertise in bulk drugs. It also has several pharmaceuticals- and life-sciences-based R&D institutions. This will allow the State to capitalise on the opportunities that will emerge after India's patent regime changes in 2005. Apart from becoming a thriving production and R&D centre, the State will benefit from the

large demand worldwide for low cost generics formulations and bulk drugs.

### **Small-scale industries**

Andhra Pradesh has a strong small-scale manufacturing sector which has the potential to create significant employment and self-employment opportunities in the State. Small-scale industries are much more flexible, respond faster, and embrace innovation more quickly than large industries. Given the important role of small-scale manufacturing in the development of economies such as the US, the State recognises the importance of developing this sector as a part of its growth programme.

- 3. Services:** Given the evolution of economies worldwide towards a dominant services sector, services offer huge potential for growth. Andhra Pradesh has already made a strong start in developing the Information Technology sector; this should now be expanded to other knowledge areas like biotechnology. Services growth engines also include tourism, logistics, small-scale services, healthcare and education.

### **Information Technology**

The IT industry will experience explosive growth due to the increasing importance of IT in business and society and India's strengths in this sector. The productivity gains from increased IT usage will create a huge impact on the economy. By building on its considerable strengths in IT and its large and growing number of IT professionals, Andhra Pradesh will be able to capture the huge opportunity available through the global shift towards electronic commerce as well as the increasing importance of IT in every sphere of the economy.

### **Knowledge-based services**

More and more countries are focusing on knowledge and skill development as a source of sustainable growth. Andhra Pradesh has considerable potential to create a Knowledge Corridor, i.e., an area equipped to foster research and development and the commercialisation of newly developed technologies. Research in areas like biotechnology, advanced materials, and cutting-edge industrial technologies provide attractive opportunities. In addition, several options to

develop a centre for knowledge-based remote services using IT networks are also emerging.

**Tourism**

Tourism can be a major money-spinner and foreign exchange earner. It also generates large-scale employment, particularly in small services. Andhra Pradesh has strengths here as well such as its historical, religious, and leisure sites, existing or potential, on which it can build a considerable tourism sector. Other strengths include the State's central location in India and its long coastline.

**Logistics**

Economic growth will lead to increased global trade and the movement of goods within India. Andhra Pradesh will use its central location in the country and its long coastline to attract a large share of the opportunities created through this trend.

**Small-scale services**

A thriving small-scale services segment will provide significant employment opportunities in higher value added jobs, particularly in rural and semi-rural areas. The growth of this sector will thus enable the occupational shift and productive employment of Andhra Pradesh's large number of agricultural labourers, a large proportion of whom are under-employed.

**Healthcare**

Healthcare will become a large market once different levels (secondary and tertiary healthcare) and different areas (e.g., health insurance) are opened up to private investment and competition, and the Government's budgetary support to this sector increases. Again, this will increase the prosperity of Andhra Pradesh's people by creating a large number of jobs.

**Education**

The huge need for and emphasis on technical and vocational education will make this sector a significant engine of growth. Its development will also create employment throughout the State.

The process of identifying and developing growth engines is a dynamic one. The State will need to re-prioritise its thrust areas as its competitive strengths change

over time. For example, in the 1970s, Taiwan leveraged its twin advantages of low labour costs and central Pacific location/coastline to build a strong global position in export-oriented, low-technology, labour-intensive industries. But today its labour costs are no longer competitive, and so Taiwan has switched its focus to knowledge-based industries. Similarly, Andhra Pradesh may need to de-emphasise some areas and emphasise others as it moves up the ladder of economic development.

Andhra Pradesh is not the only State or country pursuing high growth in sectors with attractive opportunities. For instance, at least six Indian states have the stated goal of becoming forces in the IT industry. Many south-east Asian countries with lower currency values will be aggressive in labour intensive sectors like garments and leather products.

Thus, while Andhra Pradesh has chosen growth engines based on its current competitiveness, it has also resolved to achieve two objectives. First, in areas where other states or countries are stronger but not dominant, Andhra Pradesh will maintain a sharp focus and high responsiveness to investor needs in an all-out effort to catch up with or overtake its competitors (as it is doing in IT services). Second, in other areas, such as logistics and knowledge-based services, Andhra Pradesh will aim to innovate quickly, before other states do so.

### **How the growth engines will stimulate growth**

The focus on growth engines will stimulate economic growth by rapidly increasing the productivity of Andhra Pradesh's labour; creating a more substantial exports thrust; and building on regional strengths. Located in all the three regions of Andhra Pradesh, their growth will ensure regionally balanced development. To maximise the use of scarce resources, they will be concentrated in centres or 'clusters' connected by 'growth corridors'. Furthermore, the growth engines will create growth in differing time frames, with infrastructure and construction being the principal growth engines in the short term, i.e., the first five years of the growth thrust.

- **The productivity of labour will be rapidly increased:** Productive use of cost-competitive labour has proved a considerable stimulus to the growth of several high growth Asian economies. Japan, Korea, China, Malaysia and Taiwan, for example, have used their large numbers of semi-skilled workers (and an emphasis on quality) to build successful garments, leather products and

electronics industries. India itself has used its competent and cost-competitive knowledge workers<sup>4</sup> to build software exports. India, and Andhra Pradesh, have an exceptional opportunity to grow through the productive use of labour, particularly since labour costs here are among the most competitive in the world (**Exhibit 12**) and the scope to raise the productivity of a significant part of the workforce is large. Andhra Pradesh will, therefore, rapidly improve the productivity of its workforce by building its people's skills, transferring technology from world class companies, and providing infrastructure comparable to the best in the world.

- **Export-led growth will receive more focus:** India, in the past, has not sufficiently emphasised export-led growth, focusing instead on import substitution. However, to achieve and sustain 9-10 per cent growth, a focus on exports is critical for several reasons.

First, in many of the growth engines, the domestic market alone may not be large enough to create significant economic opportunity. A case in point is processed fruit or vegetable products. Indian markets for these products today are very small and unlikely to grow to a significant size very quickly. However, there is a large export market for these items; in fact, processed fruits and vegetables account for 90 per cent of the international trade in fruits and vegetables. Second, in many areas, the export market may be more attractive than the domestic market. For example, in garments and IT services, realisations from international sales can be many times higher than those from domestic sales. Third, exporting necessarily means producing goods and services of internationally accepted standards. To be internationally competitive, therefore, export-oriented firms would acquire modern technology, develop an efficient and low-cost procurement base, invest in efficient logistics systems, develop quality control systems, and focus on customer service and innovation. This will have a positive effect on other sectors of the economy as domestic firms emulate export-oriented firms on all these counts.

- **Every region's strengths would be utilised:** The growth engines are chosen to maximise the potential of each region. Thus, the growth engines identified for Andhra Pradesh are located throughout its three regions: Telangana, Andhra, and Rayalaseema, and build upon their natural and historical strengths (**Exhibit 13**). For instance, Telangana's strengths in maize production and horticulture

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*The growth engines identified for Andhra Pradesh are located throughout its three regions: Telangana, Andhra, and Rayalaseema, and build upon their natural and historical strengths*

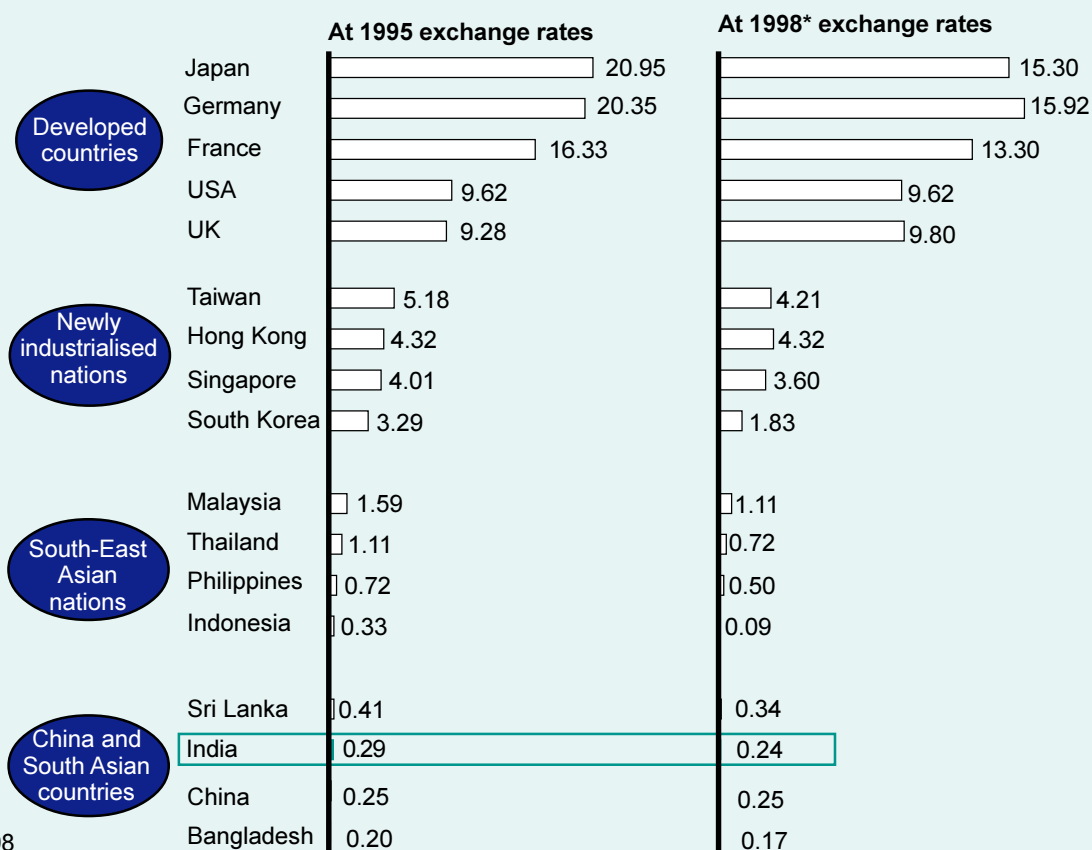
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<sup>4</sup> Individuals with specialised knowledge and skills in fields like software, medicine, accounting, etc.

Exhibit 12

**INDIA'S LABOUR COSTS ARE AMONG THE MOST COMPETITIVE IN THE WORLD**

Hourly labour cost in the apparel industry : US\$



\*April 1998

Source : Werner International Management Consultants; Asian Development Bank; Internet, McKinsey analysis

make it a good location for the poultry, horticulture, and agro-industry growth engines. Its tourist attractions and IT-literate workforce will support the development of the tourism and IT growth engines. Andhra's extensive coastline makes it possible to locate the logistics and distribution hub around its three cities: Vijayawada, Visakhapatnam and Kakinada. Its skilled labour force and strengths in horticulture and rice will support the garments and leather products, horticulture, and rice growth engines. The Rayalaseema region is a natural choice for mining and quarrying because of its large limestone and granite deposits. As in the other two regions, its strengths in horticulture and low labour costs make it a good location for horticulture and labour-intensive, export-oriented industries.

## Overview

- Growth will be propelled by 'clusters' of development connected by 'growth corridors':** Andhra Pradesh's growth engines will best be developed by focusing efforts in geographically concentrated 'clusters'. Clusters are groups of mutually reinforcing and supporting industries. Italy's textiles cluster, for instance, comprises not merely fabric and garment manufacture but also supporting industries like textile machinery and design, all located within a compact 200-300 sq. km. Competitive industries develop not in isolation but in such clusters that allow close co-operation between companies and so boost their competitiveness.

Exhibit 13

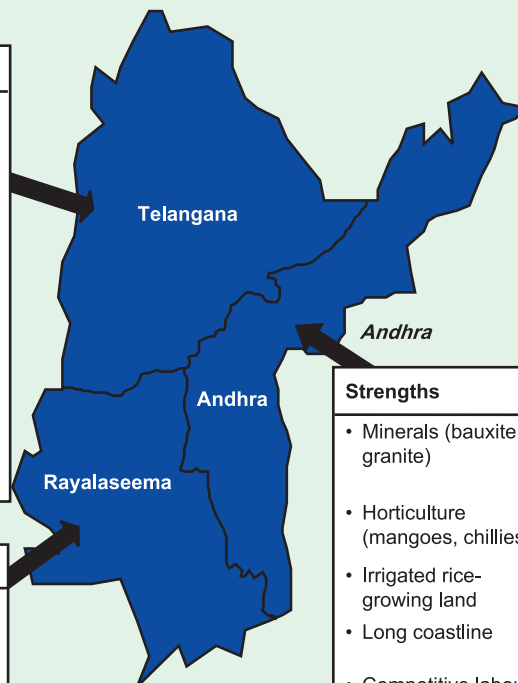
### THE GROWTH ENGINES LEVERAGE THE STRENGTHS OF ANDHRA PRADESH'S THREE MAIN REGIONS

#### Telangana

Strengths	Growth engines
<ul style="list-style-type: none"> <li>Minerals (e.g., coal)</li> <li>Strong maize production base</li> <li>Horticulture (e.g., grapes)</li> <li>Tourist attractions (Nagarjunasagar, Nizam culture)</li> <li>Competitive labour costs</li> <li>Educated, IT-literate labour force (Hyderabad)</li> </ul>	<ul style="list-style-type: none"> <li>Mining-based activities</li> <li>Poultry/Agro-processing</li> <li>Agro-processing/Horticulture</li> <li>Tourism</li> <li>Labour-intensive, export-oriented industries</li> <li>IT/Knowledge Corridor</li> </ul>

#### Rayalaseema

Strengths	Growth engines
<ul style="list-style-type: none"> <li>Limestone, granite/building materials</li> <li>Horticulture base (variety of fruits/vegetables)</li> <li>Tourist attractions (e.g., Tirupati)</li> <li>Competitive labour costs</li> </ul>	<ul style="list-style-type: none"> <li>Mining (quarrying)-based activity</li> <li>Agro-processing/Horticulture</li> <li>Tourism</li> <li>Labour-intensive, export-oriented industries</li> </ul>



Strengths	Growth engines
<ul style="list-style-type: none"> <li>Minerals (bauxite, granite)</li> <li>Horticulture (mangoes, chillies)</li> <li>Irrigated rice-growing land</li> <li>Long coastline</li> <li>Competitive labour costs</li> <li>Fodder availability</li> <li>Tourist attractions (e.g., beaches)</li> </ul>	<ul style="list-style-type: none"> <li>Mining-based activity/mineral processing</li> <li>Agro-processing/Horticulture</li> <li>Rice</li> <li>Logistics hub, fisheries</li> <li>Labour-intensive export-oriented industries</li> <li>Dairy</li> <li>Tourism</li> </ul>

The clusters created will need to be connected by ‘corridors’ of transport and communications infrastructure. Roads, telecommunications links, industrial estates, ports and airports should form parts of the corridor. These corridors will reinforce trade between clusters. The clusters and corridors approach makes it possible to make the best use of scarce resources by concentrating them initially on select areas, and creating critical mass and high quality. The development of these clusters and corridors will spearhead the development and spread of economic activity in all parts of the State<sup>5</sup>.

Major clusters in the State will be Hyderabad, Karimnagar, Warangal, Tirupati, Visakhapatnam, Vijayawada, Anantpur and Nellore. These clusters will be connected to other major Indian cities—Delhi, Mumbai, Bangalore, Chennai, Calcutta and Bhopal—to facilitate economic activity between states.

- **Infrastructure and construction will be the principal growth engines in the immediate future:** Building infrastructure is a prerequisite for the development of most of the growth engines and will therefore be a top priority over the next five years. Over Rs.4,00,000 crore<sup>6</sup> will need to be invested till 2010 in building infrastructure. This alone will stimulate growth by creating considerable employment and income in the State. Once infrastructure is built, its operation will continue to generate significant income. Today, operating infrastructure, as in maintaining roads and running power plants, creates a larger proportion of income in developed economies than in developing ones. Furthermore, the construction industry will be a major beneficiary of the thrust to build infrastructure: tremendous business and employment opportunities will be generated in building roads, power plants, industrial parks, ports, irrigation systems, and so on.

This emphasis on infrastructure as a driver of growth is consistent with the approaches of countries like China. China plans to attract investment of as much as \$100 billion in infrastructure in the next few years. It expects activity in this sector to create considerable employment for its people.

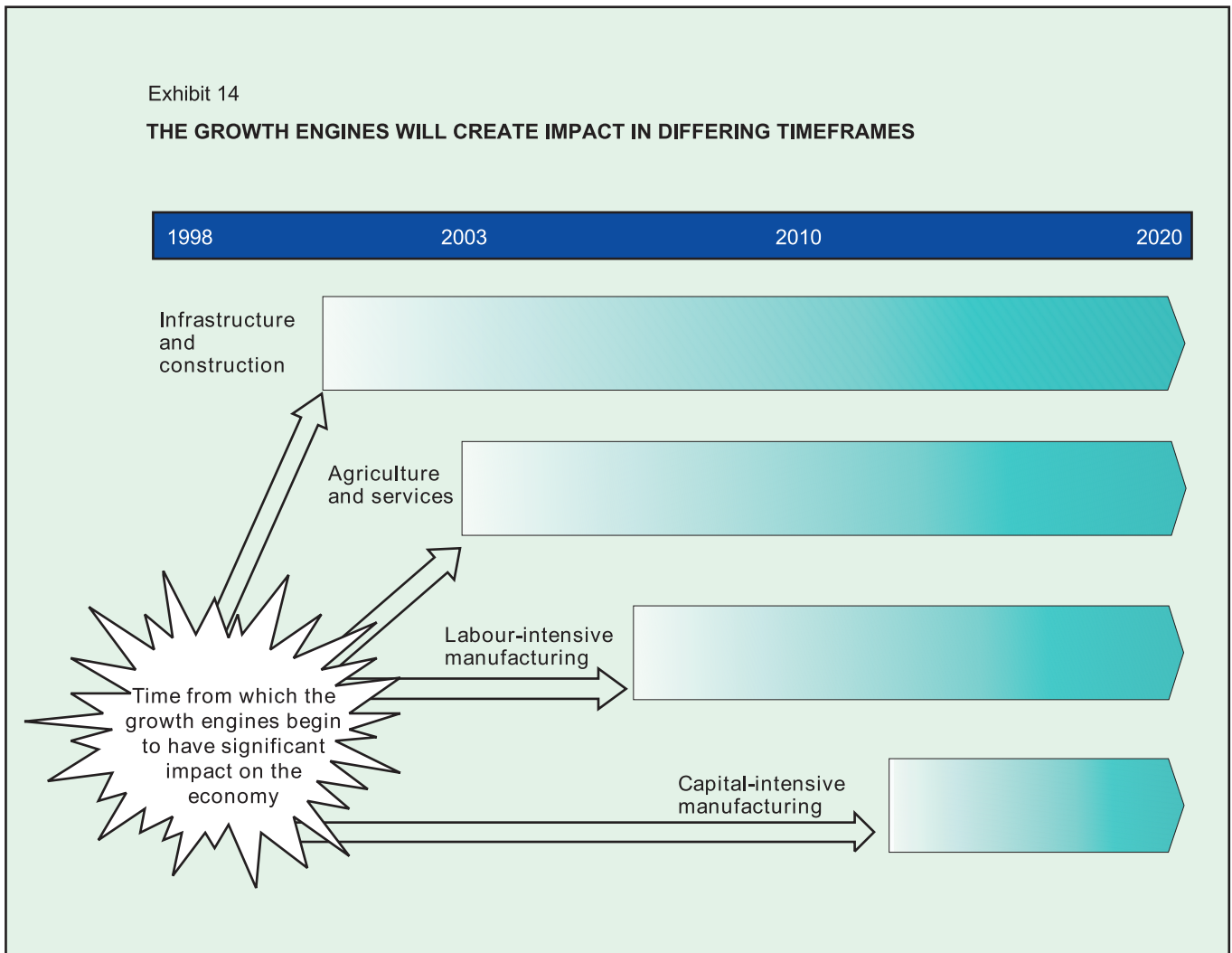
The development of many of the growth engines will be constrained until the requisite infrastructure is created; it could be ten or more years before many

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<sup>5</sup> In other words, this approach will not lead to development only around the clusters and corridors. The growth programmes will require infrastructure development in rural areas, education and health initiatives, and improvement in civic services, across the State. Also, the development of agriculture growth engines and small-scale services will spread economic benefits across the State.

<sup>6</sup> At constant 1995-96 prices.





industries have the infrastructure they require. Therefore, sectors, which do not depend heavily on infrastructure creation for growth, such as agriculture and services, are likely to develop faster and drive early growth.

**Exhibit 14** shows the time frames in which the growth engines will begin to have significant impact on the economy.

## How the State Government will catalyse the development of the growth engines

While the growth engines will be developed mainly by private investment, the Government will have a major role to play in catalysing their development. One of its first tasks will be to attract private investors to help build the growth engines. To do this, the Government will need to create the conditions that will allow players to build profitable businesses in the State.

This will require action on four fronts: (1) providing infrastructure; (2) deregulating or creating regulation that fosters investment and facilitates business; (3) accelerating the development of skills; and (4) conducting focused and effective promotion to market the opportunities the State offers to investors.

- **Providing specialised<sup>7</sup> infrastructure:** Currently, the growth of many sectors identified as growth engines is severely constrained because they lack critical infrastructure. For example, in horticulture, the lack of adequate post-harvesting facilities—cold storage; cleaning, grading and packing facilities; refrigerated transport—causes around 25-30 per cent of the fruits, vegetables and flowers produced every year to rot.

In other sectors, future growth and expansion will be possible only if current infrastructure is upgraded and expanded. For example, to make Hyderabad an IT mega-hub, a broadband digital highway is a basic requirement. This entails a manifold increase in bandwidth from the current 2 Mb network in the State.

Entirely new infrastructure will have to be built to drive growth in areas where Andhra Pradesh has little or no base. A well-developed exports processing zone will have to be established close to a port to facilitate the development of export-oriented garments and leather products industries. To build a world class logistics hub, large container terminals at Visakhapatnam and Kakinada ports with an intermodal container transfer facility will be needed, among other things. Developing new mines will require dedicated rail links between the mining area and the consumption area.

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<sup>7</sup> To achieve the targeted growth levels, infrastructure of the following types will need to be built: trunk, i.e., roads, ports, airports, power, etc.; specialised, e.g., high-speed telecommunication links, cold storage; and arterial, e.g., smaller roads and telecommunication links connecting villages and towns to key economic centres.

Exhibit 15

**STATE'S ROLE IN DEVELOPING GROWTH-ENGINE SPECIFIC INFRASTRUCTURE**

ILLUSTRATIVE

State to catalyse development\*

- Area
- Cold storage facilities at ports, airports and railways stations
  - Market yard infrastructure
  - Horticulture parks (e.g., 'Mango Industrial Park')
  - Irrigation infrastructure
  - Rural transport systems, road network
  - Storage/warehousing, cargo-handling facilities at ports, airports and railway stations
  - Fully developed EPZ near key ports
  - Well-developed highway system between airports, ports and EPZs, horticulture parks
  - Granite processing park at Nellore/Prakasam district
  - World-class container terminals at Vizag and Kakinada
  - Well-developed highway system in logistics hub
  - High speed (2Mb-2Gb) fibre optic communication network in IT-intensive area and across state

- Growth engines
- Horticulture, poultry, dairy, fisheries
  - Horticulture, poultry, rice
  - Horticulture
  - Horticulture, rice, poultry
  - Dairy, agro-industry
  - Rice, dairy, poultry, horticulture, agro-industry, fisheries
  - Labour-intensive, export-oriented industries
  - Labour-intensive, export-oriented industries, horticulture
  - Mining
  - Logistics
  - Logistics
  - IT, Knowledge Corridor

State to facilitate through state policy/procedural changes

- Cold chain distribution network and refrigerated transport system
- Sorting, grading, cleaning facilities
- Tourist site-specific infrastructure

- Poultry, dairy, horticulture, fisheries
- Horticulture, rice, poultry
- Tourism

State to facilitate by lobbying with Centre

- Dedicated rail lines between mines and consumption area
- World class rail terminal at Vijayawada
- Adequate rail wagon availability

- Mining
- Logistics
- Rice, poultry, etc.

\* Several models of public sector/private sector partnership can be used including BOO, BOOT, BOT, BOST, etc.

*To allow market-based growth and to prudently regulate this growth, the State must create favourable regulation and simplify procedures.*

Specialised infrastructure can be built by the State, by the private sector, or jointly by the two. However, in all cases, the State will actively facilitate its development (Exhibit 15).

- **Deregulating or creating regulation that fosters investment and facilitates business:** To allow market-based growth and to prudently regulate this growth, the State must create favourable regulation and simplify procedures for investors. Many laws have to be scrapped or significantly modified; many have to be strengthened, supplemented and have their enforcement procedures spelled out. In some areas, new laws and policies will have to be formulated.

Exhibit 16  
**REGULATORY CHANGES REQUIRED FOR DEVELOPMENT OF THE GROWTH ENGINES** NOT EXHAUSTIVE

Growth engine	Laws and policies to be eliminated or substantially modified	Laws and policies to be strengthened	Laws and policies to be formulated
• Rice	<ul style="list-style-type: none"> <li>• Procurement levies</li> <li>• Restrictions on transport, storage</li> <li>• Ban on exports</li> </ul>		
• Horticulture	<ul style="list-style-type: none"> <li>• Duties on cold-chain systems (reduction)</li> </ul>		<ul style="list-style-type: none"> <li>• Contract Farming mechanism</li> <li>• Wasteland development</li> </ul>
• Poultry			<ul style="list-style-type: none"> <li>• Contract Farming mechanism</li> </ul>
• Dairy	<ul style="list-style-type: none"> <li>• Milk &amp; Milk Products Order</li> </ul>	<ul style="list-style-type: none"> <li>• Mutually Aided Co-operative Societies Act, 1995</li> </ul>	<ul style="list-style-type: none"> <li>• State-wide feed/fodder policy</li> <li>• Operating autonomy for co-operative dairies</li> </ul>
• Mining		<ul style="list-style-type: none"> <li>• Private mining in coal sector</li> <li>• Environment laws</li> </ul>	<ul style="list-style-type: none"> <li>• Private mining in tribal areas</li> <li>• Intellectual property rights</li> </ul>
• Pharmaceuticals	<ul style="list-style-type: none"> <li>• Price controls</li> <li>• Indian patent law</li> </ul>		
• Construction	<ul style="list-style-type: none"> <li>• Duties on construction equipment (reduction)</li> </ul>		<ul style="list-style-type: none"> <li>• Internationally accepted standard contracting format</li> <li>• Industry status</li> </ul>
• Labour-intensive export oriented industries	<ul style="list-style-type: none"> <li>• SSI reservation for apparel, leather products</li> </ul>		
• IT, Knowledge Corridor	}		<ul style="list-style-type: none"> <li>• Increased privatisation of telecom sector; procedural facilitation</li> <li>• Intellectual Property Rights</li> <li>• Cyber laws</li> </ul>

Regulatory change of this order will not be possible without the Centre’s participation and co-operation. Therefore, to create a favourable regulatory climate, the State will not only have to undertake significant initiatives at the State level but also influence the Centre to act. The initiatives should take the following form:

First, the State must identify and eliminate outdated laws that constrain growth. For example, it needs to review the reservation of certain industries for the small-scale sector (e.g., leather and garments). This has inhibited the modernisation and technological upgrading of these industries adversely affecting their

competitiveness in quality and cost<sup>8</sup>. De-reserving industries will allow competitive players to enter and make the kinds of investment necessary to develop the industries. To enable small-scale industries to become competitive, the Government will help them to upgrade their technology and skills.

The State must also modify existing laws, particularly to reduce discretionary elements, or formulate new ones. For example, the State should strengthen the policy framework to facilitate private sector participation in developing unexploited resources and reform regulation to enable wasteland development.

In particular, the State must strengthen or formulate laws that protect the public interest (such as laws relating to environmental pollution and quality certification). To illustrate, the State will need to formulate a clear policy on mining to ensure the sustainable development of Andhra Pradesh's mineral resources. **Exhibit 16** lists some areas in which regulation needs to be reviewed.

Second, the State will need to develop strong, innovative enforcement mechanisms that are fair and transparent. These are crucial for creating confidence in investors about the efficacy of the State's (and the country's) laws and the State's commitment to provide a facilitating regulatory environment. They are also critical for protecting the environment and the interests of the people. For example, to enforce the regulation on environmentally sustainable mining, the State could consider introducing such provisions as 'performance bonds' (bank guaranteed security deposits) through which an enterprise would guarantee restoration of mined areas. The deposits should be kept marginally higher than the restoration cost to provide an economic incentive for restoring the mined land. The Western Australia government has used this technique to ensure environmentally sustainable mining activity.

Third, to encourage investment in the growth engines, the State will specifically aim to simplify and rationalise procedures and clearances for these sectors. For example, land identification and acquisition/leasing procedures for agro-industries (which require large tracts of semi-agricultural land) need to be simplified and facilitated.

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<sup>8</sup> India is perhaps the only country to reserve manufacturing sectors for small-scale ventures. To become globally competitive, India will have to revise this policy. Doing so may reduce opportunities in some sectors to small-scale players, but new ones will open up in the services sector (see Chapter 27, The Bonanza in Small-Scale Services). The challenge for Andhra Pradesh will be to re-train its workforce to take advantage of the new opportunities.

The Government has recently taken some steps to simplify procedures. For example, it has set up the State Investment Promotion Board which has significantly reduced the time needed to obtain specific clearances. Similarly, the Andhra Pradesh Industrial Infrastructure Corporation has earmarked land for industrial estates to reduce inconvenience in identifying and acquiring project-suitable land. However, to achieve dramatic growth, the Government will have to do much more. First, it will need to cultivate a mindset of 'partnership' with private investors and consult them in setting policies and procedures for the State. Second, it will need to introduce wide-reaching measures to simplify and hasten approvals mainly by cutting down the vast number of regulations that currently apply. Mexico used a fairly radical approach to doing this. A 'deregulation czar' was appointed; any citizen wanting a regulation to be discarded could approach the 'czar'. This official was obliged to review the regulation and give a decision within 45 days. If no decision was forthcoming at the end of this period, the regulation was automatically scrapped.

- **Accelerating the development of skills:** To develop the growth engines, existing skills will have to be upgraded and new skills will have to be created. In addition, skills and research developed in laboratories and classrooms must be efficiently transferred to the State's fields and factories, so that the benefits of superior skills and technology are realised.

To build marketable skills, a large number of vocational training schools providing industry-specific training programmes will be opened and popularised. As a first step, these schools will be set up in large numbers across the State so that the number of trained workers is greatly increased. In addition, the network of Industrial Training Institutes and polytechnics will be significantly expanded to produce skilled workers such as the large number of construction supervisors and other personnel needed to support the growth of the construction industry. Second, these technical schools will offer a variety of training programmes so that diverse skills can be developed. For instance, training institutions for construction-related trades like masonry, welding, etc., today offer training programmes only in a few trades; they will begin to offer training in many more. Third, the training programmes offered will incorporate training on the latest technologies so that skills can be constantly upgraded. And last, the State will have to set up apex training institutes that train and certify skilled workers as trainers. These trainers can then set up a network of institutes with certification from the apex training institute.

To build new skills and to develop R&D relevant to industry, unique institutions offering specialised education and research facilities need to be set up. The Indian Institute of Information Technology is a step in this direction. Andhra Pradesh will aim to become the 'Education Capital of India' by building 15 to 20 unique educational institutions in the State through affiliations with important universities worldwide. Some of these will be first rate research institutions, on the lines of the Massachusetts Institute of Technology and Stanford University in the USA, while some will be vocational training institutes.

The three-pronged approach of facilitating cutting edge research and development, high quality education and entrepreneurial start-ups, has worked very well to create new industries in the US. Countries like the UK, Germany, and Taiwan are now trying to emulate this model. Andhra Pradesh will also attempt to do so by setting up specialised education and R&D institutes as a joint effort between the Government and the private sector. The State can also facilitate the development of entrepreneurial start-ups by providing enabling mechanisms like venture capital.

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*Andhra Pradesh will aim to become the 'Education Capital of India' by building 15 to 20 unique educational institutions in the State*

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Finally, the State will need to ensure that effective skill transfer takes place between the R&D laboratories, the educational institutes and the field/industry. This is a big challenge, especially in agriculture. To develop agriculture in rain-fed areas, for example, the State will need to focus not only on research to promote dryland agriculture but also on extension, that is, demonstrating the benefits of the improved technology and practices developed to persuade farmers to adopt them. In fact, a large part of China's agricultural productivity increases and agricultural growth have come from effective extension programmes.

- **Conducting focused and effective promotion:** Andhra Pradesh will have to compete for private investment not only with other states but also with other countries. Thus, active promotion is critical to attracting investment on the scale required. The State will need to design and conduct highly effective promotional campaigns. The goal should be nothing short of getting the best companies in every sector of focus to participate in Andhra Pradesh's growth programme. The promotion effort will need to have a twin focus: targeted campaigns and quality promotion.
1. **Targeted campaigns:** For each growth sector, the State needs to identify a target group of domestic and international investors it wants to attract to the State. It

then has to design promotion campaigns to woo these investors and build a one-to-one relationship with them. The Prime Minister of Malaysia, for instance, went on a worldwide, high quality promotion blitz, targeting specific IT communities as well as key IT companies around the world to attract investment to the country's Multimedia Super Corridor project. The Government could even set up specialised bodies to facilitate promotion. Japan's deliberation councils, for example, are formal institutions that facilitate communication between the private sector and the government. These councils, organised along functional or industry lines, provide a forum to exchange market trend and business-related information and to discuss and formulate industrial policies. They have played an important role in winning the support of the private sector.

- 2. Quality promotion:** In general, business promotion efforts by the Government have lacked the focus and professionalism of campaigns by the governments of countries like China, Korea and Taiwan. Recognising the need to compete for investment, the State Government will need to pay particular attention to this aspect, for instance, by conducting market research on investors and even enlisting professional help, perhaps from public relations agencies.

This broad approach to creating the growth engines will be implemented through specific initiatives by industry and the Government. Section 2, 'Focusing on High Potential Sectors: Andhra Pradesh's Growth Engines', spells out the approach to and initiatives for the development of the growth engines.

## TRANSFORMING GOVERNMENT

The success of the first two elements of the growth agenda, development through growth engines and developing Andhra Pradesh and its people, will hinge on support from the Government. Moreover, overall economic growth will be possible only if the Government becomes more efficient and accountable. The Government will therefore need to significantly change its current role, withdrawing from sectors that do not need its attention and focusing on those that need both its attention and resources.

Furthermore, achieving the levels of growth targeted will require investment on a scale far beyond the State Government's resources. In many sectors, therefore, growth will have to come mainly from private investment.



The Government will encourage the development of these sectors through private investment, and shift its focus to actively facilitating market-based growth. It will also shift its focus and resources to the development of human capital and infrastructure, retaining, however, its role as a major provider of services in these areas. The Government's role would then take on the following dimensions: *achieve focus*, i.e., where in the economy to intervene; *improve capability*, i.e., how best to intervene to enable development; *improve interface* with citizens, i.e., how best to make service providers responsive and accountable to the people.

To achieve these objectives, the Government will act in several ways: (1) refocus Government priorities and spending; (2) decentralise governance and make it participatory by involving the people in the governance of their State; (3) introduce 'Electronic Government', i.e., use IT-based services to de-mystify procedures and improve the citizen-Government interface; (4) become a SMART (Simple, Moral, Accountable, Responsive, Transparent) Government by improving transparency and accountability and ensuring effective and responsive services; (5) build the administration's capabilities and enhance policy making and performance; and (6) take a lead role in persuading the Central Government to initiate regulatory and other reform.

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*The Government will need to shift its spending from unproductive areas towards achieving high priority developmental goals.*

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### **Refocus priorities and spending**

Though much future investment in economic growth will come from the private sector, the Government will remain responsible for investment in some key areas, for example, basic education and primary healthcare; poverty eradication; social welfare; rural services; and select infrastructure (e.g., in less developed regions of the State).

To achieve the ambitious targets of the growth agenda, the Government will, therefore, need to shift its spending towards achieving high priority developmental goals. Areas of inefficiency, such as growing establishment costs and redundancies in Government employment, must be corrected. This will entail reducing administrative and other non-developmental expenditure such as support to unproductive public sector undertakings. In parallel, spending on important sectors, such as basic education, primary healthcare, food security, rural development, and infrastructure, must increase.

## Decentralise government

The Government will ensure a greater focus on decentralised and responsive administration by local government and participation by the community. The State Government will enable this shift in power and responsibility by providing active technical, resource, and policy support to local governments. It will also continue to promote the Janmabhoomi initiative described in the section ‘Scenario: Past and Present’. In addition, the Government will ensure that the management of services is decentralised by involving local users. This will be achieved with the help of community-based organisations such as School Committees, Vana Samrakshana Samitis, etc.

## Introduce Electronic Government

The Government will use several mechanisms to enhance the quality of the services it provides and dramatically improve interaction between the people and Government departments. To this end, the Government will automate its services and create electronic networks at all points of contact between the people and the Government. This will provide quick and convenient access to Government departments for services, such as obtaining a ration card, or procedures, such as obtaining clearances for an industrial project. The Government aims to ultimately provide Andhra Pradesh residents with ‘one-stop, non-stop’ services, by making automated services available round-the-clock and providing ‘information kiosks’ to ensure access to these services for all.

## Become a SMART Government

The Government of Andhra Pradesh is committed to becoming a simple, moral, accountable, responsive and transparent government. It will do so by simplifying and rationalising procedures, guaranteeing citizens’ ‘right to information’ on all government activities except certain sensitive areas, and providing mechanisms to ensure transparency, responsiveness and accountability.

Realising that complex and time-consuming procedures are a major obstacle to growth, the Government has resolved to review, rationalise and simplify procedures in key areas. This will include automating clearances, wherever possible; creating high quality information systems to expedite decision making on clearances; and empowering the bureaucracy to quickly provide clearances.

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*The Government of Andhra Pradesh is committed to becoming a simple, moral, accountable, responsive and transparent government.*

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To improve responsiveness and accountability (and, thereby, the quality of services), the Government will adopt mechanisms used in other countries such as the 'Citizen Charter' adopted by Canada and the UK. Through these charters, government agencies in these countries undertake to provide services of a specified standard and pay penalties if the standards are not met. In the UK, 16 such charters have been framed covering services provided to different customers: for education services there is a 'Parents' Charter'; for healthcare services, there is a 'Patients' Charter', and so on. Each charter lays down guaranteed performance levels for each aspect of service and corresponding penalties for deficiencies in providing it. The State has already made a start by drafting charters for select departments and public undertakings.

In addition, the Government will need to provide more effective statutory mechanisms to ensure the integrity of government officials and protect citizens against wrongdoing.

### **Strengthen policy making and improve performance**

A capable, performance-oriented administration is the cornerstone of improved governance. Such an administration can be created by building skills and instituting better reward and appraisal systems. Government officials will be given many opportunities to build their skills. The State Government has already set up the Dr. M. Channa Reddy Human Resource Development Institute of Andhra Pradesh to build the capabilities of its officials. In addition, current initiatives, such as specialisation in specific areas and deputation to other states and national and international organisations, will continue. Skills could also be built by inducting professional managers from the private sector as well as bringing in outside expertise in select areas and for specific projects, e.g., privatisation.

A performance orientation will be achieved through better reward and appraisal systems. Good performers will be identified and adequately rewarded. In addition, to enable better performance, officials could be provided with stable tenures, that is, they could be allowed to remain in a position for at least 3-5 years.

### **Take a lead role in initiating reform**

As stated earlier, the development of the growth engines will require major reform in regulation and procedure. To successfully achieve this, the State Government

will need to enlist the co-operation of the Centre, since much of the reform sought falls in areas either completely controlled by the Central Government or jointly controlled by the Centre and State Governments. For instance, telecommunications is completely controlled by the Centre, while highways are jointly controlled by the Centre and the State. Furthermore, some regulation on industry, such as the reservation of some industries for the small-scale sector, is also decided by the Centre. Therefore, relaxations sought, such as dereserving sectors like garments and leather products, can be granted only by the Centre.

In addition, some of the initiatives to achieve the vision for individual sectors call for changes in the funding or design of programmes sponsored by the Centre. For example, the funding and design of public employment schemes like the Jawahar Rojgar Yojana and the Employment Assurance Scheme are decided by the Centre. To achieve its vision, the State Government would need to have the freedom to modify the design of such programmes.

All this means that the Andhra Pradesh Government will have to actively negotiate with the Central Government to bring about the change needed. There are many ways the State could do this. One method could be to make Andhra Pradesh a test case for such reform as has been done with the Electronic Government initiative.

Section 3 lays out the approach to and initiatives for improving governance in the State. This section also explains the Government's approach to financing the implementation of Vision 2020.

## RAISING THE RESOURCES

The question that comes to mind is how the strategy to achieve the vision will be financed, given the enormous pressures on the State budget. However, where there is confidence in achieving a programme, it is always possible to generate programme-based finance. Andhra Pradesh has already demonstrated this by becoming the first state to secure a World Bank loan to a state rather than a sovereign government. The approach taken to securing investment—aggressive targets, capability building and performance improvement, and making a strong case for why Andhra Pradesh deserves the money—will ensure that it continues to attract investment.

This is not to say that the Government will depend only on investment from external sources. On the contrary, it will also pursue a number of initiatives to raise the resources required.

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*The approach taken to securing investment—aggressive targets, capability building and performance improvement, and making a strong case for why Andhra Pradesh deserves the money—will ensure that it continues to attract investment.*

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First, the Government will need to prioritise its spending and consolidate its fiscal position. This will mean concentrating its resources on crucial areas such as poverty eradication, primary education and basic healthcare, and undertaking public sector reform. In addition, the Government will need to raise its capital budget.

Second, the Government will need to manage its expenditure better. Better maintenance of assets, completing ongoing projects before making fresh commitments, and selecting new projects and schemes on strict cost-benefit criteria will be major elements of this approach.

Third, the State needs to make its tax administration more efficient and maximise its revenue from tax collections. This will require a tax reform strategy that achieves systemic change as opposed to rate increases. The main elements of this strategy would be simplifying and rationalising the tax structure which today comprises several kinds of taxes; broadening the tax base; and using information technology for more effective tax administration.

Fourth, the Government will need to initiate growth-enhancing reforms in various sectors. The focus will be on inducing growth by ensuring the optimal utilisation of natural resources; enabling effective use of physical assets; and encouraging significant participation by the private sector by way of increased private investment.

In fact, since private investment will be key to achieving most of the growth targets, the Government will act on many fronts to attract this investment: boost infrastructure; reform policy and simplify procedures; help its labour force build its skills; ensure a focus on improving productivity in all sectors of the economy; and launch aggressive promotion campaigns aimed at domestic and foreign investors.

This strategy to finance the growth agenda is comprehensively discussed in the final chapter of this document, 'Raising the Resources'.

Countries achieving high levels of development in the last 30 years like Japan and Korea have done so through approaches that incorporate the components of Andhra Pradesh's growth agenda. Both Japan and Korea have undertaken development thrusts in select sectors of the economy. Japan focused on shipbuilding, synthetic

fibres, electronics and steel; Korea focused on six sectors including steel, petrochemicals and machinery.

These countries have also built their capabilities in parallel. One of the priorities for the Ministry of Internal Trade and Industry (MITI), Japan's policy-making body, was to build infrastructure to enable industry. Korea invested heavily in primary and secondary education to build its people's skills and enable them to take advantage of opportunities created by economic policies. Both Korea and Japan acted to make their governments capable and strong. Korea explicitly recognised the need for capable bureaucrats and recruited qualified technocrats and academicians into government. Japan empowered its bureaucrats and insulated them from politics by creating an independent body to manage their appointment and compensation. While some aspects of their political and business systems need to change now to accommodate a more globalised economy, Andhra Pradesh can learn from their earlier successes<sup>9</sup>.

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9 Despite the recent economic crisis in Indonesia, Thailand, Korea and Malaysia and the economic downturn in Japan, India can learn a great deal from the achievements of these countries. By emulating their successes (building world class companies, creating infrastructure which continues to be an asset, developing healthy, educated and skilled people, and creating tremendous opportunities for them), and avoiding pitfalls (excessive creation of unproductive assets; insufficient deregulation of financial institutions; and slowness in transforming into nimble, information-based economies), India can achieve similar levels of development.

## CHAPTER 1

# Progress and Prosperity through Poverty Eradication and Social Welfare

To achieve its vision for 2020, Andhra Pradesh's first priority will be to provide its people with the means to develop their capabilities and the opportunities to put these capabilities to good use. The first step in this endeavour will be to eradicate poverty and eliminate current inequalities that prevent the members of some of its social groups from realising their full potential.

Every society has social groups that are vulnerable to risks or circumstances that adversely affect the quality of their life, including their ability to participate in the economy. In India, and Andhra Pradesh, these groups are scheduled castes and tribes (SCs and STs), backward classes (BCs), minority communities, the poor and the disabled. In addition, women and certain groups of children are also adversely affected by social or economic factors that limit their abilities and the opportunities available to them. Furthermore, certain areas of the State have remained backward in terms of the main measures of human development: literacy levels, access to healthcare, and food security.

The State will play a proactive and aggressive role in empowering and protecting all disadvantaged groups, women and children, and bringing all backward areas into the mainstream of the economy and society.

By 2020, Andhra Pradesh will be a just and egalitarian society. There will be equal opportunity for all and full protection of the rights of disadvantaged and vulnerable groups. Concerted action by all levels of Government will have ensured that all vulnerable groups have access to state and civil institutions and that poverty levels

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*The State will play a proactive and aggressive role in empowering and protecting all disadvantaged groups, and bringing all backward areas into the mainstream of the economy and society.*

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are greatly diminished. Through focused developmental efforts, all backward areas will have achieved the same levels of development as the rest of the State. All sections of society will have equal access to opportunities for education and employment. Women, in particular, will have equal access to opportunities and a strong role in shaping society and the economy.

To achieve this vision, the Government will actively promote the following initiatives:

- Eradicating poverty by strengthening public employment schemes; implementing a focused Public Distribution System; and improving pension schemes for the aged, disabled, and widowed.
- Developing disadvantaged groups through specific strategies to build their capabilities; providing access to state and civil institutions; and enacting and enforcing legislation to protect the interests of vulnerable groups.
- Developing backward areas through a special focus on initiatives to improve development indicators, e.g., in education and health.
- Protecting the rights of the child through specific programmes to ensure equal opportunity and freedom from discrimination and want.
- Empowering women by increasing gender-sensitivity through training; addressing gender inequalities in education and employment; increasing gender-sensitivity in health programmes; and preventing atrocities against women.
- Ensuring equal opportunity and the full participation of the disabled in the economy and society.

### **ERADICATING POVERTY**

About 30-35 per cent of Andhra Pradesh's population is subject to poverty or affected by lack of support in old age or by misfortunes such as physical disability or the loss of a family's earning member. Not only are these groups economically weak, they are also more seriously affected by calamities such as droughts, floods, and cyclones.

Andhra Pradesh's long-term programme for developing its people, i.e., building their capabilities through healthcare and education and creating employment



opportunities through economic growth, will sharply reduce the number of such vulnerable people in the State. However, until these developmental goals are achieved, the poor and other vulnerable groups must be protected and provided with an acceptable standard of living. This calls for a committed approach built around support systems that:

- Comprise a well-defined and flexible set of programmes centred around public employment programmes, pension schemes and food subsidies where necessary, to create a comprehensive safety net for the vulnerable.
- Are robustly designed to provide only for those with a genuine need and do so in an effective and financially sustainable way.
- Are owned and managed by local communities.

### Well-defined, flexible safety net programmes

Andhra Pradesh already has in place several programmes that provide support to the vulnerable. In the organised sector, the law mandates that employers provide pension schemes for the old and compensation for loss of employment. But these schemes cover only 10 per cent of the population. For the unorganised sector, the State, in conjunction with the Centre, spends a significant amount, Rs.1,200 crore or 7 per cent of State spending, on safety net programmes.

To create a robust safety net, therefore, Andhra Pradesh will need to redefine its mix of programmes and focus them on specific vulnerable groups. Three programmes that meet these criteria can be implemented immediately: a rural employment programme; a more focused and efficient public distribution system (PDS); and pension schemes.

- **Rural Public Employment Programme:** A rural public employment programme, particularly a rural works programme, can serve two objectives simultaneously: build badly needed rural infrastructure and create a cushion of security through employment. This should be the principal method to provide food security for the poor, 80 per cent of who live in rural areas and are poor mainly because of the loss of employment during the off-season for agriculture. Countries like Chile have effectively used public employment programmes in this way. In the late '80s, Chile employed as much as 13 per cent of its rural labour in such programmes. Andhra Pradesh currently operates several schemes for rural works

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*To create a robust safety net, Andhra Pradesh will need to redefine its mix of programmes and focus them on specific vulnerable groups.*

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and public employment such as the Jawahar Rojgar Yojana, the Employment Assurance Scheme, and the Minimum Needs Programme. The State will ensure the effective targeting and functioning of these programmes, augment resources, and launch a publicly funded rural works programme to assist the poor.

- **Public Distribution System:** The Public Distribution System (PDS) is one of India's most far-reaching safety net programmes. Currently, the focus is on effectively targeting the programme to make it pro-poor. This will also be Andhra Pradesh's strategy to ensure food security for all groups requiring such assistance.

To ensure its sustainability, it is critical to target the PDS at clearly identified groups who are poor, vulnerable, or risk-prone. Since food subsidies are consumption- rather than investment-oriented, they are inherently less efficient than public employment programmes. Moreover, targeting such subsidies, i.e., ensuring that most of the benefits go only to the poor, is difficult, making these programmes expensive. In Andhra Pradesh, such programmes should be used only to provide relief to genuinely vulnerable groups.

- **Pension schemes:** Pension schemes are appropriate for assisting vulnerable groups like the aged, disabled, and widows, and should form the third component of the safety net programme. While Andhra Pradesh already has pension schemes, funding is a key constraint. The State will need to emphasise pensions in its mix of programmes to make its safety net comprehensive in coverage.

The State will need to keep the mix of programmes flexible over time to provide for changing circumstances. For instance, as poverty falls and demographics shift, old age security will become more important and Andhra Pradesh will need to emphasise pension schemes over others. To adequately provide for such groups, the State will need to set up a full-fledged social security system.

### **Robust programme design**

Each of the State's safety net programmes needs to be carefully designed. Robust design can ensure that target groups benefit from the programme; ineffective design can make programmes fiscally unsustainable and less effective.

Consider public employment schemes. Key elements in designing such a scheme include the nature of works chosen, the method for allocating funds across regions, and wages paid. However, projects have not always been chosen in line with local

priorities. In addition, formal processes for identifying and articulating local needs have not always been effectively used. Furthermore, funds are not allocated in proportion to the incidence of poverty in a region.

The State will also need to build systems for monitoring the safety net programmes into their design. Countries like Chile have strong systems to design and monitor their programmes. Surveys are conducted once in 2-3 years to assess the severity of poverty in different regions. Characteristics of poor households are carefully studied and used to create sharply targeted programmes. The results of these programmes are rigorously evaluated and their designs altered accordingly.

### **Community ownership and management**

The majority of the poor and vulnerable find it difficult to articulate their needs or gain access to safety net programmes. To help them do so, it is essential to decentralise the management of such programmes and create mechanisms to involve the community and beneficiaries in their running, as is now sought to be done through the Janmabhoomi initiative.

In Tanzania's public employment programme, local communities are involved at all stages: in identifying local priorities, designing specific projects and ensuring the participation of appropriate beneficiaries. This causes the community to 'own' the project, ensuring proper operation and maintenance and also ensuring that benefits reach the target groups.

The 73rd and 74th Constitutional Amendments already provide for decentralising the administration of safety net programmes to local bodies like Village Panchayats. In addition, governments, both at the State and local levels, need to consciously involve beneficiaries in the management of these programmes. In addition, non-governmental organisations (NGOs) can play an important supporting role. They can catalyse interest groups and help the vulnerable voice their needs. Learning from the experience of other states like Kerala, Andhra Pradesh should actively enlist the support of NGOs in executing its safety net programmes.

### **DEVELOPING DISADVANTAGED GROUPS**

Historical inequalities in India have led to deprivation on many counts for groups such as SCs, STs, and BCs. The approach to developing these groups, therefore, will

focus on providing the interventions required to remove these deprivations and build their capabilities. They include raising the literacy levels of these groups, improving their access to healthcare, helping them establish secure livelihoods, and ensuring that they have access to state and civil institutions. (Food security has been discussed in the section on poverty eradication above.)

### **Raising literacy levels**

Andhra Pradesh fares poorly in terms of literacy levels compared to other Indian states. Not only is it ranked 26th among the 32 states and union territories of India, it is 29th in literacy for SCs and at the bottom of the list in literacy for STs. Furthermore, 13 of the State's 23 districts are below the State literacy average (44 per cent). The situation is further complicated by the fact that large gaps exist between the literacy levels of specific groups within the disadvantaged sections. Thus, the gap between ST female literacy and SC male literacy is 33 per cent.

Achieving universal literacy by 2010, therefore, will call for specific interventions to improve access to education for the children of these groups and increase adult literacy.

The first step will be to provide more schools in SC and ST habitations. The next will be to ensure that all children between the ages of 5-14 are enrolled in school and to improve the retention rates of enrolled children. Furthermore, since dropping out from school is a major cause of low literacy and educational achievement levels, the problem must be tackled in several ways.

To prevent dropping out and encourage enrolment, more anganwadi centres will be provided to take care of infants, enabling older girls to go to school. Lastly, 'Back to School' programmes will be introduced to bring drop-outs back to school. These will be bridge courses that help drop-outs re-enter the formal education system at a level appropriate to their age.

In addition, adult literacy campaigns will be intensively pursued to achieve the target of universal literacy by 2010.

(A detailed discussion of the strategy for education is provided in Chapter 2, 'The Agenda for Education'.)

## Improving access to healthcare

In terms of access to healthcare, disadvantaged groups share the same problems as most of rural Andhra Pradesh (and India): not enough primary health centres; few doctors or other healthcare personnel available at the PHC; and few, if any, drugs available at healthcare centres. As a result, infant and child mortality rates are high; with children succumbing to easily treated diseases such as diarrhoea and acute respiratory infection. Moreover, maternal deaths are high, due to inadequate pre- and antenatal care and deliveries at home in unhygienic surroundings. Lack of access to healthcare is further exacerbated by malnutrition due to the high poverty levels of these groups.

The State will undertake specific initiatives to overcome these problems. To ensure access to basic healthcare services, each village or habitation will be provided with a Community Health Worker (CHW) or Auxiliary Nurse Midwife (ANM), trained in hygienic/sterile deliveries. Peri-natal care (between the 28th week of pregnancy and the first week after delivery) will be provided for all mothers. In addition, through the ongoing immunisation and disease control programmes, the incidence of diseases such as diarrhoea, acute respiratory infection, malaria, tuberculosis, and deaths from them, will be greatly reduced.

To combat malnutrition and augment healthcare, the coverage of the health and nutrition component of the Integrated Child Development Services (ICDS) will be expanded. The ICDS integrates supplementary nutrition programmes with informal education (through anganwadis/balwadis) and healthcare (immunisation, health checks, referral services) for children below six years of age and pregnant and lactating women. Through the ICDS, ANMs will implement immunisation and health-based nutrition programmes. These are discussed in greater detail in Chapter 3, 'Health First'.

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*To improve the position of disadvantaged groups, the State will help them gain access to the resources they need to establish a secure livelihood.*

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## Ensuring livelihoods

To improve the position of disadvantaged groups, the State will help them gain access to the resources they need to establish a secure livelihood. This will include upgrading their skills to help capture economic opportunities; providing access to technology, especially small technologies, to set up small businesses or improve productivity; and providing access to resources to enable asset creation. The focus will be on self-employment. The State will also emphasise initiatives such as

promoting entrepreneurship among these groups (see Chapter 21, 'Dynamic Small-Scale Industries' and Chapter 27, 'The Bonanza in Small-Scale Services').

The State Government has already finalised the Artisans' Assistance Programme, 'Adarana', for aiding all artisans. The objectives of the programme are to upgrade skills, increase income and value addition, and reduce drudgery. To this end, modern and power tools will be supplied to BC artisans.

The State will work towards helping all such groups in need of assistance. Many self-help groups are already working to develop sustainable livelihoods for themselves. Some of these are Vana Samrakshana Samitis, Development of Women and Children in Rural Areas, Chief Minister's Empowerment of Youth, Water Users' Associations, and Watershed Committees. In addition, initiatives undertaken in other sectors, such as dryland farming, bringing waste and fallow lands into productive use, and encouraging off-farm and non-farm activities will provide employment to these groups.

### **Ensuring access to state and civil institutions**

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*A special emphasis will be placed on building capabilities by improving education and health, and investing in economic and social infrastructure.*

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Today, disadvantaged groups are severely hampered by their lack of access to state and civil institutions, for instance, police stations (for action against atrocities) or banks (for credit). To build their capabilities, it is vital that such access is ensured. To this end, the State will introduce transparent procedures such as single window systems, right to information, and accountability of government servants. In line with the initiatives outlined above, it will also encourage investments in social and economic infrastructure for these groups.

### **DEVELOPING BACKWARD AREAS**

For historical reasons, economic development in India has been uneven, resulting in significant disparities between states and even between regions within states. Not surprisingly, in Andhra Pradesh, several districts have remained backward in terms of most indicators of development such as health, education, economic and social infrastructure.

To bring these areas to the same level of development as other districts in the State, a special emphasis will be placed on building capabilities by improving education and health, and investing in economic and social infrastructure. Initiatives outlined

in the previous section will be actively pursued in all backward districts. Particular attention will be paid to the development of scheduled areas, i.e., areas in which the tribal population comprises 50 per cent or more of the total population. This effort will include providing access to education and health facilities, preserving nature and natural resources, and ensuring the protection of tribal cultural identities.

## PROTECTING THE RIGHTS OF THE CHILD

Andhra Pradesh firmly believes that children are its most valuable asset. It is, therefore, committed to protecting the basic rights of the child to equality, including equal opportunity, and freedom from exploitation, and accepts its obligation to act in the best interests of the child. A major element of the strategy to achieve Vision 2020, therefore, will be to work towards removing all the environmental and structural constraints that inhibit the fullest development of Andhra Pradesh's children. The State has already made progress in many areas of concern such as infant and child mortality, malnutrition, and primary school enrolment. But many problems still need to be tackled. These fall into the broad categories of child and maternal healthcare, nutrition, education, drinking water, sanitation, child labour and the special problems of the girl child, disabled children, slum and street children.

This section sets out specific goals to be achieved in each of the problem areas enumerated above. The approach to achieving them has already been spelt out in related parts of the Vision 2020 document.

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### Safeguarding child health

Infant and child mortality rates are sensitive indicators of the health and quality of life in a society. Although there has been a reduction in the infant mortality rate (IMR) in recent years, it can be further decreased by addressing maternal health, low birth weight, care during child birth, and immediate postnatal and neonatal care. The State will reduce IMR to 10 per 1,000 live births and child mortality to 20 per 1,000 by 2020. The approach to achieve these goals is spelled out in Chapter 3, 'Health First'. However, a broad list of interventions required is laid out below.

- Reducing the incidence of vaccine preventable diseases through universal immunisation. Specific goals will include the elimination of neonatal tetanus, measles mortality and morbidity, and poliomyelitis, and achieving sustained immunisation of all children.

- Reducing deaths due to diarrhoeal dehydration among infants under 5 years of age by using Oral Rehydration Therapy.
- Reducing deaths due to Acute Respiratory Infection among children under 5 years of age.
- Achieving universal awareness of children's vulnerability to HIV/AIDS.

### **Ensuring maternal health**

The State recognises that maternal health has a direct impact on infant health and childcare. Studies have shown that the risk of death for children under 5 with deceased mothers increases by 50 per cent. It will therefore ensure a specific focus on reducing maternal mortality through the Reproductive and Child Health programme. The specific goals are:

- Prevent pregnancies below 21 years, ensure birth intervals of three years, restrict total number of births to two.
- Ensure hundred per cent coverage of pregnant women with antenatal care, trained attendants for all deliveries, and referral facilities for high risk pregnancies and obstetric emergencies.

### **Preventing malnutrition**

Nutritional disorders among children lead to stunted growth and critically low weights. Although the prevalence of severely underweight 1-5 year olds has dropped in recent years, the prevalence of moderately underweight children remains high. Recognising that proper nutrition allows children to develop their full potential, the State has set itself the following goals to overcome malnutrition:

- Reduction in malnutrition among children under 5 years of age.
- Reduction in incidence of low birth weight and increase in average birth weight to 3 kg.
- Universal consumption of iodised salt, elimination of vitamin A deficiency, reduction in iron deficiency in pregnant women, adolescent girls and children below 5 years of age.
- Encouragement of breast-feeding for all infants for at least 4-6 months.



## Ensuring education for every child

The State will protect the child's right to education by ensuring universal enrolment, retention, and achievement of minimum levels of learning. The specific goals are:

- Universal enrolment and completion of five years of primary education by all children in the 6-11 age group.
- Sharp reduction in drop-out rates.
- Reduction in disparities in literacy levels of girls and children belonging to disadvantaged groups such as scheduled castes, scheduled tribes, backward classes, and minorities.

The strategy to achieve these goals is laid out in Chapter 2, 'The Agenda for Education'.

## Protecting the girl child and adolescent girl

Today, economic, social and cultural deprivation adversely affect the health and development of the girl child. Female literacy, too, is disappointing, and drop-out rates for girls are high. The average age of marriage is low (just 18 years), trapping the girl in a vicious cycle of domestic responsibilities, repeated pregnancies during adolescence and consequent poor health.

The way out of these social evils inflicted on the girl child is to improve her status. The specific goals the State has set for itself are:

- Ensure the enrolment and retention of girls in school by addressing the issues behind these trends.
- Tackle the health problems of adolescent girls, such as chronic anaemia, through the anganwadis.
- Equip girls with vocational and professional skills that will make them self-reliant.
- Involve the community in building awareness about the evils of early marriage and the importance of family planning.

## Eliminating child labour

At the time of the 1981 census, nearly 13 per cent of all working children in India lived in Andhra Pradesh. Today, at least 60 per cent of the State's children do not attend school; they are either already child workers or potential workers. Not only are these children denied the basic right to develop their full potential and be protected against exploitation, they work under the most adverse conditions. A major element of achieving Vision 2020 is, therefore, to eliminate child labour in Andhra Pradesh. To ensure this, the State will rigorously enforce the ban on child labour and prevent the practice by addressing the problem on different dimensions.

- **Banning child labour:** The State will enforce the Child Labour Abolition Act in all factories and industries with greater vigour. A well-defined workplan will be prepared to eliminate child labour, particularly in hazardous activities and industries in which it is currently prevalent. Along with notification of the rules under this Act, the Government will ensure that officials, public prosecutors, the police and the judiciary are oriented towards implementing the ban. The enforcement machinery will be strengthened and special courts will be established in child labour intensive areas.
- **Preventing the practice of child labour:** To wipe out the practice, the State will ensure that all vulnerable children have access to education and that the community is mobilised against child labour. Special schools will be established under the National Child Labour project and NGOs will be encouraged to provide non-formal education. Primary education will be made compulsory, particularly in child-labour intensive areas, and parents will be made responsible for ensuring that their children go to school.

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*A major element of achieving Vision 2020 is to eliminate child labour in Andhra Pradesh.*

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## Caring for disabled children

The main causes of childhood disabilities include polio, malnutrition, maternal causes, and environmental effects. These problems and the approaches to tackle them have been discussed earlier in this chapter. The specific goals for the State are to initiate early detection and community based rehabilitation programmes for all disabled children, in line with best practices such as Zambia's educational programme for disabled children (**Exhibit 1.1**).

Furthermore, to provide them with every opportunity to develop themselves and lead a normal and fulfilling life, the State will ensure that all children with mild or

Exhibit 1.1

### PROVIDING EDUCATION TO THE HANDICAPPED IN ZAMBIA

#### Background

- The Zambian Government officially recognised the educational needs of the handicapped, and in their Third Plan (1977-80) gave priority to offering pre-service and in-service teacher training and establishing new schools for handicapped children
- The Government received funding from Sweden in 1980 to create a special education system: a national campaign for educating disabled children was launched

#### Objectives of the campaign

- To educate the public about the special needs of disabled children
- To establish provincial registers of disabled children
- To lay the foundations of national health and education services for them
- To supply technical aid and prosthetic devices to as many disabled children as possible

#### Details of the campaign

- District ascertainment teams, comprising a local primary school teacher, a medical assistant and a community development worker, were formed and dispatched throughout the country
- These teams identified disabled children and designed home-based intervention programmes
- Through 3,000 reporting centres in 57 districts the ascertainment teams examined 11,000 children and identified 7,247 as severely disabled
- The Ministry of Education took responsibility for educating the handicapped
  - University of Zambia included courses in special education for an associate certificate in Education
  - In 1984, the National College for Teaching of the Handicapped was established in Lusaka, the Zambian capital
  - By 1985, 35 institutions were serving 2,095 handicapped students at the primary level, more than double the number in 1980

Source: 'Improving Primary Education in Developing Countries' (a World Bank publication); CSAPO

moderate disabilities are integrated into the mainstream of formal education. For children with severe or multiple disabilities, it will ensure institutional rehabilitation support or care. The State has already launched an initiative, 'Cheyutha' (helping hand), to achieve these objectives.

### Caring for children in especially difficult circumstances

Some children suffer from particularly severe problems: child abuse, neglect, abandonment and exploitation. These problems are usually the fallout of poverty, family disintegration and a deteriorating social environment in poor urban

neighbourhoods. Andhra Pradesh will ensure the physical and emotional well-being of children in difficult circumstances through community and family interventions and will attack the root cause by achieving all sectoral goals that promote the well-being of all sections of society.

## EMPOWERING WOMEN

Women represent 50 per cent of the population, yet their productive potential remains largely untapped. Furthermore, evidence the world over, and particularly in developing economies, has shown that empowering women is critical to achieving the transition to development. A major aspect of achieving Vision 2020, therefore, will be empowering women by building awareness of gender issues and providing them with the education, health and employment opportunities they need to realise their full potential. To achieve this objective, the State will undertake the following initiatives: increase gender sensitisation through training; address gender inequalities in education; address gender inequalities in employment; increase gender-sensitivity in health programmes; and prevent atrocities against women<sup>10</sup>.

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*A major aspect of achieving Vision 2020 will be empowering women by building awareness of gender issues and providing them with the education, health and employment opportunities they need to realise their full potential.*

---

### Increase gender sensitisation through training

A critical aspect of empowering women is improving the perception of their role in the economy. This can be achieved through training that builds an understanding of the potential and role of women. To be effective, however, this training should also address men's concerns, particularly their role in a more gender-aware world.

To ensure that such training is provided, the State will provide incentives to institutions to invest in gender training and follow-up. These programmes must ensure that training is systematic and addresses all aspects of inequality including caste and class. To make such training self-sustaining, institutions will be encouraged to establish 'train-the-trainer' programmes. Lastly, to ensure that they are effective, the State will encourage rigorous assessment of the impact of such training.

### Address gender inequalities in education

Education has proved to be the determining force in empowering women, thereby achieving positive development outcomes. Recognising this, Andhra Pradesh has

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<sup>10</sup> The recommendations in this section are based on the publication 'Background Report on Gender Issues in India' commissioned by the Overseas Development Administration, UK, and prepared by Anveshi Research Centre for Women's Studies, Hyderabad.

already introduced 33 per cent reservation of seats in higher education institutions for girls. In addition, as discussed in Chapter 2, the State will make every effort to promote education for women.

A critical part of these strategies will be improving access to school for girls. A major initiative in this regard will be expanding the number of anganwadi centres to take care of infants so that older girls can go to school. Equally important will be providing 'Back to School' bridge courses to help girl drop-outs return to formal education. Yet another initiative will focus on increasing the enrolment and retention of girls in school by considering specific constraints for certain groups such as SCs, STs, BCs, and girls from minority communities.

### **Address gender inequalities in employment**

While women's representation in the workforce is steadily increasing, it still needs boosting since women continue to suffer from inequalities such as lower pay and restricted access to employment opportunities and skill development. To eliminate these inequalities, the State will enforce equal pay for equal work, particularly in rural areas (e.g., for agricultural labourers). It will also continue with its policy of reservation of 33 per cent of jobs in the Government and the public sector for women. To further promote work for women, it will ensure that schools and colleges provide more technical courses and that skill building institutions are set up especially for women. Furthermore, the State will encourage self-employment schemes for women and act to increase value-added employment opportunities for them.

This will have to be buttressed with initiatives at different levels to provide credit to women. Firstly, government departments will have to administer credit programmes in collaboration with the banking sector. Second, at the village level, NGOs and other private agencies will be encouraged to cater to the credit needs of women. Finally, the system of women's self-help groups and Mahila Banks must be encouraged to ensure regular access to credit for women. In the last two years, women in the State have been mobilised into small thrift and credit groups with the objective of generating monthly savings to meet small credit needs. These groups must be systematically encouraged and supported. This effort can be supplemented through Mahila Banks which would assist members of self-help groups in securing medium- and long-term credit from local banks.

### **Increase gender-sensitivity in health programmes**

The strategy for achieving the vision for the health sector explicitly provides for interventions to promote the health of women and girls (see Chapter 3). Since these will be adequate to provide for the health needs of this group it will be sufficient to point out here the need to make health programmes sensitive to the needs of women.

This can be achieved, for instance, by designing health delivery systems that take into account women's constraints in attending health facilities. Strategies could include mobile health units and visiting female gynaecologists to provide for those women who cannot visit either the primary health centre or referral hospitals. Another intervention could include providing a wider range of contraceptive methods and educating men on the need for family planning, at least until women have more control over decisions on the size and spacing of the family.

### **Prevent atrocities against women**

The lack of deterrence and punishment has allowed atrocities against women to continue unchecked for generations. Andhra Pradesh will systematically put a stop to these crimes through a series of measures.

The State has already constituted a State-level Commission for Women on the lines of the National Commission for Women to monitor atrocities against women and act as a positive force in protecting their rights. Other measures will include strictly implementing the ban on dowry; increasing the number of family courts and mahila courts (women's courts); and establishing counselling centres for women to express their grievances, and to seek information and guidance. The State will also need to induct more women into the police force and set up exclusive women police stations.

Other pro-active measures to prevent atrocities against women would be speedy disposal of cases filed by women, free legal counsel and exemption of court fees for women in divorce, violence, maintenance and property cases.

## **ENSURING EQUAL OPPORTUNITY FOR THE DISABLED**

Disability takes many forms: physical, sensory, and mental. Andhra Pradesh has a fairly high prevalence of disability: around 2.3 per cent of the State's population suffers from some form of disability (mainly blindness and locomotor problems) compared to the all-India average of 1.7 per cent.

The approach to helping the disabled must focus on providing them with access to opportunities and facilities and to employment. Most societies continue to be organised for the 'average' person without any disability. As a result, disabled children and young people continue to have problems of access to mainstream education, including good quality training. People with disabilities are two to three times more likely to be unemployed. Transport systems and public buildings continue to be inaccessible to the disabled or accessible only with difficulty. Finally, a large number of people with disabilities live close to or below the poverty line.

Andhra Pradesh's approach to enabling its disabled people will need to be based on the new emphasis on identifying and removing barriers to equal opportunity and ensuring full participation in all aspects of life. The new approach stresses integration rather than helping the disabled accommodate themselves to their disabilities. The main elements of this approach include:

- **Mainstreaming:** This entails formulating policy to ensure the full participation and involvement of people with disabilities in the economy and society. In practical terms, this will require a shift from developing special arrangements, such as special schools or workshops, towards integrating disabled individuals into mainstream educational institutions and employment. The State will need to strengthen policies to encourage the employment of people with disabilities and to integrate them in working life. This policy will also need to cover the educational problems of people with all types of disabilities, such as the relaxation of examination norms, e.g., for dyslexic children.
- **Creating access to transport and public buildings:** The State will need to pursue the provision of facilities and, where necessary, modification of transport infrastructure and buildings to facilitate their use by the disabled. Going forward, it will need to encourage the incorporation of access for the disabled into the design of new infrastructure and buildings.
- **Raising awareness:** Awareness programmes will be emphasised with two objectives: to raise awareness about disability issues, and to disseminate best practices developed by various organisations and groups in raising awareness and creating disability-friendly environments.
- **Harnessing information and communication technologies:** The State will encourage the harnessing of all aspects of the information society in improving

the working and living conditions of the disabled. This will include reviewing all applications favourable to people with disabilities as well as the setting up of databases on rehabilitation, technical aids, and other areas of interest.

Through empowerment, protection, and self-help, all groups in Andhra Pradesh's society will achieve their rightful place in the mainstream of the economy and society.



# The Agenda for Education

Education has a critical role to play in development. Recognising this, Andhra Pradesh firmly believes that outlays on education are an investment and not an expenditure.

Education allows an individual to develop the knowledge and skills to capture economic opportunities and thus increase his or her income. This provides the basis to capture further opportunities. Education also leads to improvement in other critical areas such as health and family planning. Studies have shown that educated women can take better decisions about nutrition and healthcare for their families. They are also more open to family planning and have fewer children. In addition, greater literacy and basic education help people understand their needs and demand services. This expands facilities for the public and, at the same time, improves the utilisation of these facilities. Education, thus, empowers the individual.

Furthermore, education is critical to building a modern, market-based economy and raising living standards. The human capital model in theories of economic growth shows that a rise in the level of education brings a rise in the efficiency of all factors of production. Educated people use capital more efficiently; they think up new and better forms of production; and they embrace change and innovation faster and quickly learn new skills.

The existence of such a productive and skilled workforce will catalyse development in Andhra Pradesh and attract investment into the State. Furthermore, education and training will themselves become an engine of growth for the economy: they

will create many jobs in teaching and administration and provide an impetus to growth and employment through the creation of new schools, vocational training institutes, and higher education institutions.

By 2020, Andhra Pradesh will be not just a literate but a knowledge society capable of meeting the challenges posed by the 21st century. It will be a state in which every person will be able to realise his or her full potential through access to educational opportunities regardless of the class or region to which he or she belongs. Andhra Pradesh will offer its people a variety of opportunities to develop a rich base of skills that industry can draw upon to build a competitive economy. With a progressive and well-managed education system and many institutions of learning and skill-building, it will make an effective and complete transition into a Knowledge Society.

To achieve this vision, the primary goal for the State will be to steadily increase overall literacy levels from the current 44 per cent<sup>11</sup> of the population to over 95 per cent. This will require an increase in adult literacy from the current 55 per cent for males and 33 per cent for females to over 95 per cent overall. To reach this target, the State will have to significantly improve the literacy levels of groups with traditionally low levels—rural women, minorities, scheduled castes (SCs), scheduled tribes (STs), backward classes (BCs), and the population of certain backward districts. **Exhibit 2.1** lays out literacy targets for the State for each major section of the population.

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*Andhra Pradesh will be not just a literate but a knowledge society capable of meeting the challenges posed by the 21st century.*

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To achieve the vision, Andhra Pradesh will also need to make education a dynamic and vibrant sector, keeping pace with the changing needs of the State's economy and society. This will call for the strengthening, transforming and expanding of elementary and higher education, including the revamping of their management, curricula, and teaching methods. The emphasis will be on providing high quality education to the poor to correct the current unequal situation in which a quality school and college education is available only to the better off in society.

In other words, Andhra Pradesh will need to transform the current educational system<sup>12</sup> so that it can play a catalytic role in the economy and society. Such a system will:

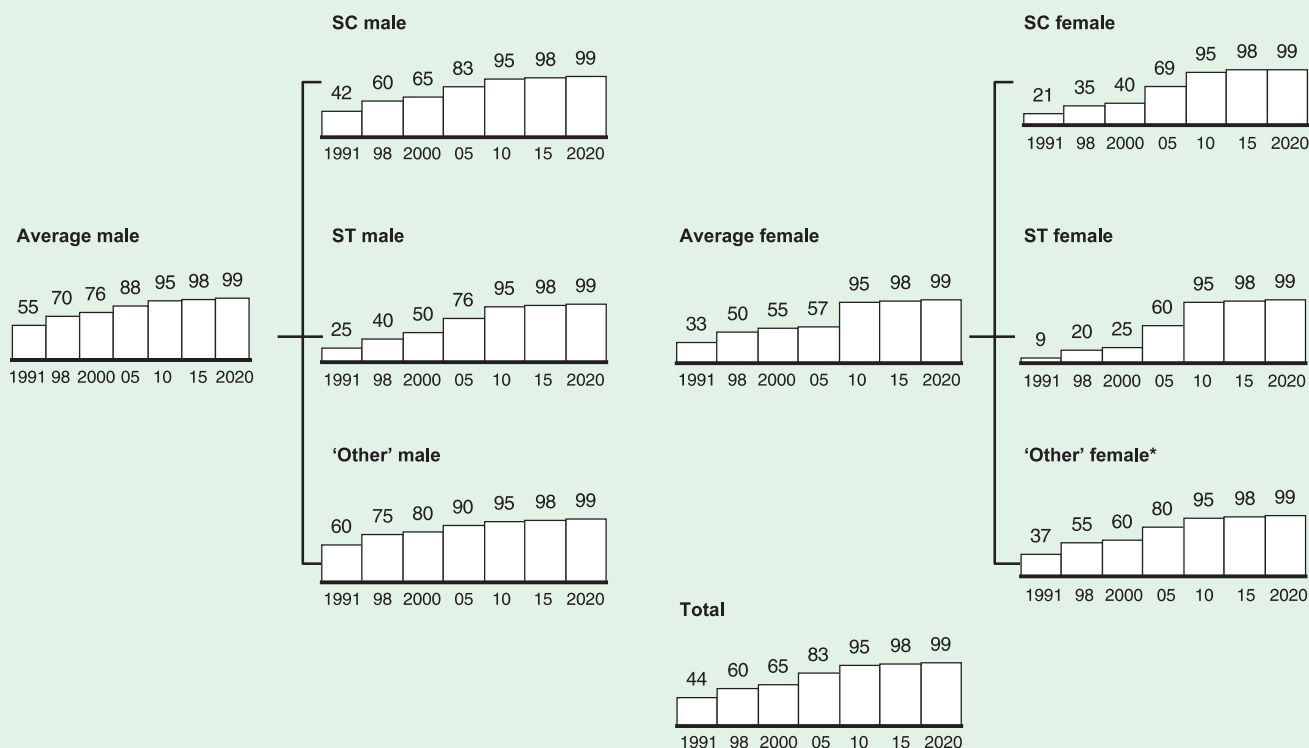
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11 According to the 1991 Census

12 Comprising elementary education [pre-primary, primary (classes I-IV), and upper primary (classes V-VII)]; secondary education (classes VIII to X); 'plus two' or higher secondary (classes XI and XII); and higher education (undergraduate and post-graduate courses).

Exhibit 2.1

**LITERACY TARGETS FOR ANDHRA PRADESH**



\* 'Other' category comprises the non-SC/ST sections of the population

- Ensure universal literacy by providing effective, high quality, and widespread elementary education, non-formal education and an effective adult literacy programme.
- Develop specific programmes to promote education for girls.
- Focus secondary and higher education on building marketable skills.
- Actively involve the private sector in higher education.
- Manage and fund education more effectively, particularly through community participation.

## ENSURE FULL LITERACY

Literacy is the foundation for building an enlightened, self-reliant society and a skilled workforce. However, today, one out of two people in Andhra Pradesh is illiterate and Andhra Pradesh ranks 26th in terms of literacy among the 32 states and Union Territories in the country<sup>13</sup>. Furthermore, as noted earlier, there are considerable disparities between the literacy levels of specific groups such as rural women, SCs, STs, BCs and minorities, and the rest of the population. Moreover, literacy levels vary greatly between districts: while the literacy rate in Hyderabad district is over 72 per cent, in Mahbubnagar, it is only around 30 per cent. Any strategy to raise overall literacy levels will, therefore, have to focus on dramatically improving literacy levels among disadvantaged groups and in backward regions in the State.

Today, the main causes of low literacy are poverty, lack of access to schools, an adverse student-teacher ratio, poor infrastructure (such as water supply and toilets), low enrolment and large drop-out rates. For example, between Class I and VII, drop-out rates are as high as 66 per cent. This means that, on an average, only 35 per cent of the State's children complete elementary education. Among SCs and STs, the drop-out rate is even higher—as much as 73 per cent and 82 per cent respectively.

Therefore, to achieve universal literacy, the State will need to follow a two-pronged approach. First, the State will need to provide quality primary education for all and improve enrolment and retention rates. This will require a number of interventions, namely, providing more teachers; building more schools and classrooms; increasing the number of residential schools; redesigning curricula; expanding early childhood education; introducing programmes to bring drop-outs back to school; focusing on specific disadvantaged groups and locations; providing non-formal education and increasing adult literacy; and involving the community in increasing enrolment and improving retention rates. Second, the State will need to re-orient non-formal education for drop-out children, with a commitment to bringing them back into formal education, as well as strengthen and expand its adult literacy programme. All these initiatives are outlined below.

### Providing more teachers and training

A major element of the approach to strengthening primary education will be to improve current learning levels by lowering the teacher-pupil ratio. Under the World

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<sup>13</sup> In terms of the definition of literacy by the National Literacy Mission, i.e., the achievement of reading, writing and numeracy and the ability to apply these skills in daily life and to improve economic status.

Bank funded Andhra Pradesh Economic Restructuring Programme (APERP), the Government has already committed itself to filling all existing primary teacher vacancies and sanctioning the additional posts necessary to achieve a teacher-pupil ratio of 1:45 by 2002.

In addition, the services of 'Education Volunteers', (i.e., boys and girls from the same or similar social backgrounds) will be used to supplement teachers' efforts in the classroom as well as work in the community to increase enrolment and prevent children from dropping out of school. This is likely to increase local commitment to education since volunteers will have to be residents of the village. 'Education Volunteers' can be trained at the District Institutes of Education and Training (DIETs).

In fact, the focus on hiring more teachers must be buttressed by a stress on providing frequent training for both new and existing teachers. The State will give priority to recurrent training, supervision, and technical support for teachers as well as Education Volunteers. Under the APERP, the State has already initiated a comprehensive programme to provide in-service training. This initiative includes:

- **Providing in-service training to all teachers every year:** Every teacher will attend ten-day residential training programmes every year. Education Volunteers will receive at least 15 days of induction training. This training will include child-centred teaching and active-learning methods, multi-grade teaching, and the preparation of teaching aids. Integrated training packages based on successive cycles of in-service training for existing teachers will be developed for new teachers. Training institutions will be staffed with highly motivated personnel with rich experience at the primary school level.
- **Providing support and follow-up:** Schools will facilitate and monitor the use of improved methods of teaching learnt during training. This will include helping teachers develop good training materials and providing effective master trainers and resource persons.

### **Building more schools and classrooms**

Growing enrolment in primary education in recent years has led to a shortage of schools and classrooms. Currently, the State has 30-40 per cent of the classrooms required. Furthermore, facilities such as water supply and toilets are either limited

or non-existent. This has a greater impact than realised; for instance, parents are reluctant to send girls to school since there are either no separate toilets for girls or no toilets at all.

Recognising the importance of an appropriate physical environment for effective learning and to induce children to remain in school, the State will seek to provide the number of schools, classrooms and other infrastructure required. Under the APERP, the State aims to build at least 25,000 school buildings by the end of 1999. Already, 1,112 new primary schools have been established in backward areas to increase access to primary education.

This will call for greater expenditure on primary education in line with the nationally accepted goal to increase overall expenditure on education to 6 per cent of GDP. However, since this level of expenditure will take some time to achieve, the State will consider lower cost approaches, such as using local construction materials. Given the low durability of these materials, a provision for annual maintenance will also have to be made. It must be emphasised, however, that this is an interim solution until such time as the State increases its investment in primary education to the levels required.

### **Increasing the number of residential schools**

The State has set up residential schools to offer a quality school education to poor and talented rural children. The Andhra Pradesh Residential Educational Institutions Society is now running 137 such schools and the Andhra Pradesh Social Welfare Residential Educational Institutions Society is running 180. The special feature of these schools is a teacher-pupil ratio of 1:30, higher than the norm of 1:50. This programme will be further strengthened and expanded to achieve the goal of strengthening institutional capacity to ensure that children from socially disadvantaged groups complete a primary education of appropriate quality. The goal is to set up one such school for every mandal.

### **Redesigning curricula**

To significantly raise literacy levels, children must be motivated into staying at school for at least 5 to 7 years. At present, children drop out of school in large numbers because they find learning unappealing: the curriculum is rigid, formal, and unrelated to their lives. The curriculum will thus be made more interesting for

and relevant to children. In addition, teaching methods will be made much less formal. Teachers will be encouraged to teach less through text books and more through play-way and activity-based learning, including singing, dancing, story-telling, role-plays, etc. Furthermore, the curriculum will be tailored to local conditions. For instance, in tribal areas, it could be tailored to the tribal way of life.

The Government will initiate efforts to redesign the curriculum. This effort will be piloted in identified schools and then extended all over the State in phases. Additionally, once the curriculum is changed, teachers will need to be equipped to teach it. The training infrastructure that exists in each district will have to be strengthened and expanded to include training, especially for Education Volunteers. The DIETs, which already provide pre-service and in-service training, can play this role.

### **Expanding early childhood care and education**

A major factor behind the high drop-out rates in elementary school is children's lack of preparation for formal schooling. To successfully cope with the demands of formal schooling, children under the age of six need to have adequate nutrition and an introduction to learning through informal methods such as play-way learning. The Early Childhood Care and Education (ECCE) scheme, implemented through the anganwadi centres, has been introduced nationwide to meet this need. To achieve the Vision 2020 goals, the ECCE scheme will be expanded to cover all children under the age of six. Important elements of this initiative will include increasing the number of anganwadi centres; providing practical training to anganwadi workers; providing materials such as picture books, posters, and play material. In addition, the State will need to synchronise the timings of elementary schools and anganwadi centres so that infants are provided for throughout the time their sibling caregivers are in school.

**Exhibit 2.2** describes a successful early childhood education programme in the US.

### **Strengthening programmes to bring drop-outs back to school**

The District Primary Education Programme (DPEP), launched all over India in 1993, provides interventions for improving the primary school system by training teachers, constructing and improving school buildings, and making school activities more attractive to induce children to stay in school. It also addresses the problem of how to bring children who have dropped out back to school.

Exhibit 2.2

**THE 'HEAD START' PROGRAMME IN THE UNITED STATES**

**Aim of the programme**

- To increase the school-readiness of poor children in the United States with the aim of increasing school attendance and reducing drop-out rates
- Ultimately, to combat poverty by promoting the educational development of poor children in the US

**Key features**

- National programme, begun in 1965 and enduring until today
- Serves more than 450,000 children at 1,300 sites
- Goes beyond the classroom to provide health, nutrition and social services
- Stresses parental involvement to strengthen parenting skills as well

**Description of activities**

- Teachers in 'Head Start' classroom are trained in early childhood education; trained parents act as aides in teaching
- Children spend most of the time working individually or in small groups on activities prepared by the teacher or activities they initiate themselves
- Teachers and aides move among children and facilitate learning by asking questions, offering suggestions and adding more complex materials, ideas, or language to the children's play
- Children are allowed to acquire important skills at their own pace

**Impact**

- Lasting effect on school attendance, retention and promotion. Children scoring below average before 'Head Start' gained the most on two measures relevant to school adjustment
  - Test of children's self-control or ability to control impulsive behaviour
  - Pre-school inventory of social and cognitive skills that aid adjustment to school

Source: 'Improving Primary Education in Developing Countries' (World Bank publication); Haskins et al.

The DPEP strategy includes innovative approaches such as using the services of 'Education Volunteers'. Andhra Pradesh has successfully used these local volunteers to persuade parents to send their children back to school. The experiment showed that these activists were more successful than other interveners because, being from the same background, they were able to use effective persuasion methods in addition to presenting a powerful demonstration effect through the improvement education had brought to their own position.

This approach will have to be backed by a mechanism to facilitate the re-entry of drop-outs into school at levels appropriate to their ages. One mechanism, the Back



to School programme, has already been successfully established in the State. This programme comprises bridge courses to bring drop-outs up to the standard required for re-entry into formal education. Such courses will be particularly useful for girls of different age groups who have been forced to drop out to take care of household chores or siblings. To strengthen the programme, different approaches tailored to various age groups, will be developed. Thus, for the age group five to eight, round-the-year bridge courses and 'transition classes' within the school complex will be appropriate. However, for the 9-12 age group, short or long duration education camps will be required.

The State has made a firm commitment to eliminating child labour (see Chapter 1, 'Progress and Prosperity through Poverty Eradication and Social Welfare'). The Back to School programme will be a critical intervention in helping these children re-enter formal education.

### Focusing on specific disadvantaged groups and locations

To achieve total literacy by 2010, the State will pursue special initiatives to reduce the gaps between specific disadvantaged groups and backward areas (as mentioned earlier) and the 'mainstream' sections of the population.

The low literacy levels of these groups result from specific problems they face, problems that prevent their children from entering the education system and cause them to drop out. Broadly, these are economic constraints, lack of access, e.g., due to great distances between dwellings and the nearest school (particularly for girls from STs); the lack of facilities such as separate toilets for girls; and social taboos about girls mingling with boys. Without specific interventions to tackle their problems, these groups are in danger of being left out of the programme to develop the State's people.

To address these problems, the State will ensure access to schools for SCs, STs, backward classes, minorities, girls and children with special educational needs. In remote (tribal) habitations where building a school is not feasible, alternative schooling centres will be set up to provide basic education. Other interventions will include providing anganwadi centres as creches for infants, so that older girls can go to school, and the Back to School programme for drop-outs. Initiatives described earlier, such as improving curricula and teaching methods and the use of Education Volunteers, will also help bring drop-outs back to school.

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*The State will ensure access to schools for SCs, STs, backward classes, minorities, girls and children with special educational needs.*

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### **Providing non-formal education and increasing adult literacy**

To achieve total literacy, the State will also need to provide for the large number of children and adults who have never had the opportunity to go to school. Non-formal education and adult literacy programmes are the two main ways to do this.

For children, the State is firmly committed to providing non-formal education (NFE) with the clear objective of bringing drop-out children back into mainstream education. Current NFE programmes have been allowed to continue for years together without any such emphasis. As a result, NFE is becoming a parallel but inadequate system of education with no linkages to the formal system. Recognising the need to change the approach, Andhra Pradesh is now using a more effective model of NFE, based on a successful UNICEF experiment in Mahbubnagar district. The State has adopted a new bridge course curriculum, which is being run at each NFE centre. Instructors have been provided with clear targets to admit children who have dropped out of school and prepare them for re-entry into school. The initial target for each NFE centre is to admit 10 drop-out children into primary school after each bridge course. Furthermore, NFE centres now function within primary schools. This allows them to use the existing education infrastructure and ensures supervision by formal primary school teachers.

For adults, the State will aggressively pursue adult literacy campaigns. The emphasis of such programmes will be on providing a minimum package of learning needs. This includes:

1. Functional literacy and numeracy (for adults, sufficient to read a newspaper).
2. A sufficient understanding of nature.
3. The knowledge and skills to earn a living.
4. The knowledge and skills for civic participation.
5. The fundamental skills for raising a family and operating a household.
6. Positive attitudes towards co-operation with one's family and fellow members of society; towards work, community, and national development; and towards continuing learning and the development of ethical values.

Exhibit 2.3

**ADULT-LITERACY PROGRAMMES IN THE US**

- 21 per cent of the US population functions at the lowest of five levels of proficiency; many of them cannot read a restaurant menu or fill a job application. US literacy programmes tackle this group to ensure these individuals do not continue to live at the margins of an industrialised society
- The largest US adult-literacy programme is Literacy Volunteers of America with 43,400 volunteers (in 1996) and 400 affiliates in 44 states. The agency offers a variety of programmes. Two examples are:

**Union County Affiliate**

- Programme co-ordinator grades students by asking them questions and using tests
- Co-ordinator then matches learners with tutors
- Learners work with tutors in confidential sessions
- Long-term goals, like getting a job, are broken down into short-term goals like learning to read classified ads or a training manual
- Tutors use adult's life experiences to teach; each lesson plan is different

**The Loyola Literacy Centre, Chicago**

- 'Drop in' centre open 2 nights a week; on a given night, 25 adults turn up
- Offers tuition in English and Mathematics
- Tutors work on adults' needs but emphasise writing
  - Tutors ask learners questions about their lives and develop answers into a text
  - Adults change and correct text as required
  - At the end of the course, the text is printed as a booklet and presented to the learner

Source: Dow Jones News Retrieval; McKinsey research

The State will explore approaches used in other countries to develop effective adult literacy programmes. **Exhibit 2.3** provides an example of successful adult literacy programmes in the US, which, contrary to expectations, has a large number of adults with literacy levels low enough to make them functionally illiterate (i.e., unable to perform such tasks as writing a cheque, reading a restaurant menu, or filling in an application form).

## Involving the community in increasing enrolment and improving retention

Low enrolment in school and low retention rates are often caused by socio-economic problems. Therefore, approaches to solving these problems need to be rooted in specific local conditions, e.g., raising awareness, providing incentives to attend school, providing free text books, etc. Andhra Pradesh will need to make education a people's movement and enlist the support of local leaders, NGOs and teachers in creating awareness about the need to be educated. Again, as in the DIETs, a programme to achieve this objective already exists at the village level. Furthermore, under the DPEP, School Committees<sup>14</sup> have been chartered with the task of improving enrolment by undertaking suitable measures to encourage parents to send their children to school and instituting incentives and disincentives to wipe out child labour.

The role of the School Committees is discussed in the section 'Manage and fund education more effectively' of this chapter.

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*Andhra Pradesh will make education a people's movement and enlist the support of local leaders, NGOs and teachers in creating awareness about the need to be educated.*

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## PROMOTE EDUCATION FOR GIRLS

Andhra Pradesh's development goals cannot be achieved without harnessing the potential of its women. Today, however, girls in the State lag well behind boys on all indicators of development, including education. The gap in enrolment between boys and girls and the drop-out ratio for girls are increasing steadily. Not surprisingly, the 1991 census showed that only 33 per cent of the State's women are literate compared to 55 per cent of men.

The State will, therefore, undertake specific initiatives to encourage education for girls. They will involve increasing the demand for primary and secondary education, increasing the supply of primary and secondary education; and fostering higher education for girls.

• **Increase demand for primary and secondary education:** This will entail:

1. Extending the Girl Child Protection Scheme to a larger number of girls. Currently covering around 50,000 girls, this scheme provides a fixed deposit of around Rs.5,000 in the name of the girl child on the condition that she does not marry

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<sup>14</sup> Comprising four parent members, elected by the parents of the school's Parent Teachers Association, and the principal of the school.

before the age of 18 and continues her studies up to this age. If the girl drops out, the amount is refunded to the State. From high school onwards, the girl student receives Rs.1,000 a year and then Rs.20,000 at marriage. By 2020, the scheme should cover all girls needing such assistance.

2. Providing toilet facilities for girls in all upper primary and high schools.
  3. Providing anganwadi centres to take care of infants enabling older girls to go to school.
- **Increase the supply of primary and secondary education:** The State will provide more upper primary schools for girls and extend the open school concept to all villages for girl school drop-outs. It will also set up more residential schools for girls. The non-government sector will be encouraged to set up secondary schools for girls. To enhance their opportunities for employment, a special emphasis will be placed on building technical skills for girls, e.g., by increasing the number of women-only Industrial Training Institutes (ITIs).
  - **Foster higher education for girls:** To ensure that more girls build specialised skills, the State will introduce more vocational courses in girls' colleges and provide financial assistance for all girl students needing assistance in professional courses. It will also increase the number of hostels for college-going girls. In addition, the State will continue with the reservation of 33 per cent of seats in higher education for girls.

## **PROVIDE SKILL-BASED SECONDARY AND HIGHER EDUCATION**

To create a mass base of skilled people for industry, the State needs to change the focus of education from a stress on academics to an emphasis on specialised skills. This can be achieved by providing vocational and technical courses at the secondary and high school levels and providing more specialised courses in higher education.

### **Providing more options in vocational and technical education**

In today's technological society, people with practical and problem-solving skills have more opportunities. The State, therefore, urgently needs to bring vocational education to centrestage for students up to the intermediate level.

Currently, vocational education is offered through the ITIs, polytechnic institutes, and certificate courses in areas such as pharmacy, nursing, etc. The ITIs will be strengthened so that they offer a variety of skill-development courses. The State will expand the ITI network, with a special focus on increasing the number of ITIs reserved for women. In addition, the State will proactively identify subjects in high demand in rural areas and diversify the courses at ITIs. The challenges will be designing effective curricula; re-training teachers to conduct new courses introduced; and instilling confidence in students (and parents) about the utility of these courses.

Technical education at the plus-two level, i.e., for students leaving academic education after completing a secondary education, is provided mainly at polytechnics. In addition, many colleges now provide technical courses such as food technology, office management, travel and tourism, etc. To strengthen technical education, the State will need to expand the polytechnics, increase the variety of courses offered to include new subjects such as environmental management, and ensure accreditation of all institutions offering technical education. A mechanism for accreditation already exists. The All India Council for Technical Education (AICTE) already regulates the quality of technical education and curriculum design, and lays down norms for the provision and management of technical education. A counterpart of the University Grants Commission, the AICTE already has an accreditation board. New Zealand has experimented with a 'National Qualifications Framework' and the UK with a 'National Vocational Qualification' system, though these have largely been private sector efforts. In Andhra Pradesh, the Government will need to play a similar role in laying down the standards required by employers and ensuring the quality and credibility of the qualifications gained through vocational courses.

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*In today's technological society, people with practical and problem-solving skills have more opportunities.*

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The State will develop skill-building institutions, focused on specific disciplines and directly tied to targeted growth engines (**Exhibit 2.4**). These institutions will serve two objectives: build vocational and technical skills, and spearhead research and development. For instance, for the construction industry, the State will set up training schools for trades like masonry and welding. In fact, it is already setting up a National Academy of Construction in Hyderabad for specialised research and training in construction technology and management.

To supplement these efforts, the State will actively promote distance learning programmes in all areas of education. It will also ensure that Internet connections

Exhibit 2.4

**SKILL-BUILDING INSTITUTIONS AND PROGRAMMES NEEDED TO DEVELOP THE GROWTH ENGINES**

ILLUSTRATIVE

	Growth engine	Vocational training institutions	Specialised education institutes/R&D centres	Skill-transfer/ extension programmes
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Rice</li> <li>• Horticulture</li> <li>• Poultry</li> <li>• Dairy</li> </ul>		<ul style="list-style-type: none"> <li>• Rice Research Institutes</li> <li>• Agricultural University</li> <li>• Horticulture university</li> <li>• Breed research institutes</li> <li>• Veterinary healthcare institutes</li> </ul>	<ul style="list-style-type: none"> <li>• Focused, customised, decentralised extension and farmer education programmes</li> </ul>
<b>Industry</b>	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Labour-intensive export- oriented industries</li> <li>• Mining</li> </ul>	<ul style="list-style-type: none"> <li>• Trades training institutes</li> <li>• Large ITI network</li> <li>• Tailoring schools; design institutes</li> <li>• Training institutes/programmes for miners</li> <li>• Large network of computer training institutes</li> </ul>	<ul style="list-style-type: none"> <li>• National Academy of Construction at Hyderabad</li> <li>• NIFT* at Hyderabad; design studios in the Exports Promotion Zones</li> </ul>	
<b>Services</b>	<ul style="list-style-type: none"> <li>• IT</li> <li>• Knowledge Corridor</li> <li>• Logistics</li> <li>• Tourism</li> <li>• Small-scale services</li> </ul>	<ul style="list-style-type: none"> <li>• Training programmes for tourist guides</li> <li>• Vocational institutes with variety of vocational courses</li> </ul>	<ul style="list-style-type: none"> <li>• IIIT**</li> <li>• World-class Medical University</li> <li>• World-class Institute for Industrial Technology</li> <li>• Research-based organisations</li> <li>• Institute for Logistics Management</li> <li>• Institutes for hotel management and catering technology</li> </ul>	

\* National Institute of Fashion Technology  
 \*\* Indian Institute of Information Technology

are provided to all high schools. This will strengthen vocational, technical, and general education.

**Providing more specialised courses in higher education**

The State’s higher education system will need to focus on providing courses that stress the development of specialised and technical skills such as computer applications or biotechnology. Professional courses in emerging areas, such as environmental management, will be introduced at the undergraduate level. The trend has already been established with the introduction of courses such as the

B.C.A. (Bachelor in Computer Applications) and B.B.M. (Bachelor in Business Management). The State will also need to introduce flexibility in choosing subjects of study during undergraduate courses. This may also include allowing the transfer of credits between (related) courses. At the same time, liberal arts and science courses will need to be strengthened and redesigned.

To ensure that professional courses are in tune with industry requirements, colleges should keep track of the demand and supply of various skills, the remuneration and placement records of their students and redesign courses and curricula accordingly. The State will need to set up a professional body for employment-oriented education and manpower research and planning. This body will provide regular forecasts of the manpower requirements for different sectors of education.

To become a major centre for high quality professional education, Andhra Pradesh needs to set up several 'Centres of Excellence' mainly in the areas of information technology, medicine, construction, horticulture, management education, biotechnology and pharmaceuticals research. These Centres will help to build expertise in the State, allowing it to take an early lead in new areas of great importance to economic growth.

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*To become a major centre for high quality professional education, Andhra Pradesh needs to set up several 'Centres of Excellence' in different disciplines.*

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### **INVOLVE THE PRIVATE SECTOR IN HIGHER EDUCATION**

Given the magnitude of the tasks involved, the Government will not be able to undertake all the interventions required to strengthen education in the State on its own. It will, therefore, need to actively encourage private investors to partner its effort, particularly in strengthening higher education. However, while encouraging a private sector role in higher education, the Government will continue to ensure access to higher education for the poor, women, minorities, disadvantaged groups, and residents of backward regions. It will also continue to prudently regulate quality and administrative standards.

- **Encouraging private investment:** To enable the entry of the private sector, the Government will need to offer appropriate incentives and support, and an appropriate regulatory climate. To enable investment by professionals and other individuals who may have rich experience in higher education but no access to finance, the State will provide the education sector with a status that qualifies it for credit from banks and financial institutions.



- **Ensuring access for the poor and disadvantaged groups:** The development of higher education through private investment will necessarily increase its costs. This could make private education expensive for poorer sections; a key concern the Government will address. To make education accessible to all, the Government will create a fund to finance higher education for poor, meritorious students and continue to provide scholarships for students from poorer and disadvantaged sections of society. The Government will also rely on mechanisms like loans, grants and work study schemes. In addition, initiatives described earlier, such as setting up colleges to benefit the poorer and backward sections of the society and to cater to students in remote, rural areas or women in minority-dominated areas, will also provide the poor and disadvantaged groups with access to higher education.
- **Regulating quality and administrative standards:** The Government will ensure quality in higher education in several ways. First, it will set administrative standards for educational institutions (for example, on the minimum qualifications of a teacher, tuition fees, etc.), and strengthen their observance to protect the interests of all stakeholders (parents, children, teachers and employers). This will include strengthening the enforcement of the Andhra Pradesh Education Act, 1982. Second, the Government will play a proactive role in identifying emerging areas of economic importance for the State and the nation and encourage the upgrading of curricula to incorporate these areas. It will also provide technical assistance for curriculum development. Third, the State will play a proactive role in training teachers for both private and government institutes. A teacher's academy, to be set up for this purpose, will provide both orientation as well as refresher training courses in existing and new areas of education. Finally, the Government will continue to ensure the quality of education through accreditation and other evaluation systems. Accreditation will be made compulsory, and accreditation guidelines will be strictly enforced.

For government colleges, the State will focus on upgrading infrastructure, ensuring quality through strict accreditation or affiliation guidelines, and improving the delivery of education, for instance, by introducing accountability. Teachers will be made accountable for their performance through mechanisms such as research requirements (to ensure professional development and the growth of the discipline) and student assessment.

## MANAGE AND FUND EDUCATION MORE EFFECTIVELY

To achieve Vision 2020 for education, the Government will need to institute systems for effectively managing the education system and for managing its budget to ensure the best use of funds.

### Instituting management systems

The first step in strengthening the management of the education system will be decentralising the management of primary and secondary education. Going forward, School Committees and the Panchayat Education Committees will manage schools with the help of local bodies at the village, mandal, and district level. The responsibilities of these bodies will include:

- Undertaking appropriate measures to encourage parents to send their children to school, including incentives for keeping children in school and disincentives for making children work.
- Ensuring enrolment and retention of all children.
- Ensuring good performance by the school and students.
- Encouraging local youth to become Education Volunteers, perhaps on payment of a fixed honorarium.
- Determining the school calendar and school timings subject to guidelines from the Education Department and the District Education Board.
- Helping to augment infrastructure and supplement school resources.
- Reviewing and monitoring all school programmes.

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*School Committees and the Panchayat Education Committees will manage schools with the help of local bodies.*

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Apart from rationalising management, reducing duplication, and improving co-ordination, this approach will also foster community participation.

Since the State will always have a role to play in education, its policy-making capability will need to be strengthened. Furthermore, all education will have to be integrated into one department, and information systems to track performance, for instance, on increasing literacy, will have to be set up. This information will then

have to be communicated to the public to ensure that performance remains up to standard. Priorities will need to be rigorously and consciously planned every year.

### Managing the budget

The State budget will reflect the Government's concern over education. Since education will need to be emphasised, spending on the sector will need to be increased from the current 14 per cent to between 17-20 per cent of the budget. Furthermore, spending across different sectors of education will need to be aligned with State priorities. Thus, a disproportionately high share of the budget will have to be invested initially in primary education and subsequently in secondary education. The funding of higher education will need to be limited to operating select colleges, while ensuring access for disadvantaged groups. In general, higher education institutions will have to become more self-financing.

Consequently, a range of measures will need to be introduced to ensure that higher education institutions can indeed become self-financing. Today, higher education is funded through substantial grants from the State. Government-aided colleges need to be encouraged to recover costs through higher fees or alternatives like providing consulting services. Operational autonomy, e.g., in recruitment, should be provided to facilitate better management. Eventually, funding support needs to be tied to performance and internal resource generation. Funding will then need to be progressively shifted from college grants towards targeted student scholarships. At the same time, affirmative action for meritorious students from disadvantaged groups and backward regions will need to be continued.

By creating a progressive and well-managed education system, Andhra Pradesh will transform itself into a knowledge society and provide a huge impetus to economic growth.

## CHAPTER 3

# Health First

Human capital is increasingly considered one of the most important components of a nation's wealth. In a populous country like India, and states like Andhra Pradesh, the challenge lies in ensuring that human capital is developed to its fullest by enhancing the ability of the people to lead healthy and productive lives.

By 2020, health indicators in the State will reach international levels. Population growth will stabilise, reaching sustainable levels and households in Andhra Pradesh will have smaller, better spaced families. An emphasis on disease prevention and control and on nutrition, sanitation, personal hygiene and fitness will sustain high levels of health in the State.

Andhra Pradesh's people will have access to responsive basic healthcare services. The poor and vulnerable groups will enjoy free healthcare, both basic and specialised; other sections of the population will have access to these services through health insurance. Today's major health burdens will have disappeared. Pregnancies will be safe and infants will no longer die of easily curable ailments like diarrhoea or acute respiratory infection, even in remote villages. Malnutrition will have been eliminated. Major diseases like tuberculosis and malaria will have been contained and emerging diseases like AIDS and cancer successfully prevented.

This vision will translate into the following key health and development indicators by 2020: infant and child mortality rates of 10 per 1,000 (live births) and 20 per 1,000 respectively; life expectancy of 68.1 years for men and 70.6 years for women; a total fertility rate of 1.5 (average number of children per woman) and population growth of 0.8 per cent a year.

This vision is bold and demanding, particularly in the context of current health levels in the State. However, with a comprehensive plan to provide both curative and preventive healthcare to all its people, Andhra Pradesh can certainly realise it. To successfully do so, the State will focus on the following key priorities:

- Providing universal access to primary healthcare.
- Encouraging private investment in tertiary healthcare.
- Focusing on specific programmes to promote family welfare, particularly the health of women and children, and family planning.
- Focusing on improving health levels in disadvantaged groups and backward regions.
- Ensuring a strong prevention focus.
- Enhancing the performance of the public health system.
- Formulating a State IEC (Information, Education and Communication) programme, which includes leveraging the electronic media.

## PROVIDING UNIVERSAL ACCESS TO PRIMARY HEALTHCARE

Health indicators show that health standards in Andhra Pradesh have improved significantly over the last 20 years. However, the State still needs to significantly improve access to primary healthcare. The State's primary health infrastructure, comprising about 11,000 Primary Health Centres (PHCs) and Sub-Centres, is inadequate for the number of people it needs to cover. Consequently, in some parts of the State, people have to travel more than 2 hours or 25 km to receive treatment for even simple ailments.

Providing immediate access to basic healthcare—maternal and child healthcare, family welfare, and basic clinical services—throughout the State, particularly in villages and urban slums, will dramatically improve health standards in Andhra Pradesh. To do this, the Government will use two innovative approaches: a Community Health Worker programme and a system of mobile health centres. In addition, the Government will encourage the use of Indian systems of medicine as a source of effective, safe, and low cost healthcare.

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*Providing immediate access to basic healthcare throughout the State will dramatically improve health standards in Andhra Pradesh.*

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Exhibit 3.1

**COMMUNITY HEALTH WORKERS IN BRAZIL**

- NGO-run community health worker programme supported by the Ministry of Health
- Around 50,000 CHWs\* provide health education to low income mothers and monitor the growth of infants and young children
- CHWs are trained according to central guidelines but training is adapted to the characteristics of different regions
- Supervision of CHWs is combined with continuing education and motivation



Evaluation studies showed that health and nutrition indicators for children under the programme were significantly better than those of children from similar communities not covered by this programme

\* Community health workers

Source: World Development Report; 1993; McKinsey Research

### **Providing access to primary healthcare**

The Government will develop a programme that uses voluntary Community Health Workers (CHWs) to deliver simple health services, backed by a system of referrals to Sub-Centres. CHWs are residents of villages or urban slums trained by the Government to provide such health services. They will need to provide 24-hour service on call and be compensated reasonably by the local community. The PHC/ Sub-Centre/Health Post network (in the form of mobile units or otherwise) will back them up by treating more complex cases. This model has been effective both in experiments in the State (e.g., in Rangareddy district and Hyderabad city) and in

other parts of the world, such as Brazil (**Exhibit 3.1**). The system will need to be extended to cover the entire State, thus creating access to basic healthcare for all its people.

In parallel, the State will consider supplementing the current system of providing basic care through PHCs. These centres have not been able to adequately fulfil the purpose for which they were set up, primarily because they require doctors to live in rural areas without support for themselves and their families, such as schooling for their children. One workable model would be to supplement the current PHC system by introducing mobile units attached to referral hospitals in towns. These units would fan out to villages to provide them with primary healthcare services. Each hospital would be staffed by doctors practising at the hospital as well as doctors operating mobile units. Through facilities such as cellular phones, the mobile units would be activated to provide primary care and first aid as required.

This system will provide a two-fold benefit. First, it will solve the problem of access, currently caused by the non-availability of doctors at the PHCs. Secondly, it will allow doctors and nurses to build counselling relationships with their clients by earning their respect and confidence through regular visits and provision of emergency care as required. This, in turn, will allow them to counsel families on contraception and other health issues. The system will be developed through pilot projects in the State. On successful implementation, the mobile unit model will be rolled out over extensive areas.

### **Promoting Indian systems of medicine and homeopathy**

India has a rich heritage of traditional systems of medicine, such as ayurveda and unani, that have now gained stature and popularity all over the world for their holistic approach to treating disease and ailments.

Ayurveda is India's traditional, natural system of medicine and has been practised for more than 5,000 years. It provides an integrated approach to preventing and treating illness through natural therapies and better lifestyles.

Unani is an ancient system of medicine practised in India since the 11th century. Unani medicine is effective in the treatment of chronic diseases. Its low cost therapies, using herbal and mineral substances, have made it a popular system of medicine in the State.

Homeopathy can be used to treat acute and chronic health problems and to prevent diseases and promote health. It is a gentle and effective system of medicine, providing remedies prepared from natural substances that work by stimulating the body's own healing power.

Andhra Pradesh will encourage such systems of medicine since they provide safe, effective, and low cost solutions for most health problems.

## **ENCOURAGING PRIVATE INVESTMENT IN TERTIARY HEALTHCARE**

Since the need for primary and secondary healthcare is paramount, the Government will direct its spending towards these sectors. As a result, tertiary healthcare will have to make do with a small share of Government funding. Furthermore, this spending will be directed towards providing tertiary care for the poor and other vulnerable groups through existing teaching hospitals providing all specialities and super-specialities.

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*Since the need for primary and secondary healthcare is paramount, the Government will direct its spending towards these sectors.*

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At the same time, it cannot be denied that tertiary healthcare in the State also needs augmenting. However, these investments will have to come from other sources, namely the private sector. The Government will, therefore, encourage private investment in tertiary healthcare.

Private investment will bring benefits other than funds for investment: it will open the sector to competition, thus improving service levels and lowering the costs of tertiary healthcare. The Government will, therefore, create incentives to encourage the entry of the private sector. At the same time, it will frame or modify regulation to ensure that quality services are provided. Several regulatory mechanisms, e.g., accreditation of hospitals, licensing of practitioners, regulation of drugs, and review of medical practices, will be utilised. Where necessary, these mechanisms will be streamlined and strengthened.

In the new environment, Government hospitals will increasingly have to create their own financial resources and match the service levels of private institutions. They will thus need to generate internal sources of revenue, mainly through selective user charges for those who can afford to pay. Government funding will favour efficiency and internal resource generation in hospitals. To enable good performance, these institutions will increasingly be allowed to operate autonomously. For instance, Government hospitals will be given the freedom to contract out services.



The new system will create a further requirement: affordable access to tertiary healthcare. This can be achieved through a robust system of medical insurance.

## PROMOTING FAMILY WELFARE AND POPULATION CONTROL

A major component of the programme to achieve Vision 2020 will be reducing the State's population growth from the current 1.6 per cent a year to the targeted 0.8 per cent by 2020. This will require a three-pronged approach: improving female literacy; empowering women; and providing better healthcare and family planning services.

Increasing female literacy will help equip women with a better understanding of the social and economic importance of small families; improve their knowledge of sophisticated and safe family planning methods, and hence build their confidence in adopting them; encourage them to seek healthcare for themselves and their families; and help them shape the views of other members of the household and the community. Similarly, empowering women will give them more control over deciding the size and spacing of their families, create awareness about family planning among peer groups and the community, and increase the age at marriage of women. Chapter 2, 'The Agenda for Education', lays out initiatives for improving female literacy. Chapter 1, 'Progress and Prosperity through Social Welfare' describes approaches to empowering women.

The third component of the approach to reducing population growth is family welfare. Most parents decide to have many children because of current high infant and child mortality rates. To address this concern, infant and child mortality rates must be brought down by safeguarding the health of women, infants and children. In addition, a new approach to family planning that remedies the defects of the traditional approach is also required.

To achieve both these objectives, the State will focus on successfully implementing the Reproductive and Child Health (RCH) programme, a World Bank funded and centrally sponsored scheme, launched in October 1997. This is a demand-driven, quality-based approach with several components: enhancing the coverage, quality, and effectiveness of services; upgrading facilities and enhancing skills; building awareness through IEC (Information, Education and Communication) programmes; ensuring decentralised, community-based planning; and strengthening managerial capacity.

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*A major component of the programme to achieve Vision 2020 will be reducing the State's population growth from the current 1.6 per cent a year to the targeted 0.8 per cent by 2020.*

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A key element of the programme is a switch in emphasis from target-based to client-based services, which allows the community to decide what it needs. This will be achieved by implementing a community needs assessment module at the district level. The information gained will be used to generate an action plan. Another important element of the programme is a specific focus on disadvantaged locations such as urban slums, tribal areas, and backward districts (e.g., Mahbubnagar).

### **Improve maternal and child health**

The major objectives of the RCH programme are to reduce illness and deaths of mothers and infants and ensure child survival. These will be achieved by providing essential and emergency obstetrics care and care of the new-born infant; increasing institutional deliveries; and managing reproductive tract infections, STDs, and unwanted pregnancies.

To enhance facilities, health units will be provided with equipment and medical personnel will be trained to upgrade their skills. To increase institutional deliveries, a number of PHCs will be identified for conversion into 24-hour delivery centres. These centres will be staffed with doctors, nurses and Auxiliary Nurse Midwives. In addition, the State will appoint staff on contract wherever this is needed. A number of first referral units will be set up in each district to provide emergency obstetric care, such as assisted or caesarean deliveries. The number of units to be set up in a district will be determined by its demographic and development indicators, such as birth rate, maternal and infant mortality rate, and female literacy rate.

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*The major objectives of the RCH programme are to reduce illness and deaths of mothers and infants and ensure child survival.*

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The major focus of child health programmes will be to reduce the infant mortality rate to 10 per 1,000 live births and the child mortality rate to 20 per 1,000. These goals will be achieved through hundred per cent immunisation coverage; achieving 100 per cent usage of Oral Rehydration Therapy to prevent deaths from diarrhoeal dehydration; reducing infant and child deaths due to Acute Respiratory Infection, improving the nutritional status of mothers and children, and achieving universal awareness about the risks to children from HIV and AIDS.

For better nutrition, the State will continue to support the Integrated Child Development Scheme (ICDS) since it is the best way to reduce malnutrition. This scheme focuses on young children, pregnant and nursing women, and the poor. It has been proved to have a significant impact on the nutritional status of beneficiaries. The scheme will be better targeted towards infants of the 0-3 age group to prevent

malnutrition. In addition, it will continue to focus on adolescent girls and expecting and lactating women, for example, by providing iron and folic acid tablets (to tackle anaemia) through the anganwadi centres.

There will be a strong emphasis on building awareness among mothers of proper nutrition and healthcare during pregnancy by highlighting the consequences of low birth weight and childhood malnutrition. The State will also support the nutrition awareness initiatives of NGOs by using their services for monitoring quality and mobilising the community.

### **Promote family planning**

The RCH programme also modifies the approach to family planning. The traditional approach was target- and contraception-based. Government agencies decided the contraceptive method to be adopted and sought to popularise it. Predictably, this met with limited success. The new approach will therefore be client-based and more holistic. Not only will it offer a range of methods, including innovative surgical methods in line with the needs of the community, it will also promote the larger concept of family planning. Thus the programme will provide advice on the proper age at marriage, the health reasons for spacing children, the need for both spouses to be literate, the health reasons for men to participate in the programme, and so on. It will create demand by focusing on specific target groups such as newly married couples; providing localised counselling; and undertaking mass promotion through community health centres and family planning fairs. To meet the demand created, widespread access to family planning services will be ensured by creating multiple delivery channels providing a variety of contraceptive materials to suit all needs.

To strengthen execution, the community will be encouraged to throw its weight behind family planning programmes. Community ownership of such programmes is the most powerful way to gain acceptance. To achieve this, family planning will need to be at the core of the efforts of all the self-help groups such as the DWCRA (Development of Women and Children in Rural Areas).

### **FOCUSING ON DISADVANTAGED GROUPS**

Certain groups in India—scheduled castes, scheduled tribes, backward classes and, to some extent, minorities—have suffered from historical disadvantages such as

social or other kinds of discrimination. As a result, today they suffer more acutely than other sections of the population in terms of low health and education levels, and even employment. In Andhra Pradesh, the data shows that the gap between these groups and the general population is extremely large: for instance, the infant mortality rate in tribal areas is 120 per 1,000 live births, twice that of the State average of 66.

A key element of Vision 2020 is to undertake special initiatives to ensure that these groups are brought to the same level of development as the rest of the population. In terms of health, many of the initiatives have been envisaged with a view to providing services to these groups. These include the provision of free basic healthcare even in remote tribal areas through mobile units and the system of trained community health workers.

## STRENGTHENING DISEASE PREVENTION

Preventive efforts must emphasise mass immunisation and disease control, hygiene, sanitation, and the supply of safe drinking water.

Andhra Pradesh already has several mass programmes in place for immunisation and the control of communicable diseases like tuberculosis, malaria, leprosy, and gastro-enteritis (during summer and the rainy season) and non-communicable diseases such as blindness, iodine and nutrition deficiency. However, a lot still needs to be done. Immunisation coverage is inadequate and tuberculosis and malaria have not yet been brought under control. There is also the likelihood that HIV/AIDS, STDs, coronary heart disease and cancer will pose serious threats in the foreseeable future. The State will actively work to boost the effectiveness of disease prevention efforts, particularly for area-specific diseases, such as malaria in the tribal belts and leprosy in the coastal areas. Epidemiological<sup>15</sup> studies will be carried out in each specific area and action plans will be developed to control the disease burden of the area.

Today, the Central Government funds and controls disease prevention and control programmes. Going forward, the State will need to play a more proactive role, i.e., determining its own priorities and designing programmes with these in mind. The approach will have to be intensive, localised and flexible. It will also need to

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<sup>15</sup> Epidemiology is the branch of medicine concerned with epidemics.

enhance the role of Indian systems of medicine and homeopathy in prevention, control, and treatment. The focus of these programmes will vary so that they address local disease burdens. In addition, programmes will anticipate disease patterns and accordingly evolve priorities over time. To illustrate: the focus on leprosy will be reduced, since it is now more or less under control, and greater efforts will be made to promote awareness of the dangers of tobacco abuse and tuberculosis, and the importance of safe sex to contain the looming threat of HIV/AIDS.

Most of these programmes are economically viable. They can be executed with limited additional resource requirements and can improve health significantly. To further increase their effectiveness, the State will find partners from the corporate world, such as pharmaceutical companies, to support the provision of critical inputs like vaccines and medicines as well as awareness-raising activities for disease prevention and control.

The second critical element in reducing the disease burden is promoting hygiene and sanitation, and ensuring adequate supply of safe drinking water. This can be achieved by providing better living conditions and by promoting public awareness of health and hygiene, including personal hygiene and fitness. The State will need to provide safe drinking water and better sanitation services for its people. This will need co-ordinated action by several agencies including municipalities and the departments of health, urban and rural development. Awareness campaigns run by the Government or with the help of NGOs will also be required.

Achieving a dramatic improvement in health standards throughout the State will take more than disease prevention efforts; it will also require a considerable improvement in healthcare delivery through the public health system.

## **ENHANCING THE PERFORMANCE OF THE PUBLIC HEALTH SYSTEM**

The current public health system is characterised by centralised structures and inadequate systems. Decisions on even minor operational issues (e.g., transfer of personnel) are taken in the State capital, Hyderabad. Multiple Government departments have authority over different, albeit related, areas. For example, sub-centres are under the authority of the Family Welfare department while PHCs are under the authority of the Health Department. Both Central and State Government

programmes operate at various levels, sometimes resulting in duplication of work and inefficient use of resources. There are no information systems to track health results or control systems to monitor performance of personnel. For instance, even regular attendance of doctors at PHCs and ANMs (Auxiliary Nurse Midwives) at Sub-Centres appears to be a problem.

Improving the effectiveness of the public health system is thus a mammoth task. It can be achieved only by moving to a decentralised management structure, supported by better information and incentive systems, and by involving the community in the management of health services.

Organisations conducting Central Government programmes at the PHC, sub-district, district and State levels will have to be integrated to allow better coverage and co-ordination. To improve planning and co-ordination, responsibility for all primary healthcare will need to be consolidated under a single department in Hyderabad. In addition, a distinct drug procurement and distribution function will have to be created to ensure that medicines are available in all healthcare institutions.

To further strengthen the management of the public health system, information and incentive systems will need to be introduced. Current information systems focus more on input (e.g., immunisations completed) and less on output (e.g., the incidence of diseases). The information system will need to be redesigned to track a broader range of health and demographic parameters and cost statistics at lower levels in the system—at least at the mandal level. This will not only allow for better policy decisions, thereby making public spending more effective, it will also provide a basis for monitoring the performance of health personnel. The information system should be evaluated periodically by independent evaluators. Finally, to motivate staff to perform better, transparent incentive systems (e.g., performance-based incentives) for both Government health personnel and CHWs will need to be created. These must be linked to performance (e.g., improvement in local health indicators; 85 per cent cure rates for a disease).

An effective way to improve the performance of the public health system is to involve the community in the management of services. To achieve this, Advisory Committees will be set up to monitor the performance of the referral hospitals. Committee members would be the M.P. and M.L.A. of the area, other elected and prominent

members of the local community and health officials. At the village level, self-help groups such as 'Mahila Swasthya Sanghs' could be given the responsibility for managing and monitoring village level health services through the appointment of the CHWs.

The necessary legal sanctions for the decentralisation of local functions have already been provided by the 73rd and 74th Constitutional Amendments. The State's challenge lies in putting policy into practice, especially in an environment where previous attempts at decentralisation have met with stiff resistance.

Improving the effectiveness of its public health system is only one of the tasks at hand. The Government will also have to accomplish a major improvement in the effectiveness of its healthcare expenditure.

## **DEVELOPING A COMPREHENSIVE STRATEGY TO ENHANCE HEALTH AWARENESS**

As stated earlier, a major part of improving health levels is increasing awareness of the importance of health, hygiene and sanitation. This will require the design and launch of many campaigns to publicise such issues.

The State will use a mix of different media such as street plays, folk theatre, literacy programmes, interactive discussions, and so on, to build awareness. However, a major component of this strategy will be leveraging electronic media.

In India, television and radio campaigns have often been used to publicise disease prevention and other health-related issues. Today, these media are achieving high levels of penetration: according to projections by the National Council of Applied Economic Research, by 2000, television will reach 60 per cent of India's population. In Andhra Pradesh, over 3 million homes already have a television set and television penetration is growing rapidly.

Together with television and radio, the emergence of other electronic media will create enormous potential to conduct mass awareness campaigns. Interactive media are likely to proliferate, through initiatives like 'electronic kiosks', planned under Andhra Pradesh's Electronic Government initiative, and through emerging formats like WebTV. The telemedicine concept—healthcare consultations through electronic media—can also be a useful medium for raising awareness.

Clearly, Andhra Pradesh today can consider only television- and radio-based campaigns. However, as the State upgrades its telecommunications infrastructure in line with the requirements of the growth agenda, such options will become increasingly available.

Apart from its role in developing Andhra Pradesh's human capital, the health sector can also be an important engine of growth for the economy. The sector can make a significant contribution to the GSDP, particularly in secondary and tertiary healthcare, and spawn many health-related industries such as health insurance, hospital management, medical equipment and healthcare-related software development. The health sector is also employment-intensive: the primary healthcare network alone can employ 2-5 lakh people in rural areas.

The State will, therefore, keep itself open to innovation in this sector, reform its approach to healthcare, and focus on raising the health levels of its people. This will create tremendous momentum behind its growth agenda.



## CHAPTER 4

# A Clean, Green Andhra Pradesh

The environment is a part of development, and not a constraint to it, as is most commonly believed. Safe water, clean air, and the sustainable use of natural resources are key elements of any approach to development. In fact, sustainability is likely to be a key issue in the next millennium. Andhra Pradesh will heed the signals of increasing environmental deterioration and help conserve the environment as one more step towards achieving development.

By 2020, Andhra Pradesh will have clean air and water, hygienic, well-planned, and pleasant villages and cities. The State will utilise its natural resources with a view to conserving them. Conservation of the environment will, in fact, be an integral part of its development planning, ensuring that economic development remains sustainable. By 2020, the State will be proactively planning for and managing its environment, emphasising positive linkages with development and carefully scrutinising all development choices that may adversely affect the environment. It will use superior environmental management as a competitive advantage to attract investment into the State (**Exhibit 4.1**).

To achieve environmentally sustainable development, Andhra Pradesh will make pragmatic development choices that balance the benefits of development with the need to maintain and enhance the environment. Furthermore, environmental advantages will be converted into economic benefits. This will include developing eco-tourism, attracting investment by providing the clean environment investors are looking for, and converting degraded lands into parks.

Exhibit 4.1

**CLEAN, GREEN ANDHRA PRADESH: A VISION FOR 2020**

From	To
<ul style="list-style-type: none"><li>• Polluted, unhealthy environment in cities and villages</li></ul>	<ul style="list-style-type: none"><li>• Clean and green cities, villages and industrial areas</li></ul>
<ul style="list-style-type: none"><li>• Unplanned/Unsystematic utilisation of natural resources</li></ul>	<ul style="list-style-type: none"><li>• Conservation of natural resources made an integral part of planning, implementation and monitoring</li></ul>
<ul style="list-style-type: none"><li>• Rigid, unrealistic standards set in isolation</li></ul>	<ul style="list-style-type: none"><li>• Area-based standards set in consultation with stakeholders</li></ul>
<ul style="list-style-type: none"><li>• Weak, centralised monitoring, and enforcement</li></ul>	<ul style="list-style-type: none"><li>• Decentralised monitoring and enforcement, with active participation of stakeholders</li></ul>
<ul style="list-style-type: none"><li>• Degraded environment handicap to development</li></ul>	<ul style="list-style-type: none"><li>• Enhanced environment attracts investments, provides economic advantage</li></ul>

In many cases, the choices Andhra Pradesh will make as part of its growth agenda will have a very positive effect on the environment. For instance, setting prices to gradually reflect the full economic cost of providing resources such as water, coal, fuel and electricity will encourage conservation, besides allowing the alternative use of resources saved. Reforming municipalities will make them financially stronger and enable them to tackle problems like urban pollution, and improve urban infrastructure and the returns from public facilities. Developing mass transit systems will reduce vehicular pollution by reducing the number of private cars on the road and speeding up travel.

In certain cases, however, development choices may conflict with environmental concerns. Andhra Pradesh will approach such conflicts pragmatically. While encouraging investment in all sectors, it will ensure that development takes place in a planned and environmentally sustainable way. For instance, to mitigate the environmental damage caused by discharge from chemical industries, the State will oblige enterprises to locate in zoned areas with access to safe waste disposal systems and encourage new technologies with zero discharge levels.

Given the current deterioration of the environment in some parts of the State, achieving the vision for 2020 calls for a committed approach, tackling the various problems arising from increasing pollution and uncontrolled and unsystematic use of natural resources. The State will need to adopt a system of environmental management that incorporates the following elements (**Exhibit 4.2**):

- Conducting an environmental resources planning study to create an integrated plan for conserving and utilising the environmental resources of the entire State.
- Internalising environmental considerations in planning and policy making.
- Creating local standards for each zone based on its 'carrying capacity'.
- Creating market-based enforcement mechanisms.
- Decentralising the monitoring of environmental compliance through the empowerment of local committees and the community.
- Achieving ecological balance and an improved quality of life through sustainable management of forest resources.

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*To proactively manage environmental resources, environmental resource planning will have to be made a central component of policy making in the State.*

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## **ENVIRONMENTAL RESOURCE PLANNING**

A major cause of environmental degradation in Andhra Pradesh today is the lack of integrated environmental planning. Often, departments, municipalities, local authorities and industries use environmental resources according to the priorities of their individual sectors, without much regard to the overall needs of the State or the sustainable use of its resources. To proactively manage environmental resources, environmental resource planning will have to be made a central component of policy making in the State.

Exhibit 4.2

**ENVIRONMENT MANAGEMENT: A NEW PARADIGM**

**From**

- Lack of integrated environmental planning (e.g., policies do not always internalise environmental considerations)
- Development in a region takes place with scant regard to the 'carrying capacity' of the region
- No stakeholder involvement in setting environmental standards
- Compliance monitoring is centralised and enforcement mechanism is not market-based, i.e., not based on incentives

**To**

- Integrated environmental resources planning: State creates an integrated plan for conserving and utilising environmental resources and determines the 'carrying capacity' of each individual region. Policy makers use the resources plan and internalise it in their policies/projects
- Area-based standards based on carrying capacity of each zone
- All primary stakeholders involved in setting standards
- Local committees/community empowered to monitor compliance with standards. Market-based regulation is used as enforcement mechanism

Environmental resource planning involves the framing of an integrated blueprint for the planned use of the State's resources. Two components of this approach are land use zoning and carrying capacity studies. Land use zoning will help to locate industries according to the existing pollution load and carrying capacity of an area and ensure that a given area has a mix of heavily polluting, moderately polluting and non-polluting (green) industries with enough buffer zones in between. Carrying capacity studies, on the other hand, are used to determine the supporting or assimilative capacity of a zone, i.e., the level of air, water, and/or soil pollution it

can bear. This must be done for each individual developmental zone (e.g. a micro-watershed or an air shed<sup>16</sup>).

Moreover, to completely integrate environmental management with the development effort, Strategic Environment Assessment (SEA) must be made mandatory for all policies, plans, projects and programmes. SEA would be based on updated 'State of the Environment' surveys; carrying capacity studies, for example, of targeted water and airsheds and fragile bio-geographic zones; and a database of the environmental qualities of natural receptors (lakes, streams, forests, etc.).

In addition, specialised studies on the environmental impact and mitigation of pollution will be carried out. In these studies, several scenarios will be modelled and reliable environmental information will be continuously provided to enable decision-making.

## **ENVIRONMENTAL CONSIDERATIONS AS PART OF POLICY MAKING**

To truly benefit from environmental resource planning, these resource plans need to be explicitly considered and internalised by all agencies, primarily government bodies and departments, whose functioning involves the use of environmental resources. For instance, municipal corporations in each urban area should plan waste disposal by classifying waste generation (solid and biomedical waste, sewage) according to source and collection points, and then recommending a suitable disposal facility. As another example, irrigation and forest departments and municipal water supply boards should use the Catchment Area Management System, in consultation with Water Users' Associations, to decide the distribution of water rights and use.

To ensure effective planning, environment units will be set up in each department. The Andhra Pradesh Pollution Control Board (APPCB) will train personnel in these cells to assess the environmental impact of the works and plans of their departments. This will ensure that environment management is internalised in all areas and that department policies are in line with overall policy. A co-ordinating body will ensure that the concerned department's plans, policies, projects and programmes are based on environmental ground realities.

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16 An area in which meteorological conditions, e.g., wind movements, remain uniform for the larger part of the year.

## LOCAL ENVIRONMENT STANDARDS BASED ON CARRYING CAPACITY

Environmental standards in India, both ambient and discharge, are sometimes derived from the experience of the developed world and not our own experience with development. As a result, standards for industry are often unrelated to the technology and scale of operations of Indian industry. For example, standards relate only to 'point' discharges from industrial plants and do not provide for the 'non-point' residue and run-off from agriculture, urban areas, etc. Furthermore, current hazardous waste standards are defined in terms of quantity not in terms of process or the quality of discharge. In other words, hazardous storage by groups of polluters in one place can escape scrutiny whereas insignificant excesses of quantity can be penalised.

Discharge and ambient standards are usually set in terms of concentration. This does not help to reduce residual loads of contamination. Thus, in cases of discharge by a group of polluters, where the ground, water, or air already carry high loads, discharging pollutants within the concentration standard does not help but only adds to the problem. Furthermore, concentration-based standards are difficult to monitor when outlets are common and actual effluent-flows almost untraceable to individual sources.

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*Standards must be fixed according to the supporting or assimilative capacity of the development area and its safety requirements.*

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Ambient standards are uniform throughout the State without regard to the pollution carrying capacity of a particular area. In a densely populated country like India, guidelines on distance are as important as discharge and management standards. However, at present, distance guidelines are not normally a part of industrial standards. Thus, sensitive areas such as lakes, streams, forests, national highways, hospitals, schools, and residential areas, do not receive special attention when norms on discharge from point and non-point sources are set.

To remedy this situation, standards must be fixed according to the supporting or assimilative capacity of the development area and its safety requirements. Where appropriate, as in places where industry is concentrated or with heavy non-point sources of pollution, standards should be volume-based and enforceable within specific time frames. Alternatively, they should be 'referenced and risk-based', i.e., after examining various impact areas, risk-based benchmarks should be established as minimum standards to be maintained.

In line with this approach, Andhra Pradesh will adopt 'carrying capacity' based standards. Developmental zones, such as a micro-watershed or sub-basin or an air shed will be categorised according to their assimilative capacities and safety needs. Each category of development zone will have its own safety and discharge standards. Discharge standards will be set in terms of both concentration and volume.

Once development zones are categorised, integrated land-use plans will be prepared separately for each category to locate, operate, relocate and monitor point and non-point sources of pollution. 'Remediation' plans for degraded areas will also be prepared. Mandal and district development plans will then be integrated with the land-use plans and implemented accordingly. Categorised zones will be able to receive 'block' clearances at the regional, state, and national levels, as recommended by the carrying capacity studies.

Decisions such as where to locate an industry will then be taken on the basis of zoning which takes into account the 'carrying capacity' of a region, among other things, and the incremental pollution added by the polluter. To ensure that the area-based standards are acceptable to all, they will be set in consultation with all primary stakeholders such as industry, environment protection groups, non-governmental organisations, academics, technical experts, and the community.

Experience has shown this to be a successful approach to ensuring compliance. Japan, for example, followed such a consultative approach to developing standards. Agreements were openly negotiated between the government and industry and self-monitoring was encouraged. This actually resulted in lower emissions than those required by law.

Once standards are set, the monitoring committee should apply them to every polluter in its area, including agriculture. This is particularly important in Andhra Pradesh where the extent of 'non-point' pollution (from agricultural inputs or traffic) is large.

The benefit of shifting to this decentralised framework will be twofold. The State will be able to accommodate all industries and activities. At the same time, it will be able to preserve minimum environmental standards throughout the State.

## MARKET-BASED ENFORCEMENT

The Andhra Pradesh Government will more actively use economic measures related to user costs as a means to securing environmental compliance.

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*The Andhra Pradesh Government will more actively use economic measures related to user costs as a means to securing environmental compliance.*

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Australia successfully uses 'performance bonds' to ensure restoration of mined sites. Performance bonds are deposits mining companies must place with banks as a guarantee for restoration. The amount for performance bonds is set just above the cost incurred by mining companies for restoration. This provides a direct incentive for restoration.

This principle can be applied in other situations as well. The APPCB has tried such an approach through its 'environmental performance guarantees'. However, the guarantees are too low in value to encourage compliance. Another example would be inducing industries to invest in abatement technology by setting effluent cesses just above the cost of abatement.

Incentives such as tax holidays, cheaper land, and lower water rates could be used to encourage companies located in areas where pollution levels are higher than prescribed to relocate to areas that can bear the additional pollution. Similarly, to promote 'good behaviour', industries adopting sound environmental policies should be suitably rewarded.

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*Decision-making will be decentralised by empowering local stakeholder committees to monitor and enforce environmental guidelines and local standards.*

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Further, only companies that have acquired the ISO 14000 certification, the international norm for environmentally safe processes, should be allowed to expand or set up new capacity in a degraded zone.

## **DECENTRALISED MONITORING OF COMPLIANCE**

Decision-making will be decentralised by empowering local stakeholder committees comprising local non-governmental organisations, agriculturists, industrialists, local government and APPCB officials to monitor and enforce environmental guidelines and local standards. Where national and state level guidelines conflict with local environmental compulsions, these bodies can recommend amendments for consideration at higher policy making levels. Such amendments, if approved, can be made applicable to the concerned micro-watershed or local zone.

The execution and monitoring of environment policy will also be entrusted to local bodies. Currently monitoring is centralised with the APPCB which has limited monitoring capacity: 100 trained monitoring personnel are expected to investigate more than 150,000 polluting industries in the State besides maintain surface and groundwater quality and ensure air quality. Regional offices, like Visakhapatnam and Vijayawada, have only 2-3 skilled employees each when in fact they require a



minimum of 40 engineers and analysts to effectively monitor pollution. Decentralising the monitoring process will make control more effective, less expensive and more participatory. It will also improve the interface between polluters and affected parties.

The APPCB's staff functions should be decentralised on the basis of the perceived threat to the environment of a region, not necessarily according to the administrative boundaries of districts. This would in effect create a number of smaller 'Pollution Control Boards', each managing their areas by applying locally based standards in consultation with all stakeholders and through participatory management by the community in the form of the committees described above. The rules for pollution control would be the same for all units, but standards would differ according to location.

Similar local agencies exist in many other countries, e.g., the State Environmental Protection Commission in China. China has a network of 2,400 Environmental Protection Boards, as part of local governments and municipalities, to monitor compliance with laws.

Waste management solutions, such as sewage and effluent treatment; decentralised treatment and disposal facilities; solid waste management; industrial green belts; and industrial estate management will all gradually be brought within the scope of decentralised environment management units.

Participatory management, i.e., involving local communities in monitoring, will make environment management easier and more effective. The training of these local management committees will be a continuous activity of the State.

In particular, wherever projects that have an impact on the environment (e.g., irrigation, industry, new insecticide or pesticide use) are proposed, the early involvement of local communities and NGOs will be necessary to resolve potential conflict. NGOs and private environment consultants can also be brought in to conduct regular environmental audits of industry and award Environmental Audit certificates to reduce the monitoring burden of the APPCB.

Several initiatives will need to be taken over the next three years to plan for environmentally sustainable development, encourage compliance and create active, decentralised policy execution and monitoring systems and to create effective

regulatory mechanisms. Further initiatives will be needed over the next 23 years to achieve the vision.

## **SUSTAINABLE MANAGEMENT OF FOREST RESOURCES**

Effectively managing forest resources is a critical component of protecting the environment since the degradation of forests gives rise to serious problems such as floods, famine, and drought. Furthermore, focusing on the protection of forests, and the regeneration of forests and forest land, will allow the State's rural and tribal people to meet their basic needs for fuel, fodder and small timber and assure future generations of a green, healthy Andhra Pradesh.

Currently, only 23 per cent (63,814 sq. km.) of the total geographic area of the State is under forest cover. Moreover, less than 17 per cent of this land is under tree cover. The stated national goal is to have 33 per cent of the land area under forest cover. Achieving this goal, and enhancing the long-term sustained development of the State, will require the following initiatives:

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*Focusing on the protection and regeneration of forests and forest land will assure future generations of a green, healthy Andhra Pradesh.*

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- Conserving and improving the quality of existing forests.
- Strengthening current forest management systems.
- Conserving biodiversity and genetic resources.
- Developing villages on the fringes of forests to eliminate direct dependence on forests.

### **Conserving and improving the quality of existing forests**

The State will need to use several measures to conserve and regenerate existing forests. These include involving the people in forest management; building skills in forest management; ensuring massive afforestation; using innovative methods, such as use of alternative sources of energy; and reforming regulation.

Joint forest management, i.e., actively involving the people in the protection, conservation, and management of forests, is the most effective way to restore degraded forests and forest lands. To this end, the State has encouraged the establishment of Vana Samrakshana Samitis, or Joint Forest Management Groups, which will be involved in the planning and implementation of forest management projects. Through these groups, the State will take the people's help in eliminating

encroachment on forest land, protecting trees against illegal felling, and protecting forest lands against excessive grazing and fire.

The fastest way to increase tree cover, and to enhance levels of forestry, is through massive afforestation of wastelands, other public lands, and private lands. There are 84 lakh hectares of cultivable wastelands available in Andhra Pradesh. Large tracts of these lands can be converted by encouraging agro-forestry, launching massive tree planting programmes along roads, railway lines, and canals, and including 'tree-planting' in water/soil conservation strategies. At least 17 lakh hectares of degraded forest land will be developed over the next 10 years by Vana Samarakshana Samitis.

Promoting alternate and non-conventional sources of energy can also play a large role in conserving forests. The State will encourage and facilitate the use of such sources as solar energy, wind, and biogas. Where alternative energy resources are not available, the use of smokeless chullahs (stoves) to decrease wood consumption will be encouraged.

In addition, regulatory reform, such as the new grazing policy, will go a long way towards conserving forests. By introducing yearly rotation of grazing areas, the new grazing policy aims to resolve the conflict between demarcating certain areas as protected areas and the State's policy of allowing free grazing. In addition to such measures, the State will consider enacting legislation to make forest offences non-bailable and increase the minimum stipulated punishment for such offences.

Finally, the State will endeavour to reduce the direct dependence on forests by providing employment to the inhabitants of forest lands through other departments—Tribal Welfare, Animal Husbandry, and Rural Development.

### **Strengthening forest management systems**

Conserving and regenerating forests and forest lands will also require an improvement in the Government's approach to forest management. This will include introducing new technology in forest management and increasing co-operation between Government departments.

Currently, forest management is hampered by age-old practices, inadequate information systems, poor nursery techniques, and inadequate human resource development.

To strengthen forest management, the Government will introduce the use of new technologies such as Geographic and Management Information Systems for planning, monitoring and evaluating Forest Department projects. Nursery techniques will be improved by introducing clonal seedling production, using improved plant material, and ensuring better plantation technology. This effort will be complemented by a focus on building the competence of departmental staff by encouraging technical and functional specialisation. The department will also need to be strengthened by improving its communications network.

The new approach to forest management will also call for the development of new skills in both officials as well as the people. To this end, the Government will provide training to forest officers and members of the Vana Samrakshana Samitis or other village residents involved in forest management, and ensure that forest management programmes are adequately staffed.

Ensuring better co-operation and co-ordination between Government departments is also essential to improve forest management. A number of Government departments and NGOs function in forest areas and their goals and strategies are not necessarily consistent with those of the Forest Department. Therefore, it is crucial to build co-operation between different departments and agencies with linkages to the sector. This can be ensured through institutional mechanisms such as co-ordination committees at the mandal, district, and State levels. This would also allow the Forest Department to use the resources available with the Rural Development and Tribal Development Departments to build an 'engine of development' in interior areas of the State.

### **Conserving biodiversity and genetic resources**

Encroachment, fire, excessive grazing, and illegal trade in wild animals have damaged biodiversity in the State.

Many of the measures outlined above will help conserve biodiversity. In addition, the State will pursue the following initiatives, with a stress on the protection of wildlife:

- Provide prompt and adequate compensation for loss of life, cattle, property, etc., due to attacks by wild animals.
- Train officers and staff to investigate offences.

## Developing villages on forest fringes

Currently, poverty forces people to eke out a living from what resources they can garner from forests. This poverty is caused by a number of factors such as lack of employment, illiteracy, low yields from agriculture, and lack of access to communication facilities.

Therefore, attempts to conserve forests must focus on ensuring the social and economic development of villages that lie on the fringes of forests. Initiatives to achieve this goal include:

- Strengthening poverty alleviation programmes such as the Employment Assurance Scheme and the Jawahar Rojgar Yojana.
- Implementing massive literacy programmes.
- Raising agricultural productivity.
- Encouraging watershed management.
- Improving communications infrastructure.

Many of these programmes are incorporated in the approach to social welfare (Chapter 1), education (Chapter 2), rural development (Chapter 6), and agriculture (Chapter 9). The details of these programmes are provided in these chapters.

This new approach towards the management and protection of the environment will go a long way towards making Andhra Pradesh one of the most pleasant and safe places in which to live and work.

## CHAPTER 5

# Managing Urban Growth

Urbanisation is taking place much faster in Andhra Pradesh than in the rest of India. Between 1981-91, the State's urban population grew by 43 per cent; compared to 36 per cent for India. Economic growth is likely to strengthen this trend: according to estimates, by 2020, Andhra Pradesh's urban population will more than double. The pressure on key cities will intensify: Hyderabad will become more than three times its current size. Many new cities will also emerge: the State will have more than five cities with a population of over one million, compared to two today, if urban growth continues at its current rate. The challenge for Andhra Pradesh is to ensure that this urban growth is managed in such a way that its cities are clean, comfortable, safe, and enjoyable places to live in (**Exhibit 5.1**).

By 2020, Andhra Pradesh will have well planned, economically productive, socially just, environmentally sustainable, culturally vibrant, friendly and safe cities and towns. Their development will be planned and balanced, with a focus on infrastructure development and environmental management. High quality services, such as water supply, sanitation, waste management, street lighting, housing and public transport will be available to all. Urban areas will be governed by participatory, responsive and people-oriented local governments.

This vision will be achieved through an approach that blends urban development and infrastructure planning with sound fiscal policy and systems to manage urban services effectively. The State will:

- Ensure balanced urban development by developing alternative urban centres as countermagnets.

Exhibit 5.1

**URBAN CIVIC SERVICES: THE PATH TOWARDS VISION 2020**

<b>From</b>	<b>To</b>
<ul style="list-style-type: none"><li>• Unplanned urban development</li></ul>	<ul style="list-style-type: none"><li>• Planned urban development and balanced growth</li></ul>
<ul style="list-style-type: none"><li>• Inadequate urban civic services</li></ul>	<ul style="list-style-type: none"><li>• Full coverage with efficient urban services</li></ul>
<ul style="list-style-type: none"><li>• Government driven urban infrastructure</li></ul>	<ul style="list-style-type: none"><li>• Effective government-private sector partnership</li></ul>
<ul style="list-style-type: none"><li>• Municipalities financially dependent on state government</li></ul>	<ul style="list-style-type: none"><li>• Municipalities more self-sufficient</li></ul>
<ul style="list-style-type: none"><li>• Urban civic services provided by government departments and municipal bodies</li></ul>	<ul style="list-style-type: none"><li>• Urban civic services provided by a portfolio of autonomous, performance-oriented corporations</li></ul>
<ul style="list-style-type: none"><li>• Municipalities controlled by State</li></ul>	<ul style="list-style-type: none"><li>• Municipalities locally managed; monitored by a participative, politically-aware population</li></ul>

- Anticipate and provide for urban infrastructure requirements through comprehensive, integrated planning.
- Operate municipal services on a competitive basis to provide adequate, high quality service at affordable costs.
- Develop urban services and infrastructure by involving the private sector. The level of investment required to provide urban infrastructure and services will require the supplementing of Government efforts by the private sector. Moreover,

the private sector can bring skills to improve efficiency and make urban services self-sustaining in the long run.

- Ensure that local services are run through local management and control. Experience the world over has shown that making municipalities and corporations responsible for providing urban infrastructure and services is a much better guarantee of efficient services than retaining responsibility and direct control with the State or Central Government.
- Mitigate urban problems by providing shelter and basic services for all.

### PROMOTING BALANCED URBAN DEVELOPMENT

As in most states in India, a few major cities in Andhra Pradesh are suffering under the pressure of uneven economic development and rapid population growth as a result of both migration and natural increase in population. The task before the State is to contain the expansion of already congested urban areas by developing alternative urban centres or satellite towns as countermagnets. Andhra Pradesh will focus on developing at least 10 cities as countermagnets to Hyderabad, Visakhapatnam, and other congested cities.

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*Andhra Pradesh will focus on developing at least 10 cities as countermagnets to Hyderabad, Visakhapatnam, and other congested cities.*

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The creation of satellite towns will also help contain migration to cities. Small towns with a population of 10-20,000 will be developed as satellite towns. They will be provided with basic infrastructure and amenities such as roads, cross-drainage, water supply, schools, playgrounds, community halls, etc. In addition, a focus on generating employment opportunities in these towns will be ensured.

In the longer term, the development effort will create employment, educational and other opportunities throughout the State and hence greatly reduce the need or desire to move to large cities in search of advancement.

### ENSURING COMPREHENSIVE, INTEGRATED PLANNING

Andhra Pradesh's cities face the same problem as most other Indian cities: large populations and not enough infrastructure and services to go around. As a result, the housing shortage is as high as 23 per cent; one in four urban houses has neither electricity nor potable water and only 50 per cent of urban households have toilets. Public transport is limited and roads could be better maintained; two-thirds of urban roads need to be repaired.



These problems have arisen mainly because the current urban planning system is inadequate. The current Master Plan approach focuses primarily on land use and is not wholly integrated with planning for other services such as transport, water, and environment control. Moreover, multiple State and local government bodies, such as the Water Supply Boards, the Urban Development Authority, and municipalities, are responsible for different areas of infrastructure and services, with no adequate co-ordination of these different areas.

Given that major urban centres in Andhra Pradesh, Hyderabad, Visakhapatnam and Vijayawada, are growing fast, only comprehensive, integrated planning will allow the State to anticipate and provide for urban infrastructure requirements, thereby avoiding the problems major metros in the country are facing today. A comprehensive Urban Development Plan will need to be developed for each city. This plan will:

- Cover all services, e.g., transport, water, electricity and sanitation.
- Incorporate the carrying capacity of existing infrastructure to estimate the extent of upgrading required. For instance, it would take into account how much longer the current mass transport system will support the needs of the growing population.
- Include the institutional and financial arrangements required to ensure the efficient provision of services.
- Take into account environmental issues.

The Urban Development Plans for each city and town will need to be integrated at the district and metropolitan levels. Accordingly, District and Metropolitan Planning Committees will need to be set up. These will be independent committees comprising representatives of elected local bodies (three-fourths in the case of District Planning Committees and two-thirds in the case of Metropolitan Planning Committees). These Committees will review Urban Development Plans and integrate them with the economic and settlement plans for their areas. Planning will be multi-period with a 20-year perspective plan providing the framework for immediate action plans.

The planning framework outlined above is already mandated by the 74th Constitutional Amendment which recognises the need to make municipalities and corporations responsible for providing urban infrastructure and services.

## OPERATING SERVICES ON ECONOMIC PRINCIPLES

The first principle in providing adequate, high quality services would be to ensure that the pricing of such services reflects the full economic cost of providing them. Today, however, the pricing of urban services reflects only a fraction of the cost of providing them. Cities are centres of economic activity and their residents can afford to pay for equitably priced services. It is, therefore, feasible to price services on an economic and equitable basis. The way forward, thus, is to run municipal services on a competitive basis and ensure that services are priced rationally according to the economics of their operation. Keeping in mind its obligations to the disadvantaged, where necessary, the Government will provide services at concessional rates, by way of transparent subsidies.

Services can be delivered efficiently only by high-performance organisations. Today, however, municipalities do not have the kind of organisation that promotes a performance orientation. The Government will thus also need to find ways to turn municipalities into efficient service providers.

### Efficient service providers

To provide adequate and high quality services to all, it would first be necessary to decide how overloaded municipalities can be relieved of the burden of providing every service required. In developed countries, municipal services are divided into services that can be provided by independent corporations, such as solid waste management, public transport, and housing, and services that must be provided by municipalities themselves, such as roads and sanitation. This would be a useful model to follow.

The corporations providing municipal services could be set up as autonomous enterprises and run on purely economic principles. Chile has done this very successfully. Here, most public enterprises work on a commercial basis, independently of the government. Consumer tariffs are set by an independent regulatory authority and are based on the costs of running an efficient enterprise.

For services still to be provided by municipalities, it would be essential to ensure quality. This can be done by making municipalities more performance-oriented. To achieve this, mechanisms that reward efficiency and build professionalism will need to be introduced. Systems to track costs, efficiency and service will need to be

installed and accountability enforced throughout the organisation. Incentive systems (e.g., compensation) will have to be tied to performance to motivate better productivity. Skill levels will need to be upgraded through the infusion of professional managers. In addition, these organisations will have to be enabled to improve their performance by providing them greater freedom in operational decisions (e.g., contracting out services, recruitment, compensation).

These initiatives will go a long way towards improving the credibility of municipalities in the eyes of citizens and investors. This improved credibility will, in the long run, enable municipalities to reach out to debt markets for funds through instruments like rated municipal bonds, as the Ahmedabad Municipal Corporation had done (**Exhibit 5.2**).

### **Rational pricing**

Another way to improve the efficiency of service providers is to expose them to competition. Competition fosters quality and efficiency and forces providers to keep costs down. In the new, competitive environment, an independent regulatory authority could regulate tariff setting to balance profitability with efficiency and equity.

Revenues could be secured through direct user charges or benefit taxes (e.g., petrol and diesel taxes for vehicle owners who benefit from roads). These two mechanisms, direct user charges and benefit taxes, could be the largest sources of revenue for municipalities and other providers. General taxes that affect everybody, e.g., octroi, should be minimal so that beneficiaries pay directly for services.

Rational pricing will adversely affect vulnerable groups who now benefit from the highly subsidised rates at which they obtain services. To protect the *genuinely* vulnerable, such subsidies should continue. However, they should be transferred from the State Government in a transparent manner so that they do not distort the profitability of municipal enterprises.

### **INVOLVING THE PRIVATE SECTOR**

Pricing services rationally will ensure only that municipalities have enough funds to maintain these services. To expand services and infrastructure, they will need additional sources of finance. Allowing municipal corporations to access capital markets by issuing municipal bonds would be one way to help them raise funds.

Exhibit 5.2

### AHMEDABAD MUNICIPAL CORPORATION: PIONEER IN TAPPING DEBT MARKETS

#### Description

The Ahmedabad Municipal Corporation (AMC) in early 1998 tapped the institutional and retail debt markets for funds by issuing rated municipal bonds. It is the first municipal corporation in Asia to get its bonds rated and the second to raise money through such bonds from the public (the first being the municipal corporation of Shanghai, China)

#### Highlights

- Total issue value: Rs.100 crore, 75% open to institutional investors and 25% to the public
- The coupon rate was 14% and the bond rating (rated by CRISIL) was AA(SO) (indicating high certainty about timely payment)
- The bonds do not have a Gujarat state guarantee
- The public issue (of Rs.25 crore) was oversubscribed by Rs.5 crore
- The bond issue of Rs.100 crore will partly finance a major water supply and sewerage project in Ahmedabad city – a Rs.489 crore project
- Repayment of the bonds will be funded through internally-generated revenue, specifically octroi, which comprises 70% of AMC's revenues

#### Key factors of success

- Improvement in AMC's financial credibility
  - AMC has generated positive revenues in the last four years (1993-97) due to increased operational efficiencies
  - Move to change accounting system from single entry to double entry to increase transparency
  - AMC has improved octroi assessment and compliance. Collections in the last 4 years have increased by 83%
  - AMC has installed an escrow account mechanism at 10 octroi collection centres to ensure the collections go directly towards servicing the debt
- Easy liquidity of bonds – listing on the NSE and the Ahmedabad Stock Exchange
- Attractive pricing of the retail issue

Source: Press clippings

Partnerships with the private sector would be another. Involving the private sector will provide the added benefit of access to the skills required for improving efficiency and making urban services self-sustaining in the long run.

To access capital markets, municipalities will have to prove that they are viable enterprises. The reforms outlined in the earlier section are an effective way to ensure this. Furthermore, only large municipalities will be able to attract investors to buy their bonds. For smaller municipalities, an urban development authority will need to be set up. This body would access capital markets on behalf of these municipalities.

To attract private sector investment in urban infrastructure and services, several models for private sector participation will need to be offered, such as BOT (Build, Operate, and Transfer), BOOT (Build, Own, Operate and Transfer), BOO (Build, Own and Operate), etc. In addition, a range of other preconditions will have to be met. These include: developing an objective regulatory system; providing an appropriate regulatory framework (e.g., streamlining the Urban Land Ceiling Act; modifying the Rent Control Act; creating a legal framework for mortgage finance); providing fiscal concessions (e.g., tax waivers); finding ancillary revenue streams (e.g., property development) and furnishing administrative support (e.g., simplified land acquisition procedures). The nature of Government involvement (local, State-Centre partnership) will need to be tailored to the nature of the service.

Structuring projects for private participation is technically complex and requires specialised skills. However, several municipalities in the country have successfully attracted private investors, such as, Ahmedabad, Tirupur, and Bangalore. The State and local bodies need to significantly upgrade their financial and managerial capability so that they can successfully attract private investors.

## ENSURING LOCAL PARTICIPATION AND ACCOUNTABILITY

Civic services are local in nature and, therefore, are best managed by local governments. Furthermore, residents should have a say in the level of services they will receive and the way these services will be run. Today, the structure for local governments, in the form of municipalities, does exist. However, since the provisions of the 74th Constitutional Amendment have not yet become fully operational, local bodies are not as effective as they could be. As a result, officials have become increasingly unaccountable for the quality and scope of services provided and residents have no means of gaining some level of control over them. Therefore, change is required on three fronts: political, administrative and financial. At the political level, elections to the municipalities must be held regularly and people must be encouraged to participate in these elections.

At the administrative level, Metropolitan and District Planning Committees must be constituted. These committees will have the overall responsibility of planned urban development as discussed earlier. In addition, at the ward level, ward

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*Civic services are best managed by local governments. Furthermore, residents should have a say in the level of services they will receive and the way these services will be run.*

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committees will be constituted. These will have the authority to monitor the urban services provided in their wards. Elected ward representatives will be accountable to the ward committees for the provision of urban services.

At the financial level, the ground rules for allocation of tax resources, sharing of tax revenues and transfers from Government to local bodies in different parts of the State will be clearly defined through the State Finance Commission.

Mechanisms to provide the people with some measure of control over the provision of services must also be created. Several models have been experimented with both in India and abroad. Seoul operates 'citizen complaint reporting centres' where the mayor or administrative staff make themselves available every Saturday for 'dialogue with the citizen'. Surat provides post-cards to citizens for complaints which are attended to by a decentralised system within 48 hours. This has not only made the local municipal staff more accountable to the citizens, but also enhanced their credibility and boosted their morale.

Schedule XII of the Constitution of India specifies a list of areas in which the municipalities and corporations are responsible for providing urban infrastructure and services. The 74th Constitutional Amendment recommends the institution of ward committees to create accountability at the local level. The challenge will be to make municipalities function as mandated by these laws.

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*A major component of Vision 2020 is to ensure affordable 'pucca' (durable) housing, both ownership and rental, and basic services for all people in the State.*

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### **ENSURING SHELTER AND BASIC SERVICES FOR ALL**

A major component of Vision 2020 is to ensure affordable 'pucca' (durable) housing, both ownership and rental, and basic services for all people in the State. This effort will be focused especially on economically weaker sections and lower and middle income groups. Given that the current housing shortage is about 11 per cent (27 lakh units) in rural areas and 23 per cent (15 lakh units) in urban areas, this is a formidable task requiring a huge investment of resources. The task becomes even more difficult since 75 to 80 per cent of this shortage is faced by economically weaker sections of society who cannot afford to invest their own resources in housing.

Accordingly, in line with the Housing and Habitat Policy, 1998, formulated by the Government of India, in which specific roles and responsibilities are entrusted to states, Andhra Pradesh will focus on the following key objectives to make the vision of 'Shelter for all' a reality:

- Providing affordable housing of a minimum plinth area with adequate amenities and a healthy environment for economically weaker sections.
- Facilitating access to affordable housing for the middle and lower income groups.
- Ensuring balanced development of communities by integrating several socio-economic classes in the same area.
- Complementing the construction of housing with the provision of basic services to ensure clean and comfortable cities and towns.

### Providing housing for economically weaker sections

To provide housing for economically weaker sections, the State will allot house sites to the needy and facilitate construction of houses under the Weaker Sections Housing Programme.

- **Providing house sites:** Given the growing population, the shortage of housing-sites will remain a major constraint to adding to the housing stock. Hence, the primary objective of the State in providing housing will be assigning house sites to the weaker sections. Under the current programme, on an average, 5 lakh house sites will be assigned to economically weaker sections every year. These sites will be fully developed through levelling and the provision of basic infrastructure such as roads, drainage, electricity, water and sanitation.
- **Constructing housing:** The State will continue its Weaker Sections Housing Programme to provide housing for economically weaker sections through the State-owned body Andhra Pradesh State Housing Corporation Limited (APSHCL). Under this programme, as of today, nearly 31 lakh houses for economically weaker sections have been constructed both in rural and urban areas with an outlay of Rs.2,386 crore. The State will endeavour to bridge the housing shortfall for weaker sections within the next five years. Once this shortage is resolved, the renewal and maintenance phase will start in order to maintain a neat, clean and healthy environment in these habitats.

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*To provide house for economically weaker sections, the State will allot house sites to the needy and facilitate construction of houses under the Weaker Sections Housing Programme.*

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### Facilitating access to affordable housing for middle and lower income groups

To facilitate access to affordable housing, the State will encourage the increased involvement of the private sector, encourage co-operative housing initiatives, make

available developed house sites, encourage the use of cost-effective building material and increase the availability of rental housing.

- **Increasing the involvement of the private sector:** In conjunction with the APSHCL, the Andhra Pradesh Housing Board will continue to build and sell housing for the middle and lower income groups. Since 1960, the Board has constructed 60,314 units of housing for all income categories by investing Rs.349 crore. Given the shortage of funds and increasing demand for ownership housing among middle and lower income groups of society, the Board will shift to playing the role of facilitator rather than provider.

As a facilitator the State's policy will be to encourage the concept of public-private and public-co-operative partnerships. These partnerships will benefit from the combined strengths of the financial resources of the private sector and the State's power to acquire land and mobilise institutional finance. Singapore's Housing Development Board has successfully maximised the involvement of the private sector by jointly developing and constructing housing blocks with private builders and developers through the 'Design & Build' scheme.

To facilitate and maximise the public-private partnership, the State will frame new legislation or suitably amend existing regulation governing public agencies such as housing boards and other developmental authorities. This will enable a co-operative and beneficial relationship between public and private agencies. In addition, the State will frame necessary laws on apartment ownership, co-ownership with institutions, etc. Other regulation, including stamp duty, registration laws and development control rules, will be liberalised with an aim to encourage the development of a large housing stock, both ownership and rental.

- **Encouraging co-operative housing:** The co-operative mechanism helps middle and low income groups acquire and develop housing-sites and construct houses on their own with finance from credit institutions. This is one sector through which housing stock can be increased on a large scale through the efforts of the people themselves. However, though the co-operative housing movement has been encouraged through housing societies and housing federations, it is yet to achieve its full potential. The Andhra Pradesh Co-operative Housing Societies Federation, an apex body at the State level, has so far financed only 46,699 houses for all income categories. Going forward, co-operative housing in the State will



be strengthened and encouraged on a large scale, especially in urban and semi-urban areas, to rapidly increase ownership housing stock.

The State will also ensure adequate credit facilities for co-operative housing. In addition, legislation will be streamlined and strengthened, with a separate line of administration in the Housing department, to facilitate the registration and running of housing co-operatives on sound principles.

- **Making available developed house sites:** For the middle and lower income groups, the lack of developed house sites is a greater barrier than the cost of construction. To assist these groups, under the existing Sites & Services programme, the State will acquire land and develop sites with basic amenities. They will then be sold to low and middle income households at reasonable prices.
- **Encouraging the use of cost-effective building material:** As a part of the effort to lower the cost of construction, the State intends to encourage the use of eco-friendly, cost-effective building materials. This will be achieved through a network of Nirmithi Kendras (building centres) all over the State. Through the Housing Corporation and the private sector, 500 to 600 building centres will be set up throughout the State to make cost-effective and eco-friendly building materials popular. In addition, building materials and individual building components such as doors, windows and sunshades, will be standardised to allow large-scale production (thus lowering the cost of construction) and rapid construction of housing. Furthermore, large-scale training of artisans and masons, in all building training centres in both rural and urban areas, will bring in a revolution in housing construction by stimulating a shift from traditional and conventional methods.
- **Increasing availability of rental stock:** The State will increase the rental housing stock through public agencies as well as through the private sector to make housing available at a reasonable rent. The Rent Control laws will be suitably amended to encourage rental housing in the private sectors. This will decrease the pressure on the State to provide ownership housing.

### **Ensuring balanced development of communities**

Planning self-contained dwelling blocks with housing for all the different income groups will be necessary to ensure balanced development of communities and foster

community spirit. To this end, the State will follow the Singapore model of constructing housing blocks with apartments catering to different classes. Each block will contain all basic facilities such as a school, a hospital, markets, shopping centres, parks, effluent treatment plants and playgrounds.

The State will encourage the development of housing blocks combining housing for all income groups with basic services available nearby. In addition, integrated housing will be encouraged. In this model, services required by individual households will be available nearby and housing for the service-providers will be close to the users of these services. Thus, the spirit of community, i.e., 'give and take', will be strengthened. This also supports one of the important objectives of habitat improvement: avoiding the growth of slums.

### **Ensuring the provision of basic services**

To ensure that its cities and towns are clean and pleasant places in which to live, the State will ensure the provision of basic services such as water, sanitation, and garbage disposal.

Water supply will be augmented in several ways: by tapping current irrigation sources, judiciously exploiting ground water, and utilising river water through piped water supply schemes. Appropriate technologies will be used to ensure high quality drinking water.

Alternative technologies will be used wherever providing services through conventional systems is expensive or difficult. These will be technologies that can be implemented with support from non-governmental organisations, in the form of technical assistance, and the Government, in the form of (limited) subsidies. This approach has proved successful in Kanpur, where public toilets along with biogas plants were built in slums. Residents built and maintained the toilets and sold the biogas within the slums. The State has made a good beginning in this regard, through projects sponsored by the Department for International Development, Japan, in Hyderabad, Visakhapatnam and Vijayawada. The projects launched need to be sustained and similar programmes made central to the charter of other municipalities.

As first steps towards achieving the vision, the State Government has outlined several initiatives to bring about the necessary changes—institutional, legal and

financial. Institutional changes include the setting up of Metropolitan and District Planning Committees and an independent tariff regulatory authority. On the legal side, the State will have to evolve an appropriate framework for private sector participation in each area. Important financial changes would include rationalising tariffs to cover the full costs of providing services and tapping innovative sources of funds like the debt markets.

By improving its cities and providing for their good management, Andhra Pradesh will go a long way towards achieving Vision 2020 for the State.

## CHAPTER 6

# Dynamic, Self-Reliant Rural Communities

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*Every village in Andhra Pradesh will have the infrastructure and services required to allow its people to actively participate in the economy and live healthy, productive and fulfilled lives.*

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More than 50 million of Andhra Pradesh's people live in rural areas. They represent 70 per cent of the State's population, and its workforce, and work mainly in agriculture which contributes about 35 per cent of the GSDP. Given the size of the rural population and the importance of agriculture to the State's economy, a major part of the vision for 2020 is to create the opportunities and resources needed to make rural Andhra Pradesh a major force in the development of the State (**Exhibit 6.1**).

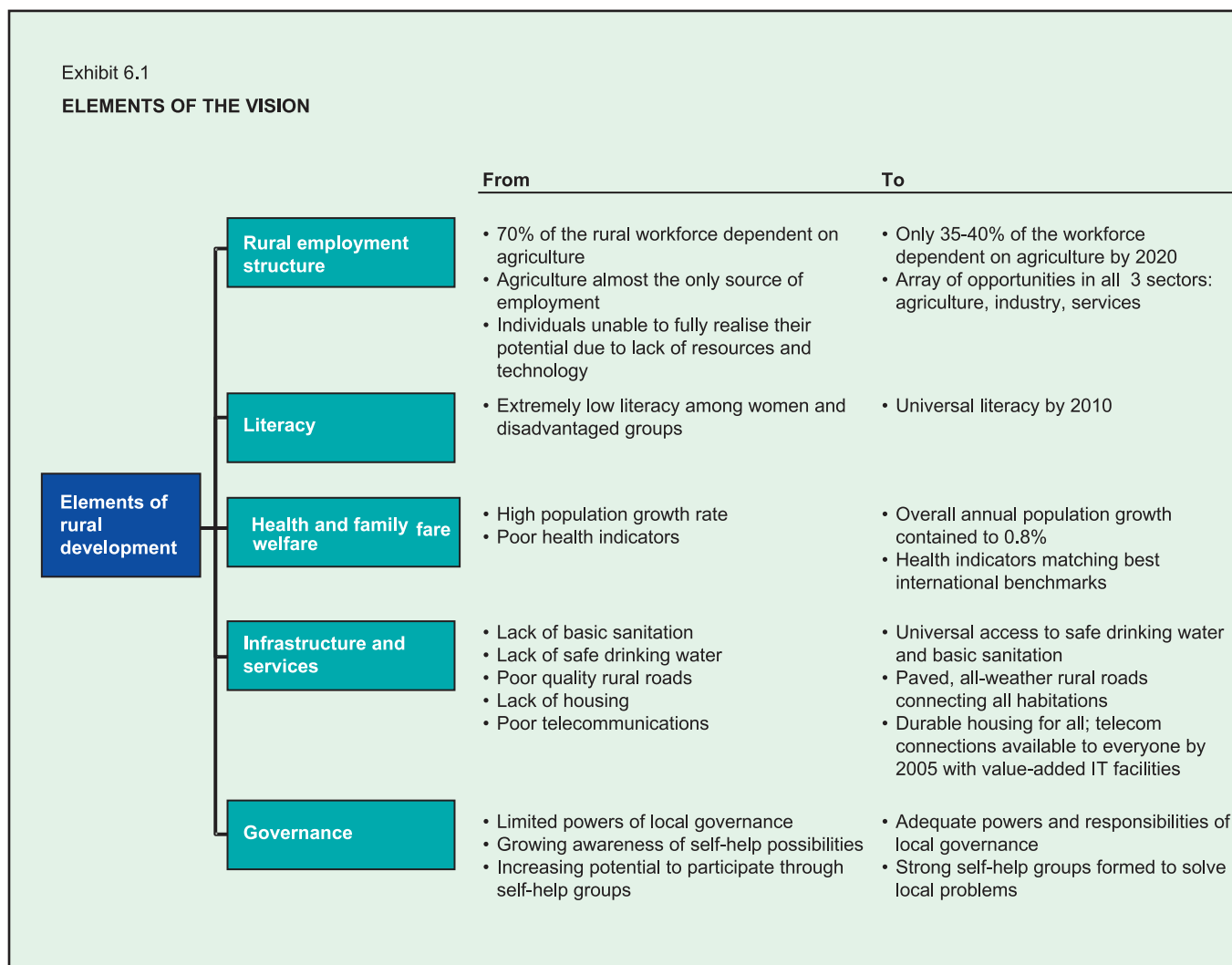
By 2020, Andhra Pradesh will have self-reliant and dynamic village communities capable of optimal and sustainable production. Every village in Andhra Pradesh will have the infrastructure and services required to allow its people to actively participate in the economy and live healthy, productive and fulfilled lives. Thanks to sustained economic growth, there will be substantial non-farm, off-farm, and value-added employment. Enjoying the benefits of education, technology and development, rural communities will promote social values, encourage hard work and dignity of labour, and continually strive for a better life.

To achieve this vision, the State will launch a comprehensive programme to

- Harness the huge potential represented by its large rural population through empowerment and decentralisation.
- Develop agriculture and reform policy to ensure prosperity for rural Andhra Pradesh.

Exhibit 6.1

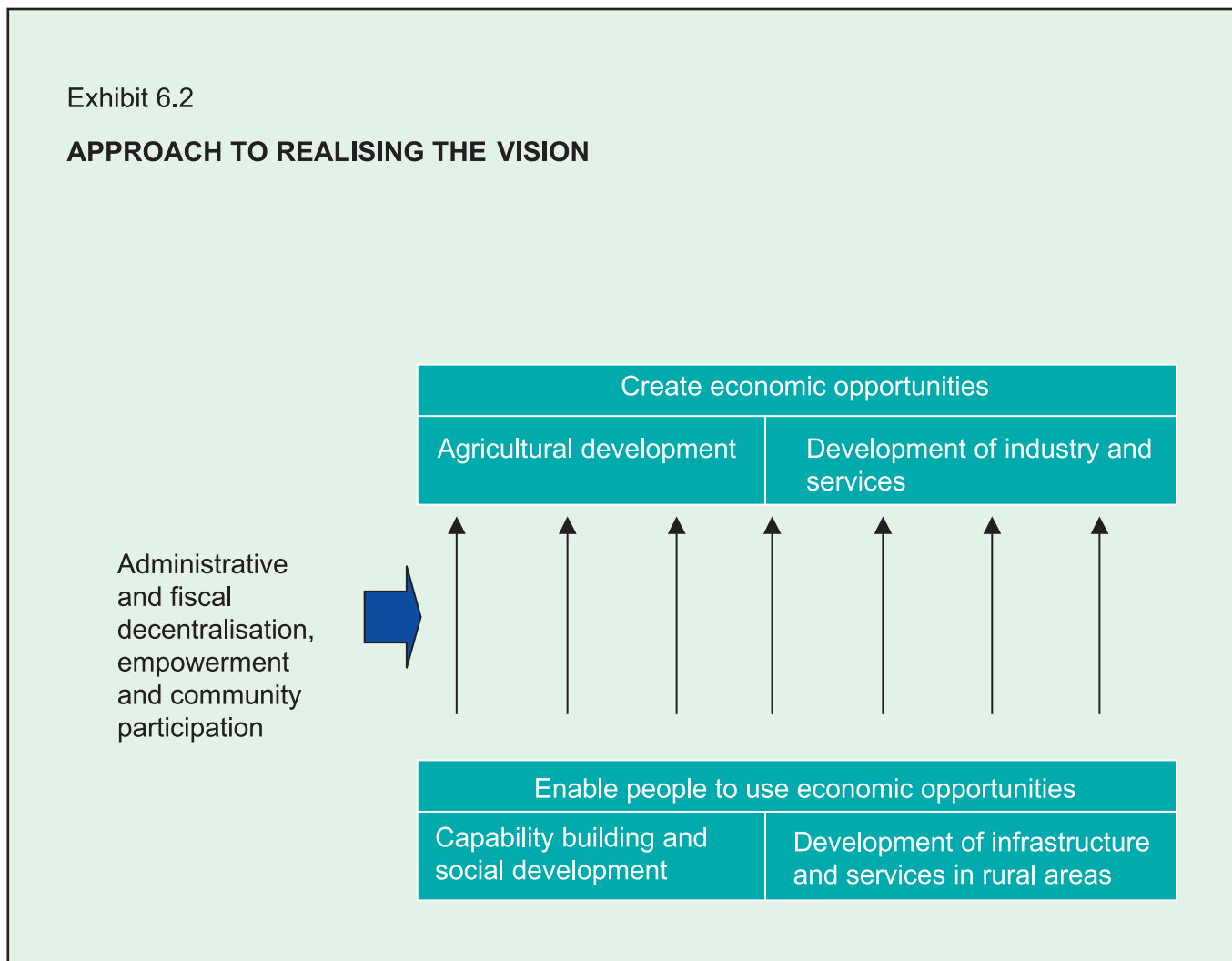
**ELEMENTS OF THE VISION**



- Stimulate employment in industries, services and the allied sector.
- Build the capabilities of its rural people to enable them to become the architects of rural development.
- Create the infrastructure and services needed to enable development and upgrade the quality of life in rural areas.
- Promote an integrated approach to providing services.

Exhibit 6.2

**APPROACH TO REALISING THE VISION**



**Exhibit 6.2** provides an overview of the programme.

**EMPOWERMENT AND DECENTRALISATION**

It is now widely accepted that ‘what is best done locally should be allowed to be done locally.’ Rural Andhra Pradesh will, therefore, be developed not by the Government or any other agency, but by the rural people themselves.

This will be achieved through two major thrusts: the implementation of the 73<sup>rd</sup> Constitutional Amendment enabling decentralisation of economic and

administrative powers and responsibilities to local bodies; and the promotion and strengthening of self-help programmes including the Janmabhoomi, Sramadanam, and awareness generating programmes and self-help groups such as DWCRA, WUA, CMEY, VSS<sup>17</sup>, etc. The emphasis will be on ensuring substantial participation by the community, particularly youth, women, and weaker sections, to ensure that development programmes are successful and benefit the entire community.

To ensure the success of this approach, the Government will need to help local communities enhance their administrative and other skills by providing technical assistance and access to skill-building and change programmes. Such programmes already exist. For instance, the Andhra Pradesh Academy of Rural Development has pioneered training workshops for new sarpanches, mandal presidents, and other representatives of local bodies.

## DEVELOPING AGRICULTURE

Developing agriculture is the key to bringing prosperity to rural Andhra Pradesh and to the State's economy. The approach to developing this sector will focus on transforming agriculture from the means to a subsistence livelihood into a dynamic sector of the economy. This approach is explained comprehensively in Chapters 9 to 16 and, therefore, only summarised below (**Exhibit 6.3**).

### Transforming agriculture

Achieving the transformation desired will require the following actions: harnessing water resources; integrated development of rainfed areas; bringing waste and marginal lands into productive use; focusing on high growth sectors; and ensuring policy reform.

- **Harnessing water resources:** Harnessing all available water resources is critical to achieving the targeted levels of agricultural growth. This will require a three-pronged effort: realising the maximum irrigation potential of the State; improving the efficiency of the existing irrigation network; and managing water resources better through stakeholder participation. This effort is comprehensively discussed in Chapter 9, 'Revitalising Agriculture'. It is therefore only summarised below.

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*Developing agriculture is the key to bringing prosperity to rural Andhra Pradesh and to the State's economy.*

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<sup>17</sup> Development of Women and Children in Rural Areas; Water User's Associations; Chief Minister's Empowerment of Youth; Vana Samrakshana Samitis.

Exhibit 6.3

**AGRICULTURAL DEVELOPMENT AND REFORM**

**Harnessing Water Resources**

- Realising the maximum irrigation potential of the State
- Improving the efficiency of the existing irrigation network
- Managing water resources better through stakeholder participation

**Integrated development of rainfed areas**

- Re-orienting research and extension priorities towards crops suitable for dryland areas
- Focusing on watershed development, catchment area systems and other forms of water management

**Agricultural and policy reforms**

- Ensuring appropriate policy reform to reflect current realities
- Bringing marginal and wastelands into productive use
- Introducing contract farming

**Focus on allied sector activities**

- Encouraging shift to non-farm based activities such as poultry, dairy, fisheries
- Focusing on activities that are not land or water-intensive

**Implications**

- Well-developed agricultural credit systems
- Large community involvement in education, extension and awareness building

**Impact**

- Large, positive impact on small, marginal and landless farmers
- Increase in average (agricultural) per capita incomes
- Agriculture moves from subsistence to economic activity

To realise the full potential of surface and ground water resources, the State will construct and complete all feasible major and medium irrigation projects. Where there is no potential for major projects, for instance, in upland areas, it will promote minor irrigation and lift schemes. This effort has already begun through the implementation of existing irrigation schemes and the mobilisation of funds from the World Bank, the Overseas Economic Cooperation Fund (OECF), Japan, the National Bank for Agricultural and Rural Development (NABARD), and the flotation of 'Irrigation bonds' to complete ongoing projects.



To improve irrigation efficiency, the State will improve the maintenance of irrigation systems and introduce new technologies to enhance the productivity of water use. Improving maintenance will require a focus on operations and maintenance (O&M), an area that has suffered due to low recovery of operating costs and inadequate budgetary allocations. Going forward, the State will increase O&M budgets and ensure better recovery of operating costs. It will also draw on the assistance of water users themselves to improve irrigation efficiency. This will be part of the State's effort to involve stakeholders in the management of water resources described below.

New technologies will be another important element of improving irrigation efficiency. These will include using an Irrigation Information System to ensure timely and adequate water supply, as well as water conservation technologies such as dynamic control systems and sprinkler and drip irrigation.

Finally, the State will standardise canals, drains and field channels to close the gap between irrigation potential created and the actual area irrigated.

To involve stakeholders in the management of water resources, the State will continue to encourage and support the Water Users' Associations (WUAs). Their role is described more fully in the next chapter. Broadly, they will manage (i.e., operate and maintain) water resources by raising funds for maintenance, supervising works, deciding on water allocation and improving services. The State will also look to them to encourage water conservation and spread awareness of alternate irrigation systems such as the drip and sprinkler systems for horticulture.

To this end, the State will strengthen the WUAs, and train and improve the capabilities of their members. The goal for the WUAs will be to progressively take higher responsibility for managing the entire irrigation system.

**Developing rain-fed areas:** Agriculture in rain-fed areas is constrained by poor availability of water, small, uneconomical land holdings, low crop productivity, lack of assured supply of inputs, lack of technologies and cropping systems suited to dryland conditions, and poor extension and support services. To encourage agriculture in dryland regions, the State will promote soil conservation to prevent land degradation; orient research towards the development of dryland agriculture; promote allied sector activities; and ensure the availability of inputs

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*To realise the full potential of surface and ground water resources, the State will construct and complete all feasible major and medium irrigation projects.*

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such as seeds, fertilisers and pesticides. In addition, it will promote water conservation and harvesting, and encourage watershed development.

- **Bringing wastelands into productive use:** The State will need to bring wastelands and fallow lands into productive use. This will require substantial investments and the State will have to think through various innovative mechanisms to develop these lands. One method could be to create a business entity in which the government has an equity share, to develop these wastelands. The government equity could be distributed among landless labourers.
- **Focusing on high growth sectors:** As part of the growth agenda, the State will focus on growth engines in the agriculture sector. These will be rice, poultry, dairy and horticulture. The development of these growth engines will be stimulated through initiatives to provide infrastructure, deregulation or prudent regulation, focused skill building, and targeted promotion of Andhra Pradesh as the preferred destination for investment.

The development of the growth engines will provide a strong impetus to the development of agro-industry. In addition, the State will focus on developing agro-industries based on commercial crops such as oilseeds, cotton, sugarcane, tobacco and maize, since it has considerable strengths in these areas. The State will adopt the following comprehensive approach to developing agro-industries: strengthening the performance of the sector; shifting the Government's role from regulation to facilitation; and developing sectors in which the State has built considerable strengths. The State will also focus on developing other important sectors such as seeds and fisheries.

- **Ensuring policy reform:** The growth of Andhra Pradesh's agriculture will hinge on appropriate policy reform. This will require a comprehensive review and rationalisation of legislation relating to agriculture. The State will create a policy framework that induces growth, encourages private investment, and fully utilises natural resources; encourages people's participation through appropriate reform in institutions and governance; and ensures the protection of the environment and public interest through suitable environmental and quality control regulations.

## STIMULATING EMPLOYMENT IN INDUSTRIES, SERVICES AND THE ALLIED SECTOR

As stated earlier, agriculture today provides livelihoods for over 70 per cent of the State's people. The steadily decreasing land-man ratio has led to significant underemployment and low per capita agricultural incomes. For sustainable economic development, agriculture's share of employment will have to be progressively reduced from 70 per cent to around 40 per cent. This can be achieved only by effecting a major shift in employment from agriculture to services and industry. These sectors will have to provide the bulk of new, value added jobs in the future.

Exhibit 6.4

### CAPABILITY BUILDING

	Specific rural trends/needs	Initiatives
<b>Education/ Skill-building</b>	<ul style="list-style-type: none"> <li>• High drop-out rates, especially among girls</li> <li>• Low adult literacy</li> <li>• Trade skills passed on from generation to generation; background determines skills</li> <li>• Opportunities for formal vocational training almost non-existent</li> <li>• Skill and technology upgradation through regular and non-formal exposure</li> </ul>	<ul style="list-style-type: none"> <li>• Focused programmes to improve literacy among women and SC/ST/backward classes</li> <li>• Adult literacy campaigns</li> <li>• 'Back to school' programmes for drop-outs</li> <li>• Encouragement of distance education</li> <li>• Establishment of formal vocational or trade-based schools/training centres based on market needs</li> <li>• Encouragement of small technologies</li> <li>• Large community involvement in skill transfer</li> </ul>
<b>Health</b>	<ul style="list-style-type: none"> <li>• Inadequate access to primary healthcare, especially for remote habitations</li> <li>• Strong community practices determine attitude to family planning, deliveries, and maternal/child healthcare</li> <li>• High infant/maternal mortality rates</li> <li>• Low productivity due to high absenteeism caused by sickness/poor health</li> <li>• Participatory health management involving Gram Panchayats and community</li> </ul>	<ul style="list-style-type: none"> <li>• Building family planning awareness and providing access to family planning services</li> <li>• Mobile health units</li> <li>• Community participation in provision of healthcare (e.g., CHWs)</li> <li>• Focus on disease prevention/immunisation</li> <li>• Access to safe drinking water and sanitation services</li> </ul>
<b>Social welfare</b>	<ul style="list-style-type: none"> <li>• High poverty levels</li> <li>• Women are socially oppressed; most women work as agricultural labourers at lower wages than men</li> <li>• Most labour unemployed during non-agricultural season</li> </ul>	<ul style="list-style-type: none"> <li>• Employment schemes (e.g., rural works programme) for unemployed agricultural labour</li> <li>• Empowerment of women through formation of self-help groups</li> <li>• Community-based lending programmes</li> <li>• Special schemes for the vulnerable</li> </ul>

This task will be achieved through the multi-pronged approach to achieving economic growth in the State. The growth engines selected to stimulate this growth will generate a large number of rural-based jobs in services and industry. Roads, bridges, and warehouses will need to be built. Bus and train services from rural areas to cities and industrial clusters will need to be run. The development of the allied sector and agro-based industry will generate a host of jobs and livelihoods such as seed production, sorting and grading fruit; repairing equipment, etc. The thrust on developing building materials will create employment in rural areas. The list goes on. (Exhibit 27.3 in Chapter 27, 'The Bonanza in Small-Scale Services' provides a detailed list of the opportunities that the growth thrust will create.)

To foster this process, the State Government will actively pursue policies and initiatives that promote job creation; and ensure investment in infrastructure and capability building so that rural people can capture the opportunities created. Private investment in the growth engines will be actively sought and investments that create jobs in rural areas, such as cold storage chains, privately owned warehouses, and private operation of transport services, will be actively encouraged. Equipping rural people with the skills they will need to perform these jobs is another major prong of the growth agenda and the subject of the next section.

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*The State Government will actively pursue policies and initiatives that promote job creation.*

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### **BUILDING CAPABILITIES**

Building the capabilities of Andhra Pradesh's rural people will require action on many fronts: ensuring education and skill-building; providing healthcare; ensuring food security; reducing poverty; and providing infrastructure and basic services such as sanitation. These are major areas of focus in the growth agenda and the approach to providing for these needs has been comprehensively outlined in Chapters 1, 2, 3, and 7, which deal with social welfare, education, health, and infrastructure. This section, therefore, lays out the main elements of the programme to build human capital in Andhra Pradesh's rural areas (**Exhibit 6.4**).

- **Education:** Here, the primary focus will be on universalising primary education and ensuring total literacy. Other areas of focus will be vocational and non-formal education, education for girls, and eliminating the huge disparities in the literacy levels of socially disadvantaged groups and the rest of the population. In addition, programmes to build technical and vocational skills will be given priority.
- **Health:** The emphasis here will be on providing accessible and affordable healthcare for the rural population by strengthening the public health system

and encouraging private provision of healthcare, for instance, by social groups. Preventive healthcare and nutrition will be other high priority areas.

- **Food security and poverty eradication:** These will be achieved in two ways. (1) The focus on increased agricultural production will increase food security for rural people engaged in agriculture, allied, and other activities. (2) For people below the poverty line, food and income security will be ensured through a well-designed Public Distribution System, employment generation schemes providing minimum wages and social security measures such as old age and disability pensions. To ensure the effectiveness of social security programmes, the Government will involve local communities in their management and encourage them to contribute their local resources to strengthen these programmes.
- **Secure livelihoods:** The State will help disadvantaged groups gain access to resources that will help them develop a livelihood. This will involve helping them to upgrade their skills, gain access to technology, and build assets. As described in Chapter 1, this will be achieved through such schemes as 'Adarana', the Artisans Assistance Programme.

## CREATING INFRASTRUCTURE AND SERVICES

To enable development and improve the quality of life in rural areas, the Government will need to ensure that rural areas are provided with adequate infrastructure and services. Creating infrastructure is a major element in the multi-pronged growth agenda. This will ensure that basic and specialised infrastructure, such as irrigation, roads, bridges, processing and storage facilities, transportation, telecommunications, and so on, are created in rural areas.

Developing a road network to connect rural areas to major economic and urban centres will be critical to ensuring rural development. To this end, the Government will develop a core road network, besides developing highways. Interior areas will be connected to main roads and all rural roads will be developed as all-weather roads. As a priority, 11,733 habitations not covered by all-weather roads will be connected by 2005 at a total investment of Rs. 438 crore. In addition, a total of 36,285 habitations will be provided with safe drinking water at an investment of Rs. 5,418 crore.

Another critical need is housing. The Government will address this need through both public and private initiatives. To begin with, the Government will strengthen

and expand its Weaker Sections Housing Programme to provide house sites and housing to these sections. Under the current programme, 5 lakh house sites, on an average, will be assigned to economically weaker sections every year. Sites will be fully developed through levelling and the provision of basic amenities such as water and electricity.

With regard to housing, the State will endeavour to resolve the housing shortage for weaker sections within the next five years. (The Government's approach to ensuring housing for all sections is discussed in greater detail in Chapter 5, 'Managing Urban Growth'.) The Andhra Pradesh State Housing Corporation Limited and the Andhra Pradesh Urban Development and Housing Corporation have already built 31.42 lakh houses with a total outlay of Rs.2,484 crore. During the last five years, 15.83 lakh houses were built at an expenditure of Rs.1,398 crore. During the Ninth Plan period, the Government plans to construct 25 lakh houses with an expenditure of Rs.3,423 crore.

Since the Government will not have the resources to finance housing for all categories of the population, it will exercise several options to fulfil the need, such as the use of low cost technology and materials, soft loans, and the relaxation of credit norms.

### **PROMOTING AN INTEGRATED APPROACH TO PROVIDING SERVICES**

To ensure that services are provided in an efficient and sustainable manner, the Government will need to promote an integrated approach to planning, developing and operating services. This will involve planning to match local needs, encouraging local bodies to develop and operate infrastructure and services; and assisting local bodies and communities in their new role.

#### **Planning to match local needs**

Today, State Government departments such as the Panchayati Raj Department undertake all planning for rural infrastructure. These departments also decide priorities and financial allocations. With no formal mechanism to co-ordinate or integrate planning, spending is often wasteful because it is not matched to local needs or conditions. For instance, toilet blocks have been constructed in areas with no water to allow their use.

Such anomalies can be prevented by allowing local bodies to decide the services and infrastructure they need since they are the best judges of local priorities and conditions.

To allow local involvement in planning, the State will ensure that planning becomes decentralised and is driven by community demand, except in cases where centralised planning is necessary (e.g., irrigation projects). Demand will be decided by local institutions such as Gram Sabhas and Zilla Parishads. The Gram Sabha will develop, under the supervision of local bodies, 'micro' village level plans that are based on local requirements.

These local plans will need to be integrated with broader plans to ensure the systematic development of infrastructure in the State. Therefore, the village level plans will be integrated at the mandal and district levels. This will provide the means to assess and prioritise village level plans in the light of local priorities. It will also make it possible to address issues that involve more than one village, for example, providing a framework for electricity co-operatives and joint water facilities for a group of villages. Village-level plans will also be linked to the economic development plans for mandals and districts.

### **Encouraging local bodies to develop and operate infrastructure and services**

Experience has shown that decentralising the provision of services and infrastructure is critical to ensuring efficiency and responsiveness in their operation. In Mexico, the costs of rural development projects fell by 30-60 per cent after the local community was involved in running them.

Thus, in addition to planning for infrastructure, local bodies and communities in Andhra Pradesh will also be given the responsibility for developing and operating local infrastructure and services.

To achieve this, the Government will empower Panchayati Raj institutions and local community associations to develop and operate local infrastructure. The self-help Janmabhoomi initiatives have already shown the way. These local bodies will be able to design services (e.g., the location of water supply), decide the quality and level of service to be developed (e.g., the sophistication of sanitation facilities) and determine how funding will be raised (e.g., through user charges, development loans).

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*Local bodies will be able to design services, decide the quality and level of service to be developed and determine how funding will be raised.*

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The 73rd Amendment to the Constitution and State legislation already provide the mandate for this decentralisation of authority. To make it effective, the transfer of powers will be operationalised and, where necessary, community associations, such as electricity co-operatives, will be established by law. Further, the financial strength of local bodies will be improved to allow recovery of at least operational and maintenance costs. For one, local bodies will decide the basis for pricing services.

### **Assisting local bodies and communities in their new role**

To ensure that local bodies and communities can effectively build and operate infrastructure and services, the State will need to provide them with financial, technical, and managerial assistance.

Since rural areas are fiscally poor, a significant proportion of the capital cost for rural infrastructure needs to be funded by the State Government. Currently, half the State's budget for rural infrastructure goes towards the operation and maintenance of existing infrastructure, leaving little scope for expanding services. The State will thus need to increase funding by at least 50 per cent. It will therefore increase budgetary allocations and evolve clear ground rules for the devolution of authority to local bodies to accelerate the development of infrastructure.

Simultaneously, an equitable and objective 'formula' will be developed to devolve funds to different regions of the State. This formula will balance the scope to raise funds locally and current infrastructure available with an emphasis on generating local resources. Further, ground rules (e.g., maximum size, cost sharing in different sectors) for support to individual projects will be clarified before they are initiated.

The Government will also provide technical assistance in the design, implementation, and operation of infrastructure projects. For instance, it can ensure that appropriate technology is used to contain costs and sustain the utility of assets (e.g., the use of fly-ash as a cost-effective way to build low-volume roads). The Government will emphasise research on alternative models for creating rural assets as other state governments have done. To illustrate: in West Bengal, with the help of non-governmental organisations, the state government developed several low cost sanitation systems. Local communities could choose to build a sanitation system that suited their needs and finances. The NGOs provided technical assistance in implementing and subsequently upgrading the chosen systems. In Andhra Pradesh,



the Government will provide implementation support in some cases. Additionally, it will train communities in the proper operation and maintenance of assets.

While local bodies need to play the leading role in developing local infrastructure, the State needs to play an important role in building their managerial capabilities and ensuring their accountability to local citizens. To achieve this, systems, e.g., for project monitoring and tax administration, will be strengthened and appropriate institutions (e.g., for planning) will be created. In addition, awareness about the role of local bodies will be increased, e.g., through the efforts of NGOs or programmes like Janmabhoomi.

By empowering and enabling rural people to become the architects of their own development, Andhra Pradesh will be the first state in India to make its villages the vanguard of progress.

# Infrastructure: Creating the Basis for Growth

Infrastructure will play a critical role in achieving the vision for Andhra Pradesh. Every growth objective, whether it is developing the growth engines, improving education and health services or augmenting services in villages and cities can be achieved only if the necessary infrastructure is created.

Moreover, the development of the infrastructure sector can create major economic impact. International experience has shown that a 10 per cent increase in the availability of infrastructure can raise average household incomes by an equal amount mainly by creating large-scale employment. In developed countries, jobs from the operation and maintenance of infrastructure, such as running and keeping in good repair power plants and water supply systems, constitute as much as 7-8 per cent of incomes (compared to about 4 per cent in most Indian states today). For this reason, the infrastructure sector can be considered a growth engine in itself.

Andhra Pradesh needs to invest about Rs.16,00,000 crore<sup>18</sup> in infrastructure development till 2020, and over Rs.4,00,000 crore till 2010. A significant proportion of this investment will be in construction; this itself will create large-scale employment. But for Andhra Pradesh, the greatest impact of infrastructure development will come from its multiplier effect on the economy (i.e., its ability to increase productivity or output in other industries).

Furthermore, infrastructure development will influence the quantum of investment in Andhra Pradesh. A key factor influencing the investment decisions of industrial and other players is the quantity and kind of infrastructure, such as power, roads,

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18 At constant 1995-96 prices.

airports and ports, available in a prospective location. If Andhra Pradesh builds infrastructure on the scale required, it will be able to attract a disproportionate share of such investment, thereby creating jobs and income for its people. For example, just developing a major port can transform a local economy. Assuming that other support facilities are also provided, industries that depend on exports or logistics will develop rapidly in areas around the port, creating thousands of new jobs for local people.

Andhra Pradesh will have to create enough infrastructure to spur the development of the growth engines and sustain future growth. The State will need to build three different types of infrastructure: trunk, arterial, and specialised.

- **Trunk infrastructure:** Constituting the ‘infrastructure backbone’ in the State, this will include power (generation and transmission); major highways; telecommunications links; ports; airports; and industrial estates.
- **Arterial infrastructure:** This includes power distribution networks, local telecommunication loops and smaller state highways and roads that connect villages and cities to the ‘infrastructure backbone’.
- **Specialised infrastructure:** This is infrastructure required to develop specific sectors. Examples of such infrastructure are cold storage facilities (horticulture, dairy, poultry); specialised Exports Processing Zones (garments and leather products); high-speed fibre-optic cables (IT); and intermodal container transfer facilities (logistics and distribution services).

Approaches to building specialised infrastructure are dealt with in the chapters on the individual growth engines. This chapter, therefore, focuses on trunk and arterial infrastructure, and the approach to developing it.

By 2020, Andhra Pradesh will have sufficient infrastructure to sustain and stimulate an economy growing at 9-10 per cent a year. The State will have a strong backbone of trunk and arterial infrastructure around major economic centres and along the growth corridors. Infrastructure in Andhra Pradesh will facilitate the creation of profitable enterprises in industry, agriculture and services, and greatly improve the quality of life for its people.

Achieving this vision will be one of Andhra Pradesh’s principal challenges. The State will need to launch a systematic programme to build new infrastructure and

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*Andhra Pradesh will create enough infrastructure to spur the development of the growth engines and sustain future growth.*

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strengthen its current infrastructure sector. The key elements of this programme will include:

- Prioritising infrastructure investments in developing the growth corridors.
- Reforming the sector to make it feasible for both public and private players to provide infrastructure.
- Enhancing budgetary support and inviting private investment to fill the gap between infrastructure requirements and the Government's funding resources.
- Securing the Central Government's co-operation in areas under its control.

### **PRIORITISING INFRASTRUCTURE INVESTMENT**

For rapid development, Andhra Pradesh will need to create a full package of infrastructure at any given location. Investors will not be attracted merely because a few more roads and ports or additional power are available; they will want integrated infrastructure, i.e., all the facilities that will enable an industrial, agricultural or services business to work efficiently without bottlenecks. For example, to work efficiently, an export-oriented food-processing factory must have adequate and reliable power and water supply as well as waste treatment and disposal facilities. To reduce logistics costs, it must be connected by good roads to the farms from where it secures raw material and to the nearest port/airport from where it will export its products. It also needs good communication facilities to communicate with its suppliers and its customers outside the country, and track the location of its exported goods.

However, building trunk and arterial infrastructure requires large capital investments. For instance, generating power of 1000 MW alone (a 15 per cent addition to the State's generating capacity) could cost Rs.3,500-4,000 crore (about 25 per cent of the State budget). Similarly, constructing an expressway between Vijayawada and Hyderabad could cost Rs.2,500-3,000 crore.

Therefore, given the magnitude of the task, Andhra Pradesh will prioritise and co-ordinate investments in certain key regions. Initially, the focus will be on building infrastructure in the growth corridors, i.e., the key economic centres or clusters of Hyderabad, Vijayawada, Visakhapatnam, Nellore and Anantpur, and in the geographical 'strips' between these centres. The State will ensure that critical

infrastructure such as power, airports, roads, water, transportation and telecommunications is available at and between these centres. This will allow industries in each cluster to develop to their full potential and also attract the development of new industries along the growth corridors. Since these centres are situated in all the three regions of Telangana, Rayalaseema and Andhra, the benefits of development will be spread across Andhra Pradesh. To accelerate trade between Andhra Pradesh, other Indian states, and the world, the growth corridors will in turn be connected to economic centres in neighbouring states, e.g., Bangalore, Mumbai, Chennai, and to the rest of the world.

Revenues (e.g., taxes) created through development along the growth corridor can be invested in building infrastructure at other economic centres (e.g., district headquarters) and connecting them to the main corridor. In this way, over time, infrastructure will be created throughout the State.

Accordingly, infrastructure building priorities for the State will be **(Exhibit 7.1)**:

- **Power:** The projections for demand for power in 2020 range from 19,000 MW to 35,000 MW. The first figure is based on estimates by the fifteenth Power Survey Committee, while the second one is based on matching the per capita power requirements of Andhra Pradesh residents to those available in Malaysia at present. For realising Vision 2020, the former estimate may be too conservative, as it assumes increases in power consumption in line with past demand. Yet another estimate provides a figure in the middle of these two projections and is based on the High Powered Committee Recommendations. These peg expected demand at around 30,000 MW. (This translates to an installed capacity of about 36,000 MW in 2020.) They assume a 10 per cent growth in power requirements and a demand of 10,536 MW till 2002 (the end of the Ninth Plan period), translating into an increase in installed capacity that would take it to 15,269 MW by 2002.

The State has made a strong beginning towards meeting this target. The Andhra Pradesh Electricity (Reforms) Bill has been passed, allowing the restructuring of the Andhra Pradesh State Electricity Board (APSEB) and the unbundling of its services into generation, transmission and distribution. The Bill also provides for private sector participation in generation and distribution. Furthermore, Andhra Pradesh is the only state in which two fast track Independent Power

Exhibit 7.1

**INFRASTRUCTURE TARGETS FOR 2020**

**Power**

- Installed capacity touches 36,000 MW by 2020
- Per capita electricity consumption exceeds 2000 Kwh
- Total energy losses fall to 10% from current 30%; commercial losses eliminated
- Power quality to reach world class levels in 3-5 years; power provided at competitive costs

**Ports**

- Visakhapatnam to be mega port (~70 million tonnes capacity)
- 4-6 ports of 30-50 million tonnes each developed (e.g., Kakinada, Krishnapatnam, Gangavaram, Vodarevu, etc.)
- Other ports developed for captive use, linked to specific growth engines

**Roads**

- 6-lane roads in all cities
- 4-lane superhighways along growth corridors and from all major nodes of the Growth Diamond to important cities
- Total road length to double (over 4 lakh km)
- 70% of all roads to be paved, good quality roads; one-lane all-weather roads in all villages

**Airports**

- 2 international airports: Hyderabad and Visakhapatnam. Hyderabad to serve west-bound traffic; Visakhapatnam to be primary gateway to the east
- At least 5-6 functioning domestic airports (possibly at Vijayawada, Tirupati, Puttaparti, Cuddapah, Kakinada/Rajahmundry, Warangal and Nellore)
- All existing airstrips functional; all districts to have airstrips

**Telecomm-unications**

- Telephone density 10-15 times the current 11 phones per 1,000 people
- Electronic kiosks in all villages
- High bandwidth network in the growth corridors and value-added services in all major nodes; eventually across the entire state

Producers ( GVK and Spectrum) have already started operation. In addition, a number of other IPP projects, amounting to an addition of almost 6,000 MW of power, are already being negotiated.

The State will also focus on reducing energy losses (technical as well as commercial). Technical losses will be reduced from the present 30 per cent to about 10 per cent. Commercial losses will be eliminated. Power quality (in terms of voltage fluctuations, frequency changes, etc) will also reach world-class levels in 3-5 years. Furthermore, power will be provided at competitive costs.

- **Ports:** Port capacity is essential to boost exports. It is also essential for making the State a logistics hub. Andhra Pradesh will have one mega port (capacity 50-70 million tonnes) at Visakhapatnam and 4-6 large ports (capacity 30-50 million tonnes) by 2020. These ports must be suited for both bulk as well as containerised cargo. Many of them could act as feeder ports, where one or both of the mega-ports are the hub ports. The mega port at Visakhapatnam will also fill the need for port capacity on the east coast. Today, there is no major port on this side of the country apart from Madras and Visakhapatnam; Calcutta/Haldia and Paradip together handle only as much load as Visakhapatnam. Private sector participation in the development of the Krishnapatnam port is a step in the right direction. In addition to these ports, other ports will be developed for captive use and linked to specific growth engines.

As an integral part of the effort to achieve the vision for 2020, the productivity of ports (average ship turnaround time, average pre-berthing delay, etc.) will be greatly improved. Furthermore, since the development of ports is also linked to the development of the entire logistics chain (of which the ports are a part), they will be upgraded as part of the development of this chain. This will include providing adequate road-rail linkages from the ports, sufficient warehousing facilities, speedy customs clearances, and so on.

- **Roads:** Four-lane superhighways are needed along the growth corridors and from all major economic centres to important cities outside the State. The State will focus on the Hyderabad-Vijayawada, Hyderabad-Anantpur, Hyderabad-Warangal, Hyderabad-Karimnagar, Hyderabad-Mahbubnagar, Anantpur-Nellore, Nellore-Visakhapatnam and Chennai-Tirupati highways and build expressways or four-lane highways<sup>19</sup>. Already, several road building projects are being undertaken with funds from the World Bank and the Asian Development Bank (Cuddapah-Kurnool, etc.). Certain high density sections of the road network can be awarded to the private sector for re-construction/maintenance as Build-Operate-and-Transfer projects. These will be easy to identify as 80 per cent of Andhra Pradesh's traffic confines itself to only 6,000 km out of the entire road length of 165,000 km. The State will aim to increase its total road length to 400,000 km. Also 70 per cent of all roads in the State will be paved, good quality roads, and all villages will be connected by all-weather roads.

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*70 per cent of all roads in the State will be paved, good quality roads, and all villages will be connected by all-weather roads.*

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<sup>19</sup> Many of the infrastructure requirements listed in this section—particularly national highways, airports, telecommunications, and railways—fall within the Central Government's jurisdiction. Their implementation will, therefore, depend on its sanction and co-operation.

- **Transportation:** The State will need to provide a well-organised mass transportation system in urban areas. This system will also link villages and towns to metropolitan cities. Another important area of focus is linking all villages by bus transport. All this will require a manifold increase in the passenger transport sector, especially an increase in the number of buses in the State. In 1997-98, the number of buses per one lakh population was 38 in Andhra Pradesh. This number should increase to 100 by the year 2005, 150 by 2010, 200 by 2015, and 250 by 2020 (the current USA standard). In addition, the State will lay special emphasis on tailoring the transportation system to the growing needs of leisure and tourism travel, in line with the thrust on this sector in the vision for 2020.
- **Airports:** Andhra Pradesh needs two international airports: one mega airport at Hyderabad, and another at Visakhapatnam. While Hyderabad, which already has significant traffic to West Asia, can serve the Western Hemisphere, Visakhapatnam could be the primary gateway to East and South-east Asia. Apart from these international airports, the State will also need at least five to six well-developed domestic airports and several minor ones. These could be Vijayawada, Tirupati, Puttaparti, Kakinada/Rajahmundry, Warangal and Nellore. While Tirupati and Puttaparti are major tourist destinations, Vijayawada will be an important industrial and logistics hub. Anantpur and Nellore as important nodes of the growth corridor will see increased air activity. Apart from these, airstrip facilities will be developed at all district headquarters.
- **Telecommunications:** To achieve Vision 2020, an explosive growth in telecommunications facilities, including basic services and value added services, will be necessary. In terms of basic services alone, to reach the current telephone density of Malaysia, Andhra Pradesh will need to increase the number of telephones per 1,000 people by 15 times from the current 11, amounting to an increase in telephone lines to 1.45 crore. Telecommunications facilities and a high bandwidth network must be provided to the growth corridors and value-added services must be provided in all the major economic centres on a priority basis. These will eventually be extended to the entire State.
- **Railways:** Rail traffic (both passenger and freight) has a strong positive correlation with economic growth. Hence, a significant expansion in rail facilities will be needed to sustain the targeted growth. Rail length in the State will have to double from the current 5,073 km to bring available route length per thousand square km to the levels available in more prosperous Indian states. Rail infrastructure



will need to be added in a way that improves connectivity to all major industrial zones, production centres, ports and airports.

## REFORMING THE INFRASTRUCTURE SECTOR

Infrastructure in Andhra Pradesh today is largely controlled and operated by Government monopoly institutions. Since the Government's role as provider for all groups, particularly the underprivileged, has overridden economic priorities, the prices of many infrastructure services are subsidised and often do not reflect the cost of providing them. This has disrupted the economics of the sector. Investment does not generate returns, cutting off a source of profit for the Government and making it difficult to attract private investment in the area.

For other reasons, mainly the attitude and approach to public sector units in India, the capability and efficiency of government infrastructure agencies has remained low. Moreover, since many of the services are provided by government monopolies, the incentive to increase efficiency has been low. Therefore, to make it feasible for any party (whether the Government or the private sector) to provide infrastructure in an economically sustainable way, the sector will be reformed on the following lines:

- Rationalising pricing and budget allocation systems so that prices reflect economic costs, thus making the sector attractive to investors.
- Restructuring government agencies to enable them to provide infrastructure services in an efficient and cost-effective way.

### Reforming pricing and budget allocation

Price reform is critical to making the infrastructure sector viable and improving investor confidence. It should be based on two principles: (1) pricing services to reflect the economic cost of providing them; (2) focusing subsidies and structuring them as transparent transfers from the State budget to a given utility.

Other countries have successfully applied these principles to resolve the problem of subsidies. Take Chile's reforms in the 1980s. After accounting systems in the country were reformed, it became clear that subsidies were not really benefiting the groups they were meant to. Subsidies were therefore phased out and replaced

by welfare programmes. During the transition, Chile's government created transparent taxes and transfers that allowed infrastructure sectors to remain viable.

In other infrastructure sectors like roads, usage charges, collected through a Motor Vehicles Tax, are used as a general source of revenue for the State Government, and, through budgetary allocations, to fund activities unrelated to the sector. Thus the only funds available to the sector would be budgetary allocations which are usually well below the needs of the sector. To develop the sector, it is essential that budgetary allocations reflect the entire revenue-earning potential of the sector.

### Restructuring government infrastructure agencies

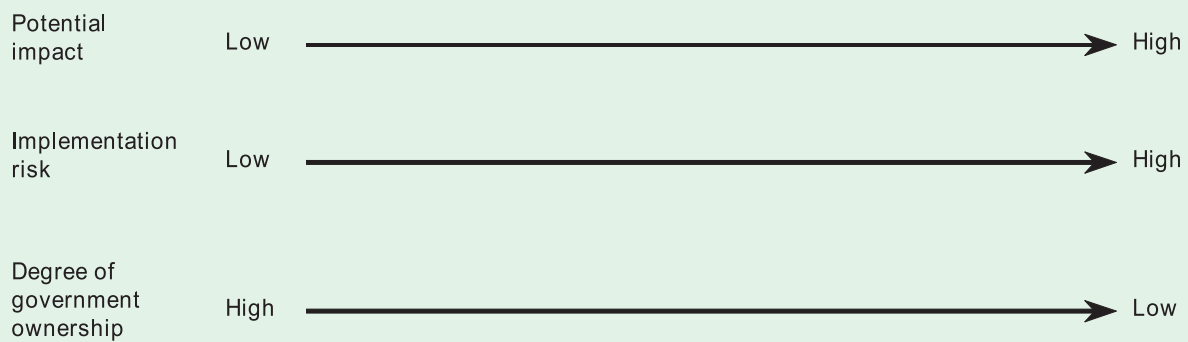
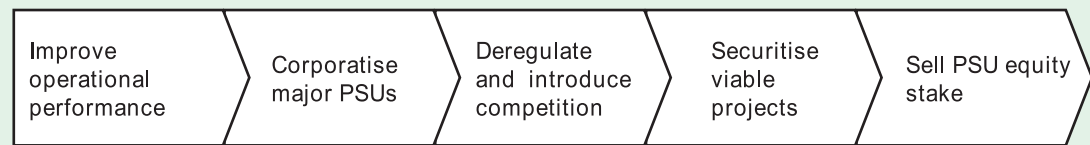
Today, many of the State-owned and operated infrastructure providers are financially unviable and operationally weak. In many cases, years of operating in a virtual monopoly environment, have left them inefficient, inflexible and unresponsive to customer needs. As the State will continue to provide a large part of infrastructure services, it is essential that these providers/agencies be reformed and restructured into vibrant, responsive, viable entities.

The State can use a continuum of options to restructure its infrastructure agencies (**Exhibit 7.2**). At one end of the continuum is the undertaking of marginal improvements in operations, within the current institutional framework. This will create minimal disruption but is also likely to yield limited gains. Another option is to corporatise government agencies and set them up as separate, autonomous bodies. This will yield major improvements in efficiency. To make this an effective solution, however, it is also necessary to change the way in which these institutions are managed. At the other extreme of the continuum, many government agencies could be privatised, i.e., owned or operated by the private sector.

To maximise efficiency gains, many infrastructure agencies should be privately owned and operated in competition with other private players. For instance, as mentioned earlier, the State's Electricity (Reforms) Bill, provides for the separation of the APSEB's services into generation, transmission, and distribution. While transmission remains in the public sector, generation and distribution services can now be provided in competition with privately owned and operated companies. Several developing countries have restructured their power sectors in this way (**Exhibit 7.3**).

Exhibit 7.2

**OPTIONS FOR RESTRUCTURING PUBLIC SECTOR AGENCIES**



However, this option may not be feasible in certain sectors, e.g., roads and irrigation. Due to the nature of the service and how revenue is generated, companies may find it difficult to compete in providing services in such areas. Hence, these sectors should be restructured in line with the nature of their activities.

Efficiency improvements could be obtained by prescribing performance standards and creating performance incentives. In the 1970s, Korea successfully restructured its irrigation sector through this approach.

Exhibit 7.3

**RESTRUCTURING IN THE CHILEAN ELECTRICITY SECTOR**

**Before 1980**

- Industry comprising largely state-owned companies
- Few, vertically integrated companies; low competition
- Not enough supply to meet demand
- Tariffs controlled by government; frequent change in tariff policies
- High cost operations, poor efficiency



**Reforms**

- Unbundling of generation, transmission and distribution
- Privatisation
- Liberalisation
- Tariff policy reforms
- Setting up of strong regulatory bodies
  - Economic Load Despatch Centre to co-ordinate supply
  - National Energy Commission to co-ordinate growth planning

**After 1980**

- Privately-owned companies
- Increase in number of players and competitive intensity
- Focus on increasing efficiency and streamlining operations
- Decrease in real prices
- Large customers (>2MW) can freely negotiate prices with suppliers for long term contracts
- Spot market exists for electricity supply
- Large capacity additions to meet demand

Source: McKinsey Research

Roads, on the other hand, may be better managed through focused efforts to improve operations. Countries like New Zealand have successfully created corporatised structures to achieve significant efficiency gains. However, since these models are relatively new, the State must assess what is feasible in its environment and carefully choose between them.

Andhra Pradesh needs to develop a blueprint for the restructuring of each of its infrastructure agencies and begin the drive to achieving efficiency improvements.

## **ENHANCING BUDGETARY SUPPORT AND ATTRACTING PRIVATE INVESTMENT**

As stated earlier, building infrastructure requires very large investments. Since the Government will continue to remain a major provider of infrastructure, it will have to finance its share of infrastructure requirements. Improving the sector's economics and restructuring infrastructure agencies will generate funds that can be redeployed for maintaining existing or building new infrastructure. However, the State will still need to increase budgetary support from the current 18 per cent of the budget to at least 25 per cent.

The Government will not be able to fund all the infrastructure requirements of the growth agenda. These will, therefore, have to be met through private investment. Inviting private sector participation in infrastructure creation will thus be a critical element in achieving the vision.

Private investment will achieve a two-fold benefit: resolve financing constraints and, in many areas, increase efficiency by introducing competition. This can have considerable impact. In the early 1980s Chile's power sector resembled Andhra Pradesh's today. However, by introducing competition throughout the generation, transmission and distribution segments, Chile cut power costs by about 30 per cent in real terms.

Andhra Pradesh has already introduced private sector participation in many areas. It is the only state in the country to have successfully concluded projects for power supply by Independent Power Producers. In addition, a contract for building a port at Krishnapatnam has already been awarded to a private player and processes to grant maintenance concessions at Kakinada and develop the Gangavaram port are underway. Furthermore, as mentioned earlier, the Electricity (Reforms) Bill will allow private investment in generation and distribution. The challenge is to build on this foundation and create an environment for private players to participate as significant, large, long-term partners. To do this, the State needs to include in its reform of the sector, a framework to allow private sector participation. It will also need to create a systematic programme to attract private investment.

How feasible private sector participation is will depend on how infrastructure projects are structured. Take the case of a private toll road to connect Hyderabad and Vijayawada. The structuring of this project must take into account a number of

issues: the willingness of users to pay different tolls; likely traffic patterns; how long the private investor will enjoy the concession; the feasibility of an expressway vs. a four-lane highway; government support required; and so on. Multiple financing options are also possible depending on the potential timing of the project and the size of the revenue to be generated. The State will need to undertake enough preparatory work to clarify these issues and thus establish the feasibility of the project upfront. **Exhibit 7.4** provides an example of urban road construction by private developers in Australia.

The Government will also need to proactively seek the involvement of private players, both domestic and international. To create demand for its projects, it will need to establish a dialogue with potential players, solicit their views at the project definition stage itself, and address any concerns they may have.

### **SECURING THE CENTRAL GOVERNMENT'S CO-OPERATION**

The provision and regulation of infrastructure are controlled at different levels. Certain areas, such as airports, telecommunications and railways, are completely under the Central Government's control. In many other areas, such as power, ports and roads, State and Central authority overlap. Andhra Pradesh will thus need considerable support from the Centre to execute the agenda described above. Open co-operation from the Centre will accelerate change whereas lack of co-ordination will confuse investors not just in the State but in the entire country. In Australia, for instance, there was immense confusion following the country's power sector reforms because states pursued their own agenda without regard to overall objectives.

Areas in which the State will need to catalyse action by the Centre include restructuring Centre-controlled infrastructure services, co-ordinating policies in areas of overlapping authority, initiating policies in areas completely controlled by the Centre, and translating policy agreements into project-level approvals. The Andhra Pradesh Government will, therefore, work closely with the Centre to enlist its co-operation.

Finally, transforming the infrastructure sector will call for fundamental change affecting the interests of important groups including industry, labour and the public. Private investors and the public will need to be convinced about the direction and pace of change. The State's people will need to be enlightened about the benefits of

Exhibit 7.4

**AUSTRALIAN URBAN ROAD BOOT\* SCHEMES**

**Sydney Harbour  
Tunnel**

- Four-lane carriageway constructed by private consortium: Sydney Harbour Tunnel company
- Source of funds: loan from RTA\*\* (Australian \$223 million); corporate bonds (\$497 million); loan from Tunnel Holdings Private Limited (\$40 million)
- Arrangement
  - Tunnel Company to operate facility for 30 years
  - RTA to pay Tunnel Company ensured revenue stream for this period to meet financial obligation and repay borrowings for design, construction and operation of Tunnel
  - Tunnel Company receives toll revenues less toll collection costs
  - Tunnel Company granted lease of floor of Sydney Harbour and associated areas

**M4 Tollway**

- Construction and widening of 2 sections of roadway by private developer, State Wide Roads (SWR won the project through public tender)
- Arrangement
  - Capital costs recouped through toll receipts; toll levels maintained at real value of \$1 for cars and \$3 for trucks
  - SWR required to pay rent for land on which toll road is built

\* Build Own Operate and Transfer

\*\* Roads and Traffic Authority

Source: Economic Infrastructure Branch, Industrial Commission, Australia; McKinsey research

change. And labour will need to be provided security during the transition and enhanced opportunities in the long-term. The State Government will thus have to undertake a committed and careful orchestration of reform. Such a programme has underpinned the effort of most countries successfully undertaking infrastructure reform. Malaysia, for instance, formally committed itself to privatisation through policy documents; Mexico actively involved labour in restructuring activities.

By following its own programme of strategic investment, reform and promotion, Andhra Pradesh will build an infrastructure sector that underpins the development of each growth engine and promotes economic development in its own right.

## CHAPTER 8

# An Investment-Friendly State

The discussion in all the foregoing chapters makes one thing abundantly clear: favourable regulation, simple procedures, and a mindset of partnership between the Government and the business community are critical to achieving the growth agenda. Recognising this, the Government has resolved to develop integrated and stable policies, simple and rational procedures and a bureaucracy empowered to cut out red tape. By 2020, Andhra Pradesh should have the best business environment and the best business-government interface in the country.

The State has already made a good start in achieving this transformation and has developed a programme to realise the vision. This includes making policy and procedure in Andhra Pradesh favourable towards business and the community.

### A GOOD START

The State Government has taken several steps to make it easier to do business in Andhra Pradesh.

A single-window clearance system for new businesses, the State Investment Promotion Board (SIPB), has been set up. On submission of a Common Application Form (CAP), the SIPB provides statutory approvals like pollution clearance, land use certification, etc. This has considerably reduced the time required for procedures and clearances. In another useful action, the Andhra Pradesh Industrial Investment Corporation (APIIC) has identified land for industrial estates. This spares investors the critical but cumbersome and time-consuming step of identifying suitable land, with adequate water and power, for their projects.



Similarly, in a bid to be investment-friendly, the Industries Department has circulated brochures listing the various clearances required to start projects in different industries. This has proved a welcome step in an environment in which the investor is given the run around just to find out what clearances are needed for a project.

It has to be accepted, however, that these initiatives fall well short of providing a highly investor-friendly environment with minimal procedural obstacles. For example, the single-window system is often labelled a ‘forwarding agency’ because officials staffing it are not empowered to take overarching policy decisions. In case of a conflict between policies of different departments, they have almost no say in which policy should prevail.

APIIC’s industrial estates are primarily either undeveloped or underdeveloped and so have not been attractive enough to investors in the past. Moreover, the amount of land provided to an individual investor (about 1 acre per investor) is not enough for a large project.

Furthermore, no action has yet been taken in several other areas, e.g., updating land records and simplifying land acquisition processes.

## **FAVOURABLE POLICY AND PROCEDURE**

The successful implementation of the growth agenda will hinge on the Government’s ability to remove bottlenecks to growth by reforming policy and procedure. To do this, the Government will need to act on the following fronts: frame an integrated and stable set of policies and build awareness among the bureaucracy about them; create high quality information systems to expedite decision-making on clearances; review, rationalise and simplify procedures in key areas and, where possible, automate clearances; empower different levels of the bureaucracy to quickly provide clearances. In addition, the Government will need to launch a sustained campaign to bring about a more favourable attitude towards investors.

### **An integrated and stable set of policies**

To minimise policy conflicts and consequent procedural delays, the Government needs to formulate a set of integrated and overarching policies in consultation with all the relevant government departments. The policies should be relatively stable and transparent. For example, after consulting each other, the Industry and

Environment Departments could frame a set of industrial policies that would satisfy minimum environmental requirements.

However, this in itself is not enough to speed up procedure. To do so, it is critical to create awareness of these integrated policies among administrators responsible for giving approvals and clearances.

### **Rationalised procedures**

To simplify and expedite the entire clearance process, the Government will set up a task force to review the various clearances required for establishing and operating industrial units in various sectors. These clearances will then be rationalised and/or consolidated. The task force will also look for ways to make procedures simpler and more transparent. For instance, clearances with straightforward decision-making criteria could be automated. The task force could also classify clearances into buckets to be tackled at various levels of bureaucracy. To simplify the approval process, the Government will need to cut down the vast number of regulations that currently apply. Mexico used a fairly radical approach for doing this. A 'deregulation czar' was appointed; any citizen wanting a regulation to be discarded could approach the 'czar'. This official was obliged to review the regulation and give a decision within 45 days. If no decision was forthcoming at the end of this period, the regulation was automatically scrapped. The State Government could consider a similar initiative.

### **Accurate and comprehensive information systems**

The most effective way to speed up business processes is to provide accurate, computerised information systems. The Government will need to invest significantly in collecting accurate and appropriate data and building computerised databases from which information can be quickly accessed. For example, since lack of information is the biggest bottleneck in land identification and acquisition, the Government could collect data and maintain readily useable, computerised databases on land ownership, project-suitable land, the availability of water and power, etc., to facilitate the land identification/acquisition process and prevent disputes.

The Electronic Government initiative will greatly simplify procedures (see Chapter 28, 'People-Centred, Growth-Oriented Governance'). It will help provide instant,

accurate information, ensure transparency and improve speed of response. Investors will be able to access publicly available electronic databases to find out the details necessary for the approval of an investment proposal. They can track the status of their applications online and get instant feedback on whether a particular application is in the correct format. Currently, a key reason for procedural delay is that forms are not submitted in the proper format. This happens mainly because the correct format is not widely known.

### **Empowered bureaucracy**

Once clearances have been rationalised, streamlined, selectively automated and classified into various buckets, the Government could empower administrators at various levels to sanction clearances. The range of an administrator's discretionary powers would be minimised and clearly defined. This will reduce the pressure on the State Government departments and the head offices of the relevant agencies that today have to approve even the most minor clearances. This will reduce file-pushing and red-tape and hence ensure quicker processes.

### **Changed mindset towards investors**

Regulation reform is not all that is needed to facilitate business in the State. What is also needed is a change in the bureaucracy's mindset towards business and investors. The bureaucracy should now look on investors as partners in progress. This calls for a change in the entire approach to serving the customer ranging from providing helpful directions and information on procedures and clearances required through an 'investor services centre' to changing the way staff deal with customers.

By reforming and simplifying its procedures in this way, Andhra Pradesh will soon make itself the best Indian state to invest in.

# Revitalising Agriculture

Agriculture is the lifeline of Andhra Pradesh's economy. The sector contributes over a third of the State's GSDP and provides a livelihood for over 70 per cent of its population. Above all, the State has massive strengths in agriculture, including a varied climate, water resources and soil that make it possible to grow a variety of crops here, and a large coastline that facilitates exports. The State will build on these strengths to develop a strong and vibrant agriculture sector.

By 2020, Andhra Pradesh will be a powerhouse of Indian agriculture, with a well developed, efficient and productive allied sector and strong agro-industries. The agricultural sector will have shifted to a high growth trajectory and will be more than four times its current GSDP. All regions will enjoy agricultural development; and balanced regional development and equity will have changed the face of rural Andhra Pradesh.

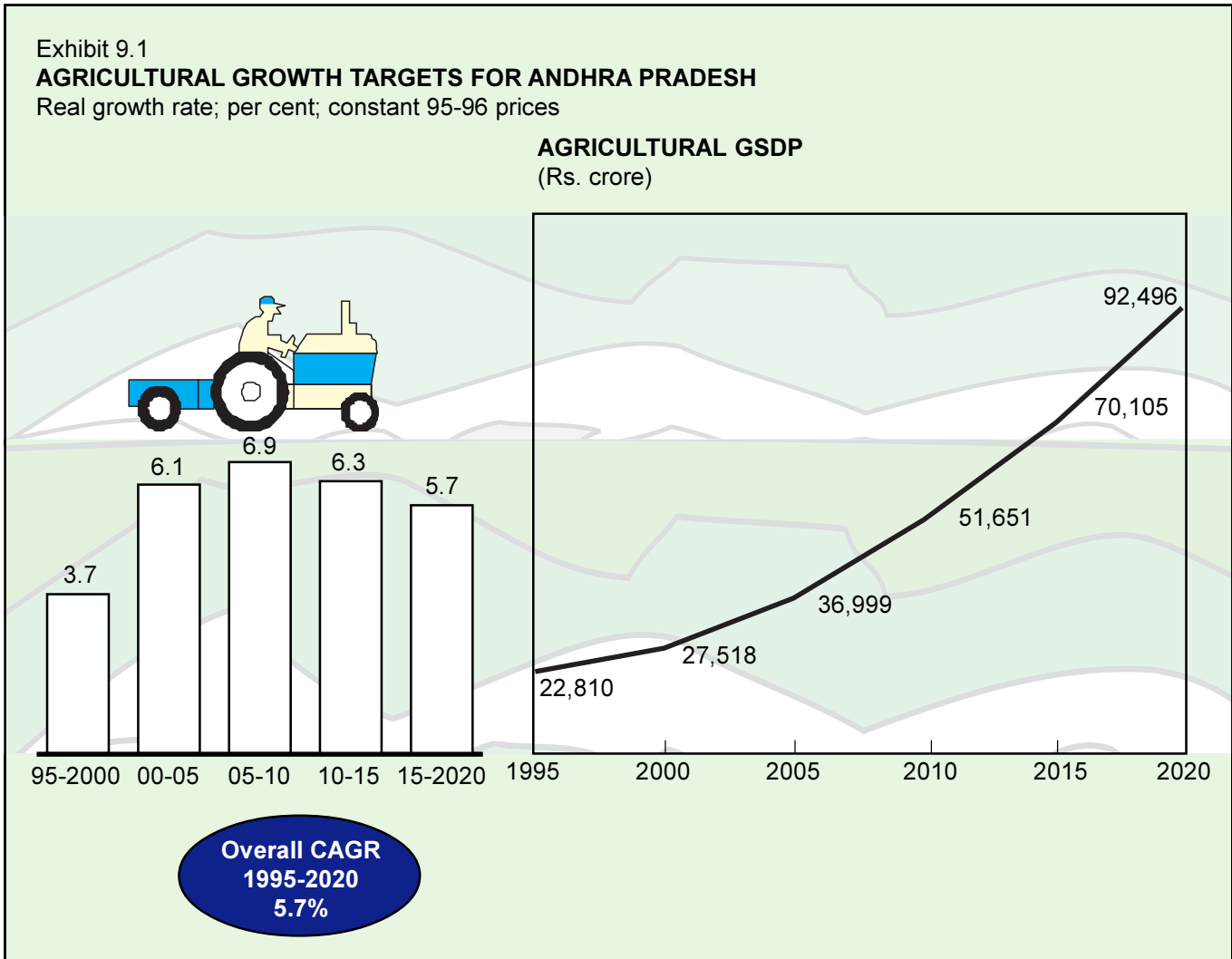
To achieve this vision, the State will aggressively pursue strong agricultural growth, including employment generation, and target the levels of investment needed.

- **Growth:** Agriculture will experience a quantum leap in growth, achieving an average annual growth rate of 6 per cent in real terms over the next 25 years. This will bring about a four-fold increase in agricultural GSDP from Rs.22,810 crore in 1995-96 to over Rs.90,000 crore in 2020-21. (**Exhibit 9.1** shows growth rates over different periods till 2020.)
- **Employment:** The strategy in each sector of the economy aims to generate employment along with growth. The strategy for agriculture will certainly create

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*Andhra Pradesh will be a powerhouse of Indian agriculture, with a well developed, efficient and productive allied sector and strong agro-industries.*

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new jobs, especially in the allied sector. However, agriculture’s share of employment will actually reduce, from the current 70 per cent to 40-45 per cent, in line with a shift in Andhra Pradesh’s economy. As economies grow, the focus of economic activity shifts from primary activities to those that lead to greater value-addition. As Andhra Pradesh’s economy develops, it will follow the same pattern, shifting from a predominantly agrarian to an industry- and services-led economy. As a result, more and more jobs will be created in industry and services as compared to agriculture. This process will be complemented by a shift of surplus labour from agriculture to other sectors as agriculture itself becomes

more productive, efficient and technology-intensive, and moves from being a subsistence activity to an economic one.

- **Investment:** Achieving the growth envisaged for the agricultural sector will require significant investment. The State will need to invest around Rs.70,000 crore until 2010, while the total investment until 2020 will be roughly Rs.1,60,000 crore<sup>20</sup>.

In addition, a major element of achieving the vision for agriculture will be ensuring that women gain their share of the benefits of development. While the status of men and women is markedly unequal in all spheres of the economy and society, in agriculture, in particular, it is highly inequitable. Men are generally seen as more qualified and, therefore, are targets for extension and skill training. Technological innovation invariably benefits men more than women, who remain restricted to low-skill jobs such as transplanting and weeding. As a result, though agriculture in the State employs a large number of women, the quality of work and, therefore, the pay they receive, are well below those of men. To improve the status of women, careful strategies will be developed to build their skills and ensure that they also receive the benefits of technology.

To realise its vision, the State will pursue a strategy aimed at the integrated development of the agriculture sector. Three major imperatives will be harnessing water resources; developing agriculture in rain-fed areas and spurring growth through policy reform. In addition, the State will focus on developing the growth engines identified for the agriculture sector.

## HARNESSING WATER RESOURCES

The development of water resources is critical to several aspects of the State's development. Irrigation has been the key force behind the agricultural revolution in the State—yields of food grains and other crops have almost trebled under irrigated conditions. Increased and assured irrigation leads to greater investment in inputs by farmers, a shift to high-value crops, intensification of agriculture and increased employment. Irrigation, therefore, can be considered a lead input in agricultural and rural development. Irrigation also ensures the availability of potable water to all urban and rural areas in the State and water supply for industries. In

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<sup>20</sup> All figures are in constant 1995-96 prices.

addition, the creation of dam and reservoir infrastructure helps in power generation and, more importantly, helps in protecting against natural calamities like floods and droughts.

Accordingly, investment in irrigation infrastructure has been a priority of the State. Successive five-year plans have emphasised the need for greater investment in the irrigation sector and plan outlays on irrigation have increased from Rs.62 crore in the Second Plan to Rs.3,186 crore in the Eighth Plan. This has expanded the net irrigated area from 1.5 lakh hectares to around 59 lakh hectares today. This has greatly increased the productivity of the land, leading to a substantial impact on agricultural and industrial growth, incomes and employment.

However, to achieve Vision 2020 of fully harnessing the irrigation potential of the State, more needs to be done. In a predominantly agricultural economy like Andhra Pradesh's, achieving the levels of growth targeted will not be possible without a considerable emphasis on better water resource management. This will require the following approach:

- Realising the maximum irrigation potential of the State.
- Improving the efficiency of the existing irrigation network.
- Managing water resources better through stakeholder participation.

### **Realising the maximum irrigation potential**

Andhra Pradesh is blessed with many major rivers, the most important being the Godavari, Krishna, Vamsadhara and Pennar. The State's share of dependable flows from these river systems is estimated to be 2,746 thousand million cubic feet (TMC). This breaks up into 1,495 TMC from the Godavari river system, 811 TMC from the Krishna, 98 TMC from the Pennar and the rest from other smaller rivers.

By 2020, efforts will be made to harness all of Andhra Pradesh's utilisable water. To realise the full potential of water resources, both surface and ground, the State will construct and complete major and medium irrigation projects wherever feasible. In upland areas where there is no potential for major projects, minor irrigation and lift schemes will be promoted. Several major and medium projects are already on the anvil and the State has begun the mobilisation of financial resources from external agencies like the World Bank, the Overseas Economic Cooperation Fund (OECF),

Japan, and the National Bank for Agricultural and Rural Development (NABARD). In addition, the State has also floated 'Irrigation bonds' to complete ongoing projects.

Going forward, the State will take effective political and legal steps to expedite the completion of pending projects and ensure its due share of water from interstate rivers. The State has already set up a separate organisation to exclusively deal with interstate matters. Central clearance has already been obtained for five important schemes: Krishna delta modernisation, Pulichintala project, Bhima lift scheme, Sriramsagar Project (SRSP) Stage-II and the Flood Flow canal from SRSP. Efforts will be made to obtain clearances for all remaining major and medium projects, the important among them being Lendi, Janjhavati, Bahuda, Penganga, Vamsadhara Stage II, Inchampally, Veligonda and Polavaram.

The major irrigation development strategy for Andhra Pradesh will be focused on completing ongoing projects in the drought-prone and backward areas and will comprise the following elements:

- **Godavari waters for the Telangana region:** Out of the dependable flows of the Godavari system, 720 TMC has been utilised so far. The balance 775 TMC has still to be tapped. If utilised, this can irrigate more than 23.5 lakh acres of backward and drought-prone lands in the State. To realise the potential of water from the Godavari, the State will endeavour to construct the proposed Inchampally and Polavaram projects from which 530 TMC can be tapped. The completion of the Sriramsagar project, Flood Flow canal and the SRSP Stage II schemes, the augmentation of water to the Nizamsagar command and the execution of all feasible medium and minor schemes will help harvest the remaining potential.

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*The State will take effective steps to expedite the completion of pending irrigation projects and ensure its due share of water from interstate rivers.*

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To achieve this, several problems need to be addressed. The Godavari flows at a low level (below 100 metres) while lands to be irrigated are situated at a much higher elevation (contour 300 to 500 metres). The river water carries a considerable volume of silt, so any reservoir across it loses considerable capacity very fast. Furthermore, any reservoir across the river would involve submersion of valuable forest areas (some of it in other states) and coal deposits. Wherever large projects involve such problems, innovative strategies can be used to harness water resources. To illustrate, several small dams can be constructed to avoid submersion of larger areas, or reservoirs can be built on the mainland to retain the storage capacity envisaged. By pumping Godavari water into these reservoirs, vast stretches of dry land in the Telangana region can be irrigated.



- **Krishna waters for Rayalaseema, Southern Telangana and Prakasam district:**

The allocated dependable supply of Krishna water is almost fully harnessed through the construction of several reservoirs and barrages (Nagarjunasagar, Prakasam barrage, Priyadarshini Jurala, Srisailem, etc.). Therefore, the focus here will be to utilise flood flows to increase the irrigated area through canal and lift projects like Srisailem Left Bank Canal (SLBC), Bhima, Nettampadu and Kalwakurti lift irrigation in the Telangana region; and the Telugu-Ganga project, Tungabhadra high level parallel canal, Galeru Nagari, Hundri Neva, Sri Guru Raghavendra Swamy and Chitravati Reservoir schemes in Rayalaseema; and Veligonda in Prakasam district. These projects will increase the 'ayacut' (area irrigated under an irrigation scheme) by 8 lakh hectares.

In view of the increasing demand for Krishna water and upstream utilisations, it has become necessary to modernise the Krishna delta system. The State will construct the Pulichintala project to ensure early release of water to the Krishna delta and prevent surplus water from flowing into the sea and hence being wasted.

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*A major component of the strategy to utilise water resources will be to maximise the storage and utilisation of floodwaters.*

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- **Pennar flood waters for Nellore and Chittoor region:** Waters of the Pennar river basin are being utilised to the maximum extent in Nellore and Chittoor districts through the Somasila, Kandaleru and Pennar delta systems. The ayacut area is around 5.64 lakh hectares. Efforts will be made to utilise surplus waters of the river to further improve irrigation in the region.

- **Vamsadhara, Janjhavati and Bahuda water for North Andhra:** The rivers Vamsadhara, Janjhavathi and Bahuda flow through the poorly irrigated districts of Srikakulam and Vizianagaram. In order to tap the irrigation potential of these rivers, the State will execute the Vamsadhara Project, Janjhavati project and the Bahuda Barrage Scheme.

Andhra Pradesh is prone to floods. Therefore, a major component of the strategy to utilise water resources will be to maximise the storage and utilisation of floodwaters. This will be done by constructing intermediate storage reservoirs, check dams and percolation tanks and by encouraging contour bunding to arrest rainwater. To minimise the recurring losses to farmers in the delta areas, the State will undertake strengthening of all the flood banks of the major rivers (2,100 km) and also improve the entire drainage system (10,500 km).

## Improving irrigation efficiency

Irrigation efficiency is a measure of the water that finally reaches the fields compared to the water released from the dam. Currently, irrigation systems in the State function at only 35-40 per cent efficiency. This compares poorly with both the internationally accepted standard of 57 per cent as well as the best practice efficiency of nearly 70 per cent achieved by the superior irrigation systems of Israel. The main causes of poor irrigation efficiency are poor maintenance of the surface irrigation network and the use of outdated irrigation technology. Therefore, efforts to improve irrigation efficiency will aim to:

- **Improve maintenance:** Currently, most surface irrigation schemes are in a state of disrepair: many canals are heavily silted, linings are punctured or missing, and outlets are damaged. The main reason for such poor maintenance is the inadequate emphasis on operations and maintenance (O&M). Current O&M budget allocations are inadequate to maintain the system to the extent required. The first priority of the State, therefore, is to ensure that current irrigation systems are well maintained. This will be achieved by ensuring better recovery of operating costs and increasing O&M allocations. A key step in this effort will be to enlist the help of users themselves. Initiatives on this front are described in the section below.
- **Enhance technology:** New technologies will be introduced to enhance the productivity of water use across the irrigation chain. Water distribution will be made more efficient by adopting new technologies such as the use of an Irrigation Information System to establish timely and reliable water supply. Watershed management techniques will be further improved to enhance water conservation. More importantly, new irrigation technologies such as dynamic control systems and sprinkler and drip irrigation will be promoted to reduce wastage in the application of water resources.

Another area of improvement is the gap between the irrigation potential created (the planned command area) and utilised (the actual irrigated area). Currently this gap is between 20-25 per cent on an average. It can be bridged through the standardisation of canals, drains and field channels so that the entire command area is irrigated. Also, agricultural extension programmes will have to be taken up to enable farmers to follow appropriate cropping patterns.

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*The first priority of the State is to ensure that current irrigation systems are well maintained. This will be achieved by ensuring better recovery of operating costs and increasing O&M allocations.*

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### **Involving stakeholders for better water management**

Involving the users in the management of their common resources is the best way of ensuring effective local management. Recognising this the State has made a pioneering move to create Water Users' Associations (WUAs) under the Andhra Pradesh Farmers' Management of Irrigation Systems Act, 1997. Through these WUAs, the stakeholders are involved in the maintenance and management of irrigation systems. WUAs have been created at the primary level, and distributory committees and project-level committees at the distributory and project-level respectively. Currently, 10,292 WUAs and 174 Distributory Committees are functioning in the State.

The primary task of these WUAs is to manage (i.e., operate and maintain) water resources. This not only involves raising funds for maintenance but also supervising works, deciding on water allocation and improving services. This will help break the vicious cycle of poor cost recovery (around 56 per cent) leading to poor maintenance and unreliable irrigation services. These WUAs would also be strong forces in encouraging water conservation through committed participation in watershed development programmes, establishing water markets for varied uses such as floriculture, greenhouses, etc., and promoting agricultural extension. The WUAs could also play a critical role in spreading awareness of alternate irrigation systems such as drip and sprinkler systems for horticulture, for example, where the entire field need not be flooded with water.

Immediate priorities for the State will be to strengthen the WUAs, and train and improve the capabilities of their members. Over time, these WUAs will progressively take higher responsibility for effective management of the entire irrigation system.

Harnessing water resources as envisaged will require an investment of Rs. 1,25,000 crore and power of about 9,000 MW. Committing these resources will enable the State to utilise 856 TMC of dependable water and 300 TMC of flood flow water available in the State, 50 per cent of which would need to be pumped to a height of 100-300 metres to lands situated at higher elevations.

To supplement the focus on irrigation, the Government will also ensure that the agriculture sector is provided with adequate and high quality power on priority.

## DEVELOPING AGRICULTURE IN RAIN-FED AREAS

Most development strategies for agriculture have focused predominantly on irrigated areas. These areas have benefited immensely from the 'Green Revolution', use modern technology, have high productivity and are generally prosperous. However, to realise the goals of equitable development and growth of 6 per cent per annum for the next 25 years, the focus needs to shift to developing the backward, drought-prone and rain-fed areas (also referred to as dryland areas) which form roughly 60 per cent of the total gross cropped area. These areas get their water only from rainfall or ground water and, therefore, do not have assured irrigation.

Furthermore, the population of these areas suffers from high poverty levels and is beset with the myriad problems that poverty brings: malnutrition, illiteracy, poor employment opportunities and the ensuing social tensions. Focusing on developing these rain-fed areas will, therefore, yield a two-fold benefit: it will add significantly to agricultural GSDP and spur growth, and it will significantly reduce poverty in these regions.

The strategy to harness water resources will have a considerable impact on rain-fed areas since it will address a critical need: improving irrigation in these areas. In addition, the State will need to promote agriculture in these areas by providing options suitable to dryland conditions.

Agriculture in rain-fed areas is constrained by small, uneconomical land holdings, low crop productivity, lack of assured supply of inputs, lack of technologies and cropping systems suited to dryland conditions, poor resources and inadequate extension and support services. The initiatives to encourage agriculture in dryland regions will therefore include:

- **Promoting soil conservation strategies to prevent land degradation:** When precipitation is heavy, water is lost as 'run-offs'. This erodes the soil and lowers its fertility. Hence, soil conservation strategies are important. Some soil conservation technologies include establishing live bunds, using deep ploughing techniques, and establishing ridges and furrows. These technologies need to be extended to farmers.
- **Orienting research towards the development of dryland agriculture:** This can be achieved by emphasising, for example, the development of seed and crop varieties that can withstand drought, and by promoting location-specific technologies that suit local resources and the environmentally heterogeneous

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*To realise the goals of equitable development and growth, the focus needs to shift to developing the backward, drought-prone and rain-fed areas.*

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drylands. Other measures include developing a communications network with the farmers, understanding their needs and, accordingly, providing extension services to them. Research in dryland horticulture also needs to be promoted.

- **Promoting allied sector activities:** Activities that are not land or water intensive, like poultry, dairy, and livestock, are ideal for the drylands. Furthermore, they provide more secure livelihoods than agricultural activity, which is seasonal, especially in areas where less than two crops are grown in a year.
- **Ensuring availability of inputs:** The State will need to ensure that high quality inputs—seeds, pesticides and fertilisers—are available to farmers in rain-fed areas. Since these areas are fiscally poor, innovative measures will need to be encouraged, such as the use of biofertilisers or organic manure.
- **Promoting crops and cropping patterns suited to dryland conditions:** Research and extension for agriculture in these regions should focus on crops and cropping patterns that can withstand dryland conditions. Horticulture, for example, is very suitable to dryland areas: it can be sustained through irrigation systems that conserve water such as drip irrigation.

The growth of Andhra Pradesh's agriculture will also hinge on appropriate policy reform. This will require a comprehensive review and rationalisation of legislation relating to agriculture.

### REFORMING POLICY TO STIMULATE GROWTH

Policy reform should aim to achieve three critical goals of the growth agenda: large, sustained investments in agriculture, especially by the private sector; increased participation by the people (i.e., local bodies and the community) in the management of local resources and the provision of services; and the protection of the environment and public interest. To this end, Andhra Pradesh will:

- Create a policy framework that induces growth, encourages private investment, and fully utilises natural resources.
- Encourage people's empowerment and participation through appropriate reform in institutions and governance.
- Ensure the protection of the environment and public interest through suitable regulation on environmental issues and quality control.

## Encourage growth and investment

As stated earlier, to achieve the targeted agricultural growth of 6 per cent per annum in real terms, investments of around Rs.1,60,000 crore will have to be made by 2020 in various areas of agriculture. These include irrigation facilities, roads and transportation, marketing and distribution infrastructure, superior quality inputs, modern technology, research and extension services, and credit.

Since government resources are limited, a large part of these investments will have to come from the private sector. All the three types of private players in agriculture—corporations, co-operatives and individual farmers/entrepreneurs—have a significant role to play in agricultural development. Agricultural policy, therefore, must ensure that these players are induced to invest.

In general, this will mean framing policy to ensure freer and more efficient markets and pricing for agricultural inputs as well as produce (e.g., reducing restrictions on the rice market); stable policies for export of agri-based commodities (e.g., a long-term rice export policy) so that export markets can be systematically developed; access to credit; promotion of agro-industry and the provision of infrastructure (e.g., reduction of excise/customs duties on cold storage equipment, amendment of the Cold Storage Act), etc.

Similarly, to promote corporate sector investment, the State needs to act on many fronts: foster a direct relationship between farmers and corporations through such measures as contract farming; rationalise taxes; and provide incentives to boost large-scale investment in agro-industry (e.g., removing sales tax on processed food).

The co-operative sector will be able to invest in agriculture only if co-operatives are run efficiently and profitably. To encourage investment from this sector, the State must therefore put in place appropriate policies to make co-operatives autonomous so that their operational decisions are based on sound business principles. The Mutually Aided Co-operative Societies Act, 1995, is a step in the right direction. This legislation must be implemented in letter and in spirit.

To encourage investment by individual farmers, several policy reforms are required. The most important will be to improve access to credit, especially for small and marginal farmers and 'tenants', who form the largest proportion of the farmer community. Today, the formal credit system, consisting of a network of regional rural banks, rural branches of commercial banks, and co-operative banks, is meant

to provide subsidised credit but does not adequately cover these sections of the farming community.

The formal system is impersonal, involves excessive paperwork (associated with the rationing of subsidised credit) and requires proof of asset-ownership. Many of these farmers do not have assets to show, particularly tenant farmers, most of who are unrecorded tenants. With no tenancy documents to show, 'share-croppers' are unable to get credit from the formal credit system and so must turn to the informal but high-cost moneylender. To improve access to low-cost credit, the State must encourage options such as group lending, community credit, etc. Another initiative could be appropriate policy reform to ensure that farmers can gain access to credit.

In addition to encouraging private investment, the State must frame policies to ensure full and optimal utilisation of Andhra Pradesh's natural resources. The most important of these is appropriate water management. This requires a shift from the subsidised, government-managed irrigation system to a system managed by farmers' organisations and focused on recovering operating costs. The new system would allow the pricing of water resources to reflect the cost of operation and maintenance (O&M) of canals and dams. This will discourage sub-optimal use of water resources.

A second area for legislation is the optimal utilisation of land. The State must enact laws to bring wastelands and fallow lands into productive use. This will require substantial investments and the State will have to think through various innovative mechanisms to develop these lands. One method could be to create a business entity, in which the Government has an equity share, to develop these wastelands. The Government equity could be distributed among landless labourers.

### **Decentralise governance and ensure people's empowerment and participation**

Development experience the world over has shown that the management of local resources for agricultural development is best left to the users themselves. This not only reduces the burden on the Government but also increases the users' sense of responsibility towards optimal management of resources. Andhra Pradesh has recognised this and has enacted legislation to enable participatory management of resources. The formation of Water Users' Associations to achieve optimal utilisation of water resources from major and medium irrigation projects is a case in point. These are associations of farmers who collectively determine the optimal distribution and use of water between themselves.

Another example of such decentralisation is the increased community involvement in managing forest resources through the formation of 'Vana Samrakshana Samitis'. These mechanisms could be extended to a number of other areas such as the provision of credit and extension services, watershed development, and the management of regulated markets.

### **Protect the environment and public interest**

Here, the State will have a two-pronged role to play: ensure conservation of resources, and protect social interest. With regard to conservation, the State will selectively regulate use of groundwater potential (based on published water table data), promote conjunctive usage of surface and ground water, particularly in irrigated command areas to prevent salinity, and undertake watershed development in a major way. In its second role, the State will need to clearly define regulation wherever social concerns or environmental considerations affect the development of major and medium irrigation projects.

The State will also frame regulation to set and enforce quality control and standards. Today, different government departments enforce various laws governing quality control and standards giving rise to multiple interfaces with the Government's administrative machinery. This causes innumerable delays and much inconvenience in obtaining clearances for setting up an agro-industrial unit. The State will ensure that, while the enforcement of quality control and standards is given the importance it deserves, procedures for obtaining clearances will be made transparent, convenient and quick.

### **DEVELOPING HIGH POTENTIAL SECTORS**

Andhra Pradesh will identify sectors with high potential for growth and for creating value-added employment and focus on developing them. These will be the growth engines for the agricultural sector and will comprise rice, poultry, dairy, horticulture, fisheries and agro-industry. In addition, the State will focus on developing other areas in which it has considerable strengths such as fisheries, seeds, oil-seeds, cotton, sugarcane, tobacco and maize.

The strategy for each of the agriculture growth engines is laid out in the next six chapters.



## CHAPTER 10

# India's Rice Bowl

Rice is of key importance to Andhra Pradesh's economy and its people. It is the staple food of the State's people. It provides a livelihood for many of them; 70 per cent of the State's population earns a living from agriculture, a large percentage of it from growing rice. Rice is grown in all parts of the State, in all seasons and in all kinds of soils. Almost 28 per cent of the gross cropped area and 50 per cent of the area under food crops is under rice cultivation. Rice accounts for almost a quarter of the state's agricultural GSDP and is the single biggest contributor. Developing this sector will therefore have a widespread impact on the lives of the people and on the economy.

Andhra Pradesh has significant strengths in rice production: enjoying the right conditions for growing rice, it is one of the top three rice-producing states in the country and accounts for about 12 per cent of the nation's total rice production. In terms of yields, in 1995-96, it ranked third in the country after Tamil Nadu and Punjab.

Furthermore, there is considerable potential for improving the sector. Though yields have increased significantly over the last 15 years, there is potential to raise them further. At 2,500 kg/hectare, current yields<sup>21</sup>, though higher than the Indian average of 1,849, are 26 per cent lower than those of Tamil Nadu and 20 per cent lower than those of Punjab. They are as much as 38 per cent below those of China, another large rice-producing country.

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<sup>21</sup> All figures for 1995-96.

In addition, there is a potential opportunity for rice exports from India. Andhra Pradesh's rice sector can benefit enormously if it taps this opportunity well.

A strong focus on improving yields and productivity, as well as reducing regulation, will make rice a strong contributor to economic development.

By 2020, Andhra Pradesh will be the 'Rice Bowl' of the country, one of the largest and most efficient producers of rice in India. It will also spearhead India's rice exports. The growth of this sector will have considerably increased agricultural incomes and reduced poverty, particularly in rural areas.

To achieve this vision, Andhra Pradesh will:

- Focus on improving yields
- Develop export markets
- Support the development of the sector by building infrastructure, reviewing and reforming regulation, if necessary, and investing in research, development and extension.

## IMPROVING YIELDS

Increasing productivity (i.e., raising yields) is the vehicle for development of the rice sector. Rice production can be increased either by increasing the area under rice cultivation or by increasing the productivity of current cultivation. Given the pressure on agricultural land and the competition from other, more lucrative crops, it may be difficult to significantly increase the land under rice cultivation. In fact, this has actually decreased in the last seven years. The only solution, therefore, is to increase the productivity of the area currently under cultivation. This will lead not only to increased production but also to more efficient production.

Three main factors affect rice productivity: irrigation; research and development and its extension to the farmer; and the availability of credit.

### Irrigation is the most important factor in rice yields

To grow well, rice requires a considerable amount of water. However, only 50 per cent of the area under rice cultivation has assured irrigation. Statistics show that

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*Andhra Pradesh will be the 'Rice Bowl' of the country, one of the largest and most efficient producers of rice in India.*

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yields of rice grown on irrigated land can be almost 100 per cent higher than those of rice grown on unirrigated land. Obviously, to improve yields, it is absolutely essential to increase irrigation. This means not only creating more irrigation potential but also ensuring that it is fully and effectively utilised.

There is significant scope for improvement in the way water resources are used. Today, while several major and medium irrigation projects have been completed, their full potential has not been utilised because the field channels necessary for irrigating the command area have not been created. The gap between irrigation potential created and utilised is, in many cases, as large as 20-25 per cent. Moreover, existing canal works are not maintained well leading to a decline in their efficiency. Added to this, subsidised water rates and inadequate knowledge about optimal water use lead to poor water management by farmers. Fully utilising irrigation potential thus calls for improving the operation and maintenance of the existing canal network, tanks and other water bodies. In parallel, rice farmers should be trained in proper water usage and involved in the upkeep of the water bodies. The setting up of the Water Users' Associations is a step towards achieving this objective.

A related factor is drainage. In the delta areas, yields are affected due to excessive water-logging. Drainage improves yields substantially.

### **R&D and extension are also important**

Research and development are crucial to create and deliver a package of technology suitable to the farmer's conditions. R&D, particularly adaptive research, is necessary to develop new technologies such as *new* high-yielding varieties, suited to particular conditions. For example, farmers in an area infested by a particular kind of pest should be able to use seed resistant to that pest. Similarly, farmers in drought-prone regions or in water-logged areas should use seed varieties that can withstand these conditions. The State will encourage the use of biotechnology to spur research of this kind.

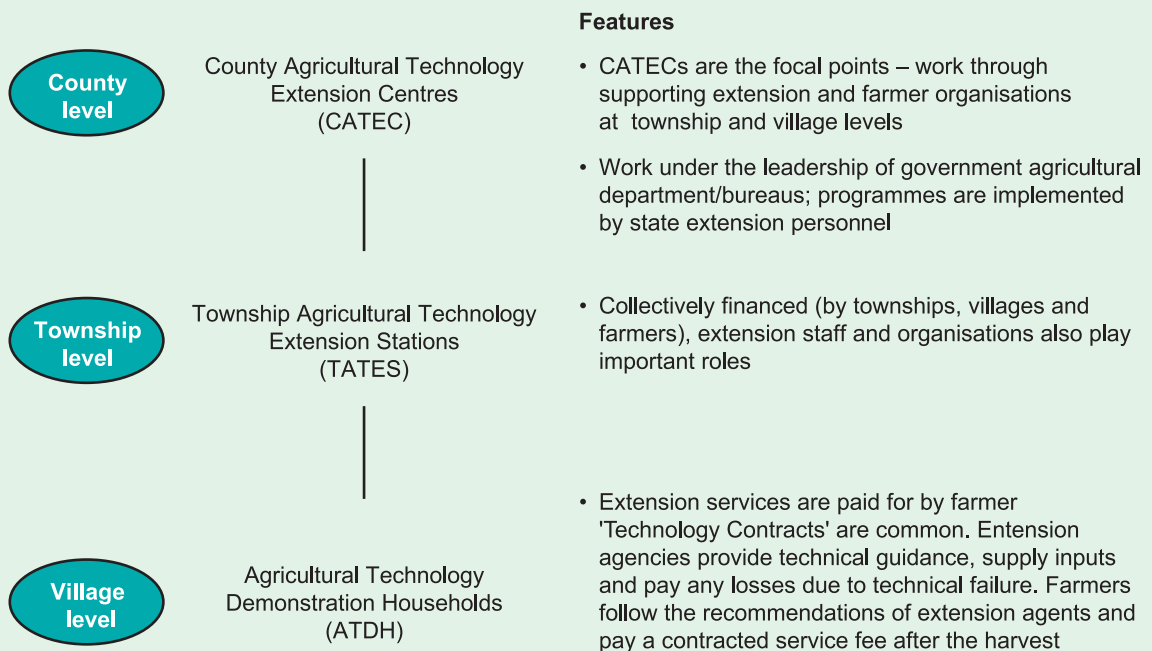
Furthermore, to be truly useful, the research carried out needs to be extended to the farmer. Effective extension services are extremely critical for improving rice yields. A large part of the credit for China's high rice yields goes to its well-developed extension system (**Exhibit 10.1**). Extension services include not only instructing farmers on the correct cropping 'package' they should use (which seeds, fertilisers, pesticides, how much, and when), but also educating them on good farm and crop

management practices, e.g., on correct plant population density<sup>22</sup>, appropriate post-harvesting technologies, and correct water and soil management practices.

### Credit must be available

The third factor that affects productivity is the timely availability of credit. Most farmers secure working capital (to buy seeds, fertilisers, pesticides, etc.) through borrowings. While large farmers can access subsidised agricultural credit from

**Exhibit 10.1**  
**EXTENSION IN CHINA THROUGH RURAL HOUSEHOLD CONTRACT RESPONSIBILITY**



Source: Article on Internet by Yan Yinghui National Agro-Technology Extension Centre, Ministry of Agriculture, Beijing

<sup>22</sup> Plant population density refers to the spacing of the rice seedlings in the field. To maximise yields, this spacing must be optimal.

commercial banks or credit co-operatives, small and marginal farmers prefer the informal sector (money lenders, private traders, fertiliser/pesticides dealers) since it is easier to get credit from these sources. However, the interest rates on such loans are very high, varying from 24 per cent to 75 per cent a year. This raises the cost of cultivation and prevents farmers from using the best inputs.

A different problem is the difficulty in obtaining credit for the many farmers who do not own their land, but are unregistered 'tenants' or 'share-croppers'. Since they do not have land titles or tenancy rights, they cannot secure credit from the formal sector, i.e., co-operative and commercial banks. Thus, they either fall back on the high-cost informal credit systems or invest minimally in inputs. This affects yields.

## DEVELOPING EXPORT MARKETS

Rice exports can be a long term opportunity for Andhra Pradesh. India has now allowed the export of non-basmati rice. Today, the United States, Thailand, Vietnam and Burma dominate non-basmati rice exports. (However, since it is a staple food, exporting rice will be appropriate only after domestic consumption needs are met.)

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*Rice exports can be a long term opportunity for Andhra Pradesh.*

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In the long term, WTO agreements will open up more markets for Indian rice. For instance, until 1994, Japan had banned rice imports to protect its farmers. But after becoming a WTO signatory, Japan has agreed to open up 4 per cent of its market, which amounts to around 1 million tonnes. Properly developed, this could be an important market for India.

However, exports from Andhra Pradesh are restricted, especially during the *kharif* harvest season when there is excess supply of rice in the market. Significantly, this is also the season for major world trade activity.

Therefore, to capitalise on the export opportunity, Andhra Pradesh will need to allow exports in addition to actively developing export markets. This will require two main initiatives: building skills and creating infrastructure.

Tackling export markets requires different skills. First, since rice distribution, marketing and importing are still regulated in many countries, exporters will need to thoroughly understand import regimes and practices in all major importing countries. They also need to maintain up-to-date knowledge of prevailing international prices. These are highly variable compared to domestic prices which

are regulated and stable. This variability increases the farmer's/trader's risk; they must be aware of and willing to bear this risk. Exporters must also understand consumer preferences in the importing country. The Japanese consumer, for example, prefers *Japonica* rice, whereas India grows the *Indica* variety. Exports also require a focus on quality and superior packaging.

To develop exports, Andhra Pradesh will also need to build its port infrastructure. Today, most exports take place through Kakinada, Visakhapatnam and other ports. These ports are congested, resulting in long waiting periods. This drives up costs and makes Indian exports uncompetitive.

## **SUPPORTING THE DEVELOPMENT OF THE SECTOR**

The Government will need to undertake several initiatives to encourage the development of the rice sector. These include building infrastructure, reviewing and reforming regulation, if necessary, spearheading research and development and extension and developing strong institutions to facilitate exports.

### **Building infrastructure**

A major priority will be to develop irrigation infrastructure. The State Government has allocated almost Rs.6,000 crore to irrigation in the Ninth Plan. These funds will be used to complete existing major projects and start new viable projects. Sufficient investment must also be made in developing field channels so that all the irrigation created is utilised. In addition, the Government needs to encourage investment in minor irrigation projects. It should also strengthen the newly formed Water Users' Associations, by guiding them and monitoring their activities, to create aware and empowered farmers who will not only use water more wisely but also help themselves in meeting their irrigation needs.

Apart from irrigation infrastructure, the State will also need to develop its port infrastructure to facilitate exports. This will entail increasing bulk handling capacities, reducing waiting periods, etc.

### **Facilitating R&D and extension services**

The Government will facilitate the development of R&D institutions to develop new rice varieties, tools, equipment and technologies. It will co-ordinate with the Indian Council for Agricultural Research and other Central agricultural research

Exhibit 10.2

**KEY REGULATIONS ON RICE**

Regulation/ restriction	Feature	Imposed by	Original rationale	Current status/effect
<ul style="list-style-type: none"> <li>Restriction on movement of rice/paddy</li> </ul>	<ul style="list-style-type: none"> <li>Ban on inter-district and inter-state movement of paddy/rice</li> </ul>	<ul style="list-style-type: none"> <li>State Government</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate Government procurement</li> </ul>	<ul style="list-style-type: none"> <li>Depresses prices in rice-surplus districts and rice-surplus AP in general</li> </ul>
<ul style="list-style-type: none"> <li>Restrictions relating to storage of rice/paddy</li> </ul>	<ul style="list-style-type: none"> <li>Limits on stocks of rice/paddy held by millers/dealers</li> <li>Limits on stocks of paddy held by farmer (excess to be bought by Govt. at notified price)</li> </ul>	<ul style="list-style-type: none"> <li>State Government</li> </ul>	<ul style="list-style-type: none"> <li>Discourage hoarding/speculation due to food scarcity in mid-sixties</li> <li>Facilitate Government procurement</li> </ul>	<ul style="list-style-type: none"> <li>Prevents farmers from stocking and waiting for better prices</li> <li>Millers refuse to purchase from farmers in the flush post-harvest season, driving down paddy prices</li> </ul>
<ul style="list-style-type: none"> <li>Procurement (levy) Order</li> </ul>	<ul style="list-style-type: none"> <li>Miller to sell                             <ul style="list-style-type: none"> <li>– 50% of processed rice to Govt. at 'procurement price'</li> <li>– 25% within AP only</li> <li>– 25% outside AP</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>State Government/ Central Government</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate Government procurement</li> </ul>	<ul style="list-style-type: none"> <li>Affected millers pass the losses to the farmers by paying less</li> <li>Farmers suffer because MSP barely covers cost of cultivation</li> </ul>

\*Procurement price = Minimum Support Price and milling charges. MSP is the minimum price at which the miller must pay the farmer

organisations as well as the State Agricultural University to spearhead research in line with the requirements of a particular location. One model that can be followed is that of contract research.

The State will also need a strong extension system. This will require a community training approach (as opposed to individual point-to-point contact) and should involve local NGOs to maximise acceptance.

Vocational schools should be set up to train the extension agents so that they can transfer technology and educate the farmer effectively. Vocational courses should

also be arranged for farmers to help supplement their knowledge of good farm management practices.

### **Promoting exports**

As discussed earlier, exporting rice requires skills different from those required for marketing and distributing rice in the domestic market. To develop these skills, an institution dedicated to exports promotion should be set up in due course. This institution will provide information on international prices, practices and consumer preferences in different markets, the internal demand and supply situation of different countries (which country's crop has failed, which country has surplus rice, in a given year) and provide assistance to exporters for marketing their rice. It will also sponsor research on new varieties demanded by international customers.

The pay-off from implementing this and all the other elements of the approach will be enormous: Andhra Pradesh will achieve its rightful position as India's principal and most efficient rice-growing state.



## CHAPTER 11

# The Big Opportunity in Dairy

India's dairy sector is poised for spectacular growth. Already of considerable size (Rs.80,000 crore at 1995 prices), it is growing rapidly (at 12 per cent over the last 10 years) though per capita milk consumption has remained low (197 gm per day compared to the world average of 285 gm). Consumption of milk and milk products (particularly the latter) is expected to grow strongly over the next decade as incomes rise due to overall economic growth and increased urbanisation (demand for milk is usually high in urban areas). Moreover, demand for milk and milk products is highly income elastic (i.e., small increases in people's incomes lead to large increases in their ability and willingness to buy these products).

Overall, demand is expected to grow by over 15 per cent a year over the next 10 years. The opening up of export markets is also expected to stimulate growth. Under WTO agreements, almost all countries have agreed to reduce agricultural subsidies and rationalise and reduce tariffs on agricultural products. This will raise the prices of dairy products exported from developed countries (which have the largest subsidies) and make those of countries like India and New Zealand (which have none) more competitive.

Andhra Pradesh will use these opportunities to develop the dairy sector into one of the mainstays of its economy. The State already has a large and rapidly growing sector; it is the seventh largest milk-producing state in India. In 1995, milk production constituted 11 per cent of Andhra Pradesh's agricultural economy (at current prices), and the sector was one of the biggest contributors after rice. In terms of gross value added (at current prices), the sector has grown at almost 17 per cent in the last five

years. It also has a large, fairly well-established structure of milk co-operatives and one of the largest breedable bovine populations, most of it buffaloes, the backbone of Indian dairy farming, with yields superior to those of indigenous<sup>23</sup> cows.

Andhra Pradesh has another strength it can build on in developing this sector. Being a predominantly rural, agri-based society, it has a significant population engaged in dairy farming, constituting a large pool of labour and perhaps even entrepreneurship. Furthermore, since milk production is so broad-based, i.e., dispersed in thousands of rural households, the development of the dairy sector will provide higher income livelihoods for millions of marginal farmers and the landless poor, particularly women.

Developing the sector will thus not only create economic growth in Andhra Pradesh, it will also help reduce rural poverty and empower women. Well-developed dairy farming has not only brought prosperity to the villages of Punjab, Haryana, and Gujarat, it has also increased the participation of their women in the economy.

By 2020, Andhra Pradesh will be among the top three producers of milk and milk products in India. Milk production alone will account for 12-15 per cent of its agricultural GSDP. Prosperity in Andhra Pradesh's rural areas will have greatly increased thanks to the many higher-income livelihoods generated for the poor.

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*Andhra Pradesh will be among the top three producers of milk and milk products in India. Milk production alone will account for 12-15 per cent of its agricultural GSDP.*

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To achieve this vision, Andhra Pradesh will launch a comprehensive programme to develop the dairy sector. The key elements of this programme include:

- Developing the dairy value chain<sup>24</sup>, i.e., increasing milk supply; improving the quality of milk; developing innovative processing and packaging technology; developing superior domestic and export marketing strategies; and developing new products.
- Supporting the development of the dairy sector by providing crucial policy and institutional support; facilitating the provision of infrastructure; and encouraging research and development.
- Initially focusing large-scale, commercial development of dairy farming in the areas surrounding Hyderabad and in coastal and southern Andhra.

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<sup>23</sup> Indian farmers use three types of milch cattle: buffaloes, crossbred cows, and indigenous (or *desi*) cows. Crossbred cows have higher yields than buffaloes which have higher yields than indigenous cows.

<sup>24</sup> A value chain is the series of activities undertaken in production, starting from the production of the basic raw material to the marketing and distribution of the finished product.

## DEVELOPING THE DAIRY VALUE CHAIN

The development effort will need to focus on strengthening Andhra Pradesh's dairy sector by driving development along the entire dairy value chain. Strong institutions, such as the dairy co-operatives, and large-scale private investment will play a critical role in this development.

### Strengthening the value chain

A well-developed dairy sector has a large milk production base, high quality milk, product development in line with market needs (e.g., western dairy products for export markets) and superior domestic and global marketing strategies. To achieve such a sector, Andhra Pradesh will have to significantly improve all parts of its dairy value chain comprising production, procurement, processing and marketing.

Today, each of these elements is under-developed. In terms of production, Andhra Pradesh has too many unproductive cattle. Moreover, its buffaloes, which form the largest proportion of its productive cattle, have lower yields than buffaloes in other parts of the country. Buffalo milk yields, at 2.05 kg/day in 1993, are among the lowest in the country, and cross-bred cow yields, at 6.09 kg/day, are lower than those of other major milk producing states like Punjab (7.22 kg/day) and Gujarat (8.03 kg/day). Inadequate healthcare for animals and high feed costs, as well as the low penetration of artificial insemination are largely responsible for this situation. Furthermore, it is difficult to raise yields given the limited use of scientific farm management techniques and the lack of farmer extension and education services. Finally, since some farmers do not follow hygienic production practices, the quality of milk can be questionable.

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*The development effort will focus on strengthening Andhra Pradesh's dairy sector by driving development along the entire dairy value chain.*

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Procurement suffers from inadequate milk collection infrastructure such as farm bulk coolers (which keep the milk fresh before it reaches the processing centre), and electronic milk testing machines (to quickly test the quality and consistency of procured milk). Procurement is also hampered by the absence of reliable power supply and the lack of a good quality 'all weather' road network between villages and chilling centres (villages become inaccessible during the monsoon).

Inadequate infrastructure (power, water) also constrains processing. Processing plants must have adequate and continuous power to run. They also need ample and continuous water supply to keep production equipment clean. In addition,

this segment of the value chain is constrained by high costs due to poor capacity utilisation in addition to other factors such as the lack of commercially viable technology for efficient, large-scale production of indigenous dairy products. Similarly, marketing is restricted by poor cold chain infrastructure, the lack of packaging technology for indigenous dairy products and the failure to develop export markets.

Strengthening the dairy value chain will thus require investment in increasing milk production and procurement; providing adequate animal healthcare services; improving animal productivity and developing feed and fodder resources; building the required collection infrastructure; undertaking R&D to develop new products, processing and packaging technologies; and building strong brands and developing the marketing and distribution infrastructure (**Exhibit 11.1**). This is a huge task and can best be accomplished through a combined effort by the State's co-operatives as well as the private sector.

### The critical role of dairy co-operatives

The co-operative structure has been the backbone of the development of India's dairy sector. Well-managed co-operative structures, such as those of Anand in Gujarat<sup>25</sup>, have not just contributed significantly to increasing milk production, but have also developed the entire dairy chain right up to the marketing of branded products. New Zealand, which has a 30 per cent share of world dairy trade and is one of the most efficient producers of dairy products in the world, uses the co-operative system.

Closer home, in Andhra Pradesh, the Andhra Pradesh Dairy Development Co-operative Federation (APDDCF) has, through its own Operation Flood, become a major force in developing milk production, organising its marketing, and establishing milk producers' co-operatives. In the span of a decade, this institution has built a network of more than 9,000 milk collection centres with 406 milk routes, 61 chilling centres and 16 unions/milksheds (**Exhibit 11.2**). In short it has done a great deal to develop the dairy sector in Andhra Pradesh. Given this foundation, Andhra Pradesh's dairy co-operatives can play a crucial role in developing the sector. However, to effectively play this role, they will need greater autonomy in policy- and decision-making.

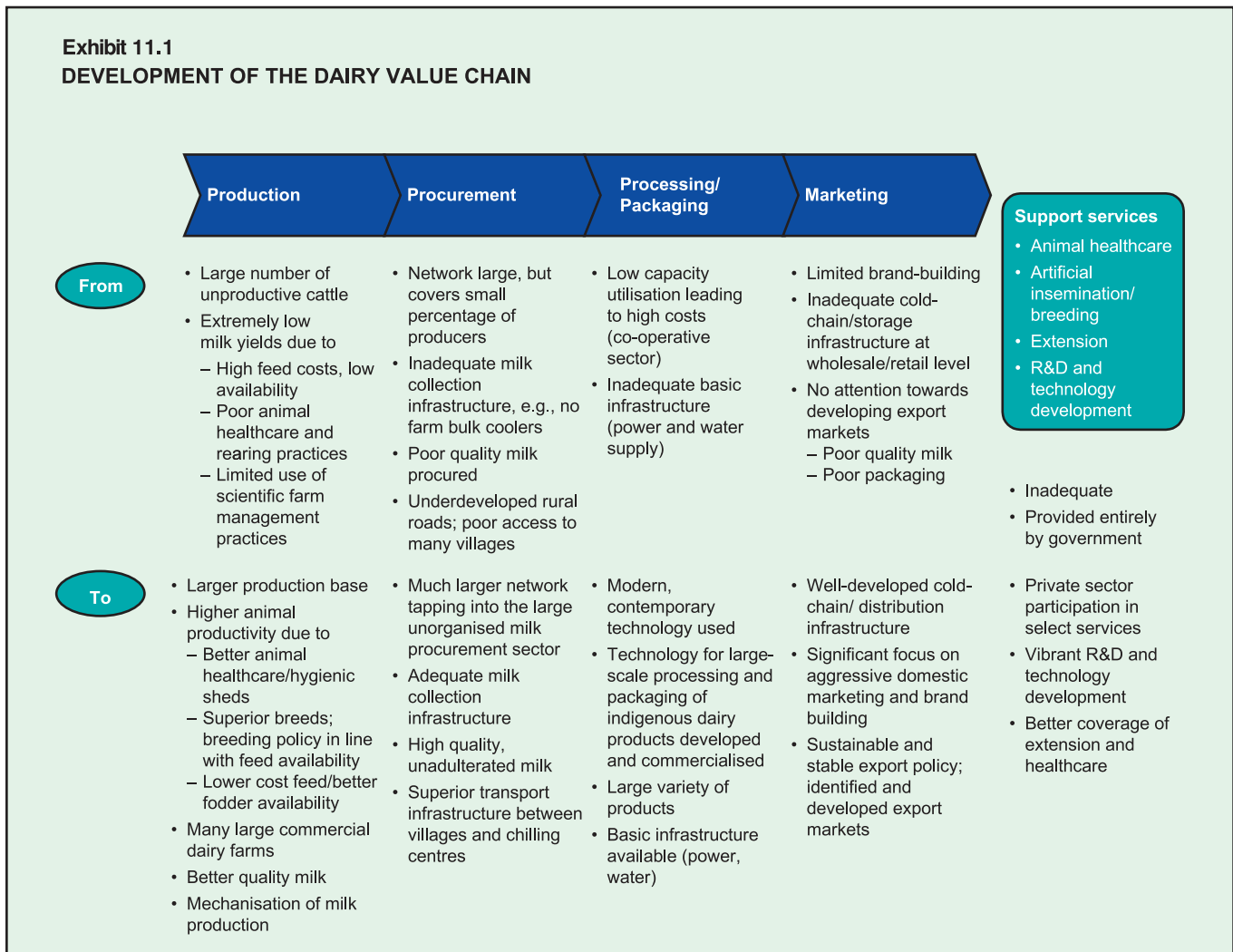
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*Andhra Pradesh's dairy co-operatives can play a crucial role in developing the sector.*

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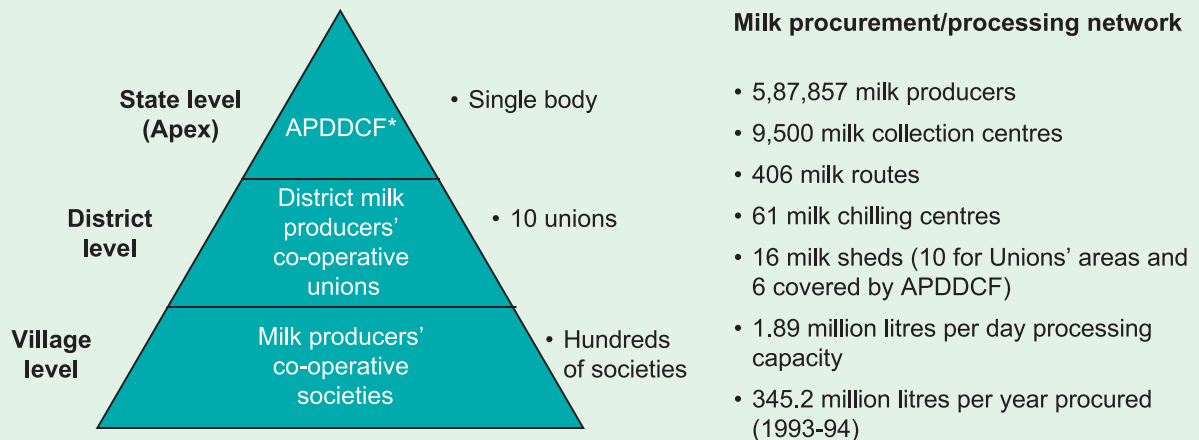
<sup>25</sup> India's Operation Flood, which vastly increased production and consumption of milk and milk products, was built on a network of strong, self-governed farmer co-operatives.

**Exhibit 11.1**  
**DEVELOPMENT OF THE DAIRY VALUE CHAIN**



Most co-operatives are prone to politicisation and suffer from over-regulation and government interference in decision-making not just on major issues but also on minor ones. The Government has a hand in deciding procurement and selling prices, the composition of the management board, and the management policies of the co-operative unions, leading to excessive bureaucracy and poor commercial viability. As a result, most co-operatives are incurring losses and are unable to invest in developing the back-end (working with farmers to improve milch yields) and the front-end (low cost processing, value added dairy products, aggressive marketing) of the value chain.

**Exhibit 11.2**  
**THE CURRENT DAIRY CO-OPERATIVE STRUCTURE IN ANDHRA PRADESH**



\* Andhra Pradesh Dairy Development Co-operative Federation  
 Source: "Bovine and Dairy Development in Andhra Pradesh" – Indo-Swiss Project, Andhra Pradesh

To remedy this situation, the State Government will enable the governance of all viable dairy co-operatives by their members. Professional managers who can make their own operational decisions will run dairy co-operatives. This will allow them to become more efficient, economically viable entities, run on commercial lines. In 1995, the Andhra Pradesh government enacted the Mutually Aided Co-operative Societies Act, to provide autonomy to co-operatives. The Government will ensure that the Act is implemented with broad guidelines for viable operation of co-operatives.

All non-viable areas in the co-operative sector will be made viable through special support from the Government.

### The equally crucial role of private investment

Developing the dairy sector will require large investments in improving yields, setting up infrastructure, developing a large-scale distribution system and building brands. Investment on such a scale is usually possible only for large investors. Smaller investors lack the motivation and the financial muscle to invest on such a scale and the loss-making State co-operatives lack the funds to make the investments required. The entry of large private investors committed to developing the back-end as well as the front-end of the value chain is thus crucial.

These investors will be able to set up large, efficient, commercial dairy farms, using the latest milk production technology and practices, or set up processed milk food factories. In addition, they will be able to develop innovative technologies, suited to the Indian climate, for production, processing and packaging.

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*Developing the dairy sector will require large investments in improving yields, setting up infrastructure, developing a large-scale distribution system and building brands.*

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There is room for both types of institutions—co-operatives and corporations—to exist and grow. In the US, for example, co-operatives and large corporations have both played important roles in developing the dairy sector. Furthermore, in India, a significant percentage of total milk production is procured by the unorganised sector. There is vast potential for the organised sector (both corporations as well as co-operatives) to expand its reach to tap and develop these producers.

### PROVIDING GOVERNMENT SUPPORT FOR DEVELOPMENT

Apart from providing greater autonomy to co-operatives, the Government will undertake several initiatives to help develop the dairy sector. Key initiatives include amending regulation to facilitate the entry of private investors; privatising services; creating a feed and fodder development programme; ensuring quality and promoting R&D; and building infrastructure.

### Amending regulation

Today, the Milk and Milk Products Order (MMPO) makes it relatively difficult for large private investment in the dairy sector. For instance, to set up processing capacity of 75,000 litres a day or above, a licence must be obtained from the Central

government. Small investors (less than 10,000 litre capacity) do not require a licence. To attract private investment, it is thus critical to amend the MMPO.

Currently, private companies do operate in Andhra Pradesh's dairy sector. However, they have not yet found it feasible to invest in backward and forward integration. For instance, some of them procure milk from existing milk sheds that supply the co-operatives rather than set up their own milk farms and increase yields by investing in breeds and fodder.

Thus, amendments to the MMPO will need to focus on encouraging such investment. While encouraging the entry of private investors, the regulation can disallow them from procuring from existing milk sheds, thus encouraging them to set up their own farms or develop other milksheds. There is plenty of scope to do so. Today, individual vendors (*dudhwalas*) buy a larger proportion of milk produced in the unorganised sector. Lacking knowledge and resources, these vendors supply very low quality milk to consumers. Private dairies could procure the milk that now goes to these vendors, using their assistance to co-ordinate procurement from scattered households.

### **Privatising specific animal husbandry services**

Currently, the Government's Animal Husbandry Department provides animal husbandry services. However, lacking adequate funding, the department has not been able to provide these services effectively. Almost 70 per cent of its expenditure has gone towards veterinary services and animal health while other important activities such as breed and fodder development, and extension and training, have received only meagre allotments. The solution to this problem is to allow qualified private parties to provide some of these services. At the same time, however, some services will have to be provided by the Government. Selective privatisation of animal husbandry services would thus be the preferred approach. The principles for selecting services for privatisation would be as follows:

Animal husbandry services that can be run on a commercial basis and where individual interest is greater than the public interest would be privatised. Services in which the public interest is greater than individual interest, such as eradication of diseases, programmes for weaker sections, extension and education for weaker sections/areas, would continue to be provided by the Government. Where the State Government continues to provide services (for example, in areas where no private investor comes forward), it will do so purely on a cost-recovery basis.



### **Creating a feed and fodder development programme**

Feed and fodder form 60 per cent of milk production costs. Since the low availability of feed and fodder is a major constraint to growth, the Government will spearhead a programme to develop this area. Initiatives will include encouraging research on high yield fodder seeds and ways of upgrading crop residue; developing wastelands as fodder grounds through corporate/Gram Panchayat participation; working with agricultural extension and education officers to encourage fodder cropping; making available high yield fodder seed in rural areas; and setting quality standards for feed concentrates and mixes.

### **Ensuring quality control and R&D**

The Government will set and enforce quality standards for dairy plants as well as dairy products, particularly with regard to hygiene. This will not just protect health but also ensure that consumers do not receive substandard products. It will also create a quality culture. This will pay off in the long run when Indian producers start targeting export markets in a big way.

The Government will also promote R&D by the private sector and universities in areas of commercial importance, e.g., packaging for indigenous dairy products, high yield fodder seeds, etc., by providing research grants, venture capital and, in some cases, use of government machinery to conduct field tests. It will also promote the modernisation of dairy infrastructure by providing incentives to use new, improved technologies. For example, it could encourage the use of modern dairy equipment by reducing taxes on such equipment.

### **Building infrastructure**

The development of the dairy sector will hinge on the provision of specialised infrastructure such as farm bulk coolers and refrigeration systems as well as basic infrastructure like power and water.

Providing a cost-effective and continual supply of power and water to procurement and processing units will have to be a top priority. This will reduce costs and improve milk quality considerably. The Government will also need to upgrade rural roads leading to milk collection centres (or even, as a first step, from milk collection centres to milk processing units). This will increase the frequency of collection, reduce logistical costs, and improve the quality of the raw milk.

Most of the specialised infrastructure required will be built by investors themselves, whether corporations or co-operatives. However, the Government can play an important facilitating role. For instance, it could lobby the Centre to reduce duties on refrigeration and cold storage equipment. This would reduce the high capital costs that make it unviable to set up this infrastructure today.

### **FOCUSING ON TRADITIONALLY STRONG REGIONS**

The development effort will initially be focused on coastal Andhra Pradesh and a few districts in Rayalaseema and Telangana in which dairy activity is well established. The back end of the value chain (the number of cattle, the female to male bovine ratio, and the availability of fodder) as well as the front end (processing facilities, proximity to large urban markets and working co-operative structures) are fairly well developed in these areas. Already, commercial dairy farms are being set up in these areas.

Once the chain is completely developed here, the systems can be replicated in other parts of Telangana and Rayalaseema, which have large pasture lands. Focusing on historically strong areas makes sense from another point of view: when the sector is thrown open to large private investors, they would like to begin by investing in areas where their returns are sure to be high.

## CHAPTER 12

# India's Poultry Capital

India's poultry sector is geared for high growth. The domestic poultry industry, currently Rs.9,000 crore in size, is growing at over 15 per cent a year and is likely to reach Rs.30,000 crore in real terms over the next 10 years. Export markets are also likely to open up as subsidies on agricultural products are phased out internationally under WTO agreements and as new markets like Russia and Eastern Europe open up. Developed well, i.e., by making the quality and cost of eggs and poultry meat competitive, India's poultry sector could also capture a significant share of the exports market currently dominated by large exporters such as the US and Thailand.

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*Andhra Pradesh will be the largest supplier of low-cost, quality eggs and broilers to the nation.*

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Andhra Pradesh is strongly positioned to capture this growth opportunity. It is India's largest egg-producing state, accounting for one-third of the country's entire egg output; has one of the largest broiler (80 million) and layer (50 million) populations in the country; and enjoys an 18 per cent share of total Indian broiler meat production. Because of the intensive poultry activity in the State, skilled labour is abundantly available. Furthermore, maize, a crucial element in the poultry value chain<sup>26</sup>, is already grown in Andhra Pradesh.

The State will now act to convert these strengths into a strong position in the domestic and world poultry market.

By 2020, Andhra Pradesh will be India's poultry giant. The State will be the largest supplier of low-cost, quality eggs and broilers to the nation. Andhra Pradesh will

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<sup>26</sup> The poultry value chain consists of activities starting from the production of maize and soyabeans, their conversion to feed, the hatching of chicks, the growing of layers or broilers, the processing of eggs/poultry meat, and finally the distribution and retailing of products in India or for export. Activities that support the poultry value chain are breeding, research on new breeds and poultry healthcare.

spearhead India's poultry exports, making it one of the top 10 poultry exporters in the world. The poultry sector will contribute 12-15 per cent of the agricultural GSDP, drive the growth of the agricultural and allied sectors and provide many higher income jobs for agricultural labour.

To achieve this vision, Andhra Pradesh will undertake a comprehensive programme to drive the development of the State's poultry sector. To summarise:

- The poultry value chain will be developed through investments by large integrated companies in almost all parts of the chain: production of high-yield feed inputs and feed, breeding, hatching, growing, processing and marketing.
- The Government will actively support the effort to develop the poultry chain by attracting large private investment; facilitating development; and providing the infrastructure required.
- The development effort will focus initially on the Telangana region and other areas of strength.

## DEVELOPING THE POULTRY VALUE CHAIN

Though Andhra Pradesh is a major centre of poultry activity in India, many parts of the State's poultry value chain are still not fully developed, leading to high costs and inefficiencies. At the production end, feed costs, which form 70-75 per cent of the total cost, are almost four times as high as those of other countries, e.g., Brazil. A principal cause of these high costs is low maize yields; in Andhra Pradesh these are only a quarter to one eighth the yields of world class corn producers.

Another reason why feed costs have remained high is the reservation of this sector (until recently) for small-scale units. These units suffer from poor economies of scale and typically lack the resources to invest in modern technology.

Poultry farmers in India and Andhra Pradesh also produce breeds with lower Feed-Conversion Ratios (FCR) compared to international players. This means that Indian birds have to consume more feed in order to put on the same amount of weight. This is the result of lower levels of breed research as well as the inability to import pure breeds and grandparent stock (until recently). Obviously, low FCRs result in high overall costs.

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*The development effort will focus initially on the Telangana region and other areas of strength.*

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While poultry hatching and growing are relatively well-developed activities in Andhra Pradesh, many farms still do not have access to modern technologies to ensure bio-security and adequate healthcare for birds. As a result, the mortality rate for newly hatched chicks remains high.

One of the biggest bottlenecks to growth and a cause of high overall costs is the poor state of transport and distribution infrastructure. Today, most birds are transported to major markets in trucks and trains. Badly affected by the poor roads and condition of the trucks and trains in which they are transported, many lose weight by the time they reach the markets. In addition, eggs are not transported in refrigerated trucks, leading to faster spoilage. Lastly, exports have suffered because there are no proper cleaning and grading facilities (for eggs) or cold storage at ports and airports.

Developing the entire poultry chain (**Exhibit 12.1**) will thus require large investments in improving the yields of feed ingredients (maize, soyabean); building large-scale feedmills; investing in breed and healthcare research; improving hatching facilities; and setting up better transport and storage infrastructure. In countries such as Thailand, whose poultry industry was in a similar state 25 years ago (relatively fragmented, unorganised, and underdeveloped in crucial parts of the chain), large integrated companies made the required investments, thus driving the development of the sector. Large corporations such as Charoen Pokphand (CP) in association with fast food retailers, have completely changed the face of the poultry industry in Thailand by developing the full value chain. These large companies typically:

- Worked closely with farmers to improve maize and soya bean yields.
- Worked closely with both feed and feed input producers, growers, hatchers, and processors, to ensure cost-control and quality.
- Initiated their own R&D activity to supplement meagre government efforts to improve breeds of layers and broilers, alternative feed sources, disease-control methods, vaccines, etc.
- Actively worked with fast food retailers and other customers to stimulate domestic demand.

**Exhibit 12.1**  
**DEVELOPMENT OF THE POULTRY VALUE CHAIN**



	Feed inputs	Feed	Breeding/ Hatching	Growing	Processing	Distribution
<b>From</b>	<ul style="list-style-type: none"> <li>• Low maize yields leading to high feed costs</li> <li>• Poor availability</li> </ul>	<ul style="list-style-type: none"> <li>• Custom mixing by poultry players</li> <li>• Inefficient, outdated production systems</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate infrastructure for chick-care at hatcheries</li> <li>• Breeds developed independent of market requirements; low FCR* ratio</li> </ul>	<ul style="list-style-type: none"> <li>• Dominated by large number of small-scale players</li> <li>• Low FCR</li> </ul>	<ul style="list-style-type: none"> <li>• Virtually non-existent</li> <li>• High cost due to high taxes</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate, poor quality transportation and distribution infrastructure</li> <li>• Dominated by live/ 'wet**' chicken sales</li> <li>• Chicken/Egg sales concentrated in urban centres</li> </ul>
<b>To</b>	<ul style="list-style-type: none"> <li>• Maize yields comparable to international best practices; equal to those in Brazil, Thailand</li> <li>• Sufficient and efficient maize production to sustain growing feed industry</li> </ul>	<ul style="list-style-type: none"> <li>• Large-scale feed operations driving down costs</li> <li>• Low costs due to lower cost, better quality feed inputs</li> </ul>	<ul style="list-style-type: none"> <li>• Better chick care at hatcheries; lower mortality rates, better quality</li> <li>• More R&amp;D on new breeds with better FCR</li> </ul>	<ul style="list-style-type: none"> <li>• Larger poultry farms</li> <li>• Better farm management practices</li> </ul>	<ul style="list-style-type: none"> <li>• Largest market for processed/ further processed poultry meat driven by fast food retailers</li> <li>• Development of large processing plants that cater to export markets</li> </ul>	<ul style="list-style-type: none"> <li>• Large-scale brand building for processors/ fast food retailers</li> <li>• 'Wet' market still large, but market for processed meat expands</li> <li>• Export development becomes significant</li> <li>• Adequate transportation/distribution infrastructure reduces costs</li> </ul>

\* Feed conversion ratio

\*\* Unprocessed/Fresh chicken

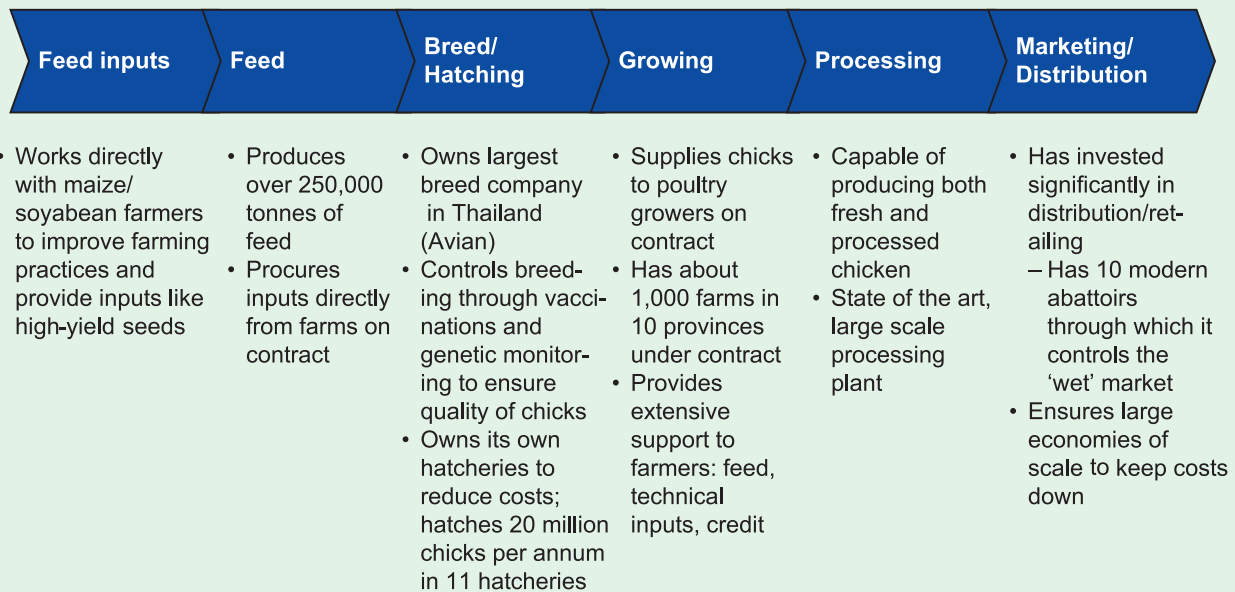
- Developed export market information systems and exports markets as an outlet for increased production as domestic demand picked up.

How CP stimulated the development of the poultry value chain in Thailand is depicted in **Exhibit 12.2**.

To develop the poultry chain in India too, it is critical to attract large, integrated players who, working closely with farmers, would invest in building the different elements of the value chain.

**Exhibit 12.2**

**HOW CHAROEN POKPHAND HELPED DEVELOP THE POULTRY SECTOR IN THAILAND**



Source: FAIDA report

## GOVERNMENT SUPPORT FOR THE EFFORT

To develop the sector and attract large-scale private investment, the Government will need to act on three fronts: reform regulation; provide infrastructure; and actively promote the sector.

### Reforming regulation

To boost the development of the poultry sector, the Government will need to formulate policies that will attract large investors. This will include simplifying

procedures, providing policies to enable large players to work closely with farmers, and ensuring policies that facilitate exports. Key initiatives will include enabling contract farming, simplifying land acquisition and export procedures, and rationalising sales tax on processed food.

- **Enabling contract farming:** Contract farming will oblige a farmer to sell a contracted quantity of his produce to a particular buyer and, in turn, oblige the buyer to buy from that particular farmer at the contracted price. Such an arrangement will allow companies to work closely with farmers for an assured supply of low-cost, high quality feed inputs. In turn, farmers will get an assured market, technical advice and financial assistance. Informal contract farming relationships already exist in India (for example in the sugar sector). However, they often suffer from the low enforceability of such contracts. Therefore, the State will consider formulating a legal framework for contract farming that clearly defines a tripartite 'contract farming' relationship between the farmer, the corporate institution and the government. The Government, as a third party to the contract, will make sure that the farmer's interests are protected. Enforcement mechanisms including one for quick resolution of disputes will also be provided.
- **Simplifying the land acquisition/leasing process:** Breeding farms, hatcheries, etc., require large tracts of land. Today, however, it is extremely difficult for a corporation to acquire/lease land, particularly agricultural land. Therefore, to attract large investors, the Government will need to simplify the land identification and acquisition process. This will entail setting up accurate land records as well as rationalising the various taxes and stamp duties and speeding up the acquisition process.
- **Facilitating exports:** Though customs is a Centre issue, the State will facilitate customs procedures by lobbying the Centre for single window customs clearances, quarantine tests, etc. These will be provided initially at Hyderabad airport, and all State ports. Export documentation procedures will also be simplified.
- **Removing/Reducing sales tax on processed foods:** To increase value addition in the sector, the processing industry must be developed. However, today, sales tax makes processed chicken more expensive than live or 'wet' chicken. This has curbed demand and made the sector relatively unattractive for processing companies. The State will need to reduce sales tax on processed food so that processed poultry becomes comparable in cost to unprocessed chicken, thus boosting production of and demand for the product.



## Providing specialised infrastructure

Large-scale efforts will be needed to provide basic and specialised infrastructure through Government or private investment. Private investors can be expected to build specialised infrastructure such as cold storage facilities. At the very least, the sector will need:

- **Ports:** This will involve increasing berth capacity; providing cold storage and warehousing facilities, etc., close to the port, either entirely through government efforts or through private investment.
- **Airports:** Hyderabad airport will need to be developed so that cargo handling speeds and facilities reach world-class levels. In addition, adequate cold storage and warehousing facilities will need to be provided close to the airport.
- **Roads:** Roads will need to be built to connect major rural production centres to major urban centres so that transportation time is reduced.
- **Other infrastructure:** Cold storage facilities will need to be set up near major railway stations and transportation centres as well as production centres.

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*The development of the poultry sector will bring significant economic benefit to Andhra Pradesh within the next 10 years.*

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## Actively promoting the sector

Providing good infrastructure as well as facilitating policy will be crucial to generate serious interest from private investors. In addition, Andhra Pradesh will need to work on two other fronts: actively seeking out investors and creating awareness among farmers.

The Government will actively seek out large Indian and foreign companies that could be potential investors and market Andhra Pradesh's potential, its advantages and the facilities it offers to them. This will involve building relationships, establishing a continual dialogue with a target set of companies, and facilitating the process of investment.

The entry of large companies raises concerns of exploitation and profiteering at the farmers' or India's expense. In India, the discussion of these issues has tended to obscure the fact that the entry of large companies usually benefits the sector. The Government will, therefore, take steps to make farmers aware of how they will benefit when large companies invest in developing the poultry chain. This will ensure that negative publicity and reaction is not generated.

## FOCUS ON AREAS OF STRENGTH

The development effort will be focused initially on the Telangana region for several reasons. First, the Hyderabad area is already home to a large number of poultry growers. Skilled labour is thus abundantly available in these areas. Second, most of Andhra Pradesh's maize is grown in the Telangana region. It thus makes economic sense to locate feed mills close to maize farms. For example, in Thailand, integrated players have located their feed mills in the middle of maize or soya bean farms. Finally, the Telangana region is close to several major domestic markets: Hyderabad, Vijayawada and Visakhapatnam are very close; Chennai, Bangalore, Mumbai and other cities in Maharashtra are at most a day away.

In addition, other areas in the State also have a strong poultry sector and will, therefore, also be included in the development effort. They are West Godavari, East Godavari, Krishna, Chittoor, Guntur and Visakhapatnam.

Since the poultry industry is already an established, market-based industry in Andhra Pradesh, it will not have to undergo the transitions that other industries undergoing liberalisation and restructuring will. Thus, growth in this sector will be rapid. Moreover, domestic demand for poultry will grow rapidly in the next five to ten years, spurring a great deal of economic activity in this industry within this timeframe. The development of the poultry sector will thus bring significant economic benefit to Andhra Pradesh within the next 10 years.

## CHAPTER 13

# A Horticulture Giant

Andhra Pradesh has a strong base in horticulture. Thanks to its varied agro-climatic conditions, the State is a leading producer of a variety of fruits and vegetables such as mangoes, citrus fruits, grapes, bananas, pineapple, tomatoes, onions, cashew and chillies (**Exhibit 13.1**). In fact, Andhra Pradesh is the second largest producer of fruits in India and one of the largest vegetable-producing states in the country<sup>27</sup>. Andhra Pradesh will build on this advantage to create rapid economic growth.

By 2020, Andhra Pradesh will have a thriving horticulture sector. It will be the leading supplier of fruits and vegetables to the country and will lead India in the export of horticultural produce—both fresh and processed. The State will be the preferred destination for private investment (both domestic and international) in the food-processing sector and will have a healthy food-processing industry growing at 15 per cent over the next 10 years, driven mainly by export demand. The horticulture sector in Andhra Pradesh will account for 10-15 per cent of the State's agricultural GSDP and contribute to raising overall per capita agricultural incomes in the State.

Andhra Pradesh has both the opportunity and the approach to make this vision a reality. To summarise:

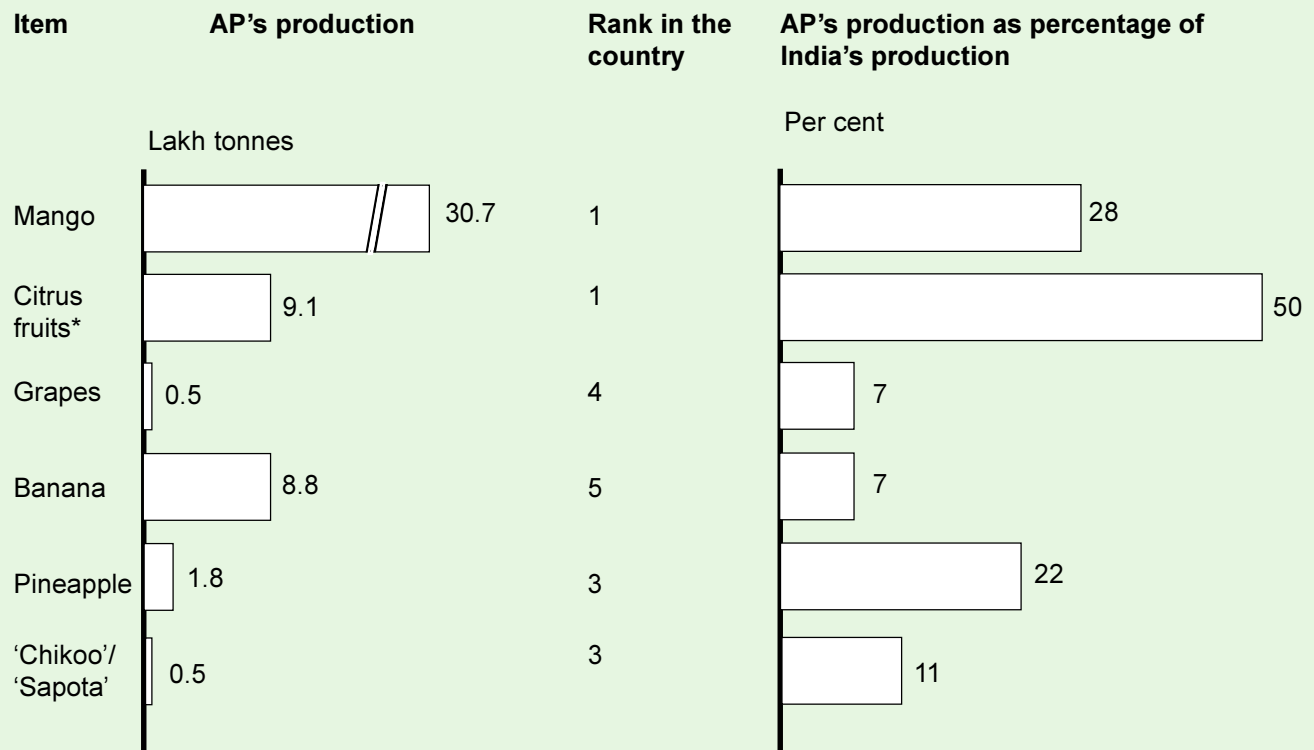
- By building on its substantial strengths in horticulture, Andhra Pradesh can become the leading supplier of fresh and processed foods to the large and growing Indian market. Moreover, the phasing out of agriculture-related subsidies for

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<sup>27</sup> India itself is the largest producer of fruits and the second largest producer of vegetables in the world.

Exhibit 13.1

**ANDHRA PRADESH'S RANK IN THE PRODUCTION OF SELECT HORTICULTURAL CROPS  
1994**



\* Sweet lime and lemon

Source : National Horticultural Board statistics; Department of Horticulture, Government of Andhra Pradesh

developed countries, under WTO agreements, will provide India and, therefore, Andhra Pradesh with an opportunity to build a position in the international fresh and processed foods market.

- To develop the horticulture growth engine Andhra Pradesh will act in three ways:

1. Focus on developing both a food processing sector as well as a fresh produce sector. The development of the food-processing industry chain (which hardly exists at present) will be driven by large-scale private investment. The development of the fresh produce value chain, which does exist but is highly

inefficient, will need the support of strong farmer co-operatives and the Government.

2. Support the horticulture sector by building or promoting private investment in infrastructure such as cold storage facilities; creating enabling regulation; building skills; and promoting private investment.
  3. Focus development initially in three main zones where horticultural activity is already concentrated: the East and West Godavari districts and parts of the Krishna district; areas around Hyderabad; and the Chittoor, Cuddapah, and Anantpur districts.
- The horticulture sector will contribute significantly to the economy in the medium term, i.e., in the next 10 to 15 years, as the sector becomes more efficient and competitive, exports take off and rising domestic incomes drive domestic growth.

### THE OPPORTUNITY IS LARGE

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*Developing the horticulture sector will have a considerable impact on the economy in terms of raising the GSDP. It will also create many higher income jobs.*

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Horticulture represents a significant economic opportunity for the State in both the processed and the fresh produce sectors. The domestic market for fresh produce is large, and is likely to see huge growth in demand. Rising domestic incomes are likely to increase consumption levels, which are currently very low. If consumption shoots up from the current 100 gm of fruit and 200 gm of vegetables per capita per day to at least the recommended dietary level of 140 gm of fruit and 270 gm of vegetables, by 2010, the domestic market for fresh produce could be as large as Rs.50,000 crore at today's prices.

The processed foods sector is also poised for growth, mainly through exports. The phasing out of agricultural subsidies in developed countries, under WTO agreements, as well as the rationalisation of tariffs and trade restrictions on food items, will provide countries like India access to larger export markets and make them more price competitive in international markets in both processed foods and fresh produce. Since the US\$ 7 billion international trade in fruits and vegetables is dominated by processed foods, it is here that the bigger opportunity lies. If current infrastructure-related problems are minimised and product and packaging quality are significantly improved, India could become a competitive exporter of processed food. Andhra Pradesh could have a large share of these exports.

**Exhibit 13.2**  
**HORTICULTURE DEVELOPMENT IN ISRAEL**

**Achievements**

- Agricultural growth close to 12% in 1950s and early 1960s
- Israeli farmers (3% of the population) meet not only 95% of domestic needs but export flowers, fruits and vegetables to other countries
- Export of agricultural knowledge, technology and inputs has grown by 40% in last 3 years to more than \$1 billion

**Key success factors**

- Modern and sophisticated irrigation system/strategy
- Improved, innovative farming techniques and inputs
- Strong organisations for research (Agricultural Research Organisation, ARO) and exports (AGREXCO)

**Description**

- Tapped various springs and transported water through aqueducts to far away places including hills and deserts
- Set up an integrated grid for fresh water sources — the main artery (National Water Carrier) brings water from the north and the middle of the country to the semi-arid south
- Established a computerised drip irrigation system in which water, together with nutrients and pesticides are delivered in precise quantities directly to the roots of plants
- Developed methods for high-yield floriculture, e.g., roses grown in a non-soil medium in a hi-tech, climate-controlled greenhouse. Yield improvement: 50-100%
- ARO is a government institution devoted to developing superior agricultural methods to counter land and water shortage and reduce prices
- ARO employs cutting edge technology and distributes knowledge to local farmers
- AGREXCO is a joint co-operative owned by the Government of Israel and farmers. It has:
  - Strong brand 'Carmel' for exports
  - Extensive marketing network and sales offices in Europe and the US
  - Sophisticated infrastructure for air and sea freight handling
  - Expertise in pre- and post-harvesting techniques

Source: McKinsey research

Developing the horticulture sector will thus have a considerable impact on the economy in terms of raising the GSDP. It will also create many higher income jobs. In countries like Israel and the US, where horticulture is a well-developed activity, many jobs have been created in areas like export market development, fresh produce retailing and logistics, apart from horticultural production itself. How Israel developed its horticulture sector is described in **Exhibit 13.2**.

## **BUILDING THE HORTICULTURE VALUE CHAIN IS CRITICAL**

Developing the horticulture sector will require building the fresh produce and processed foods value chains. Only by developing both chains will Andhra Pradesh be able to capture both the domestic and the export opportunities available.

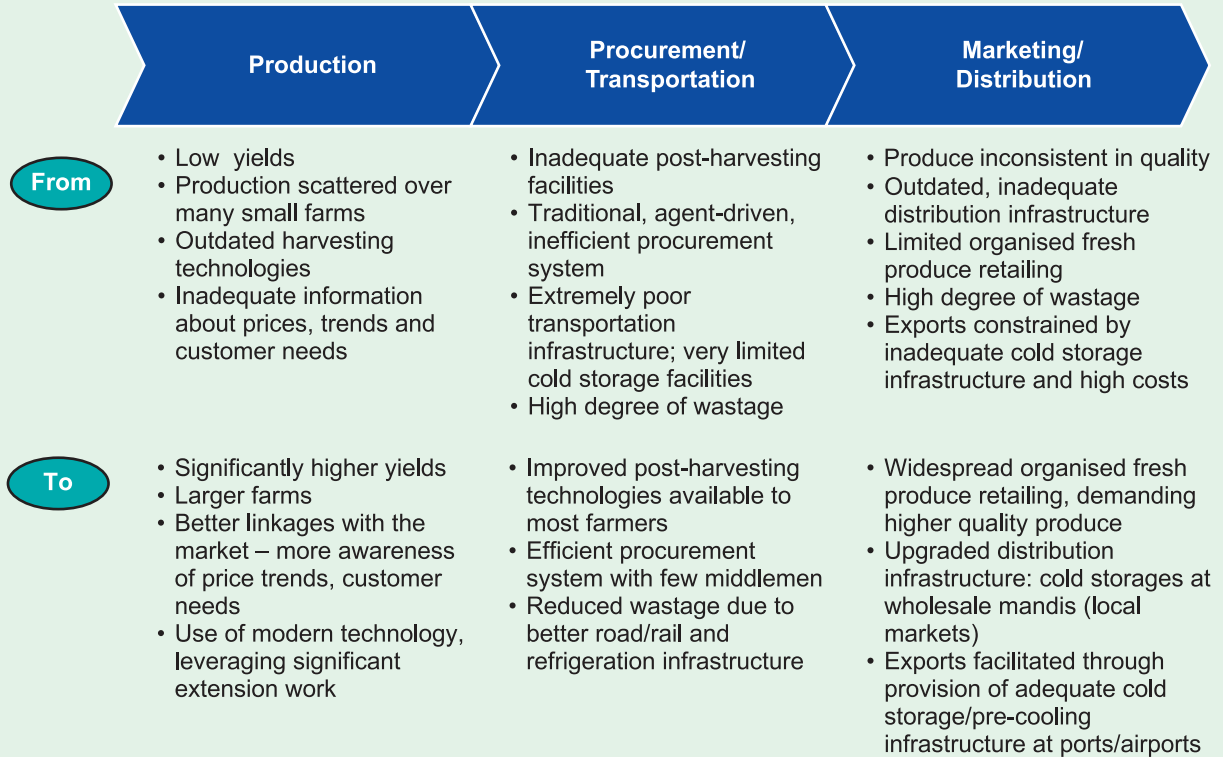
Today, both chains are underdeveloped, i.e., they are incomplete, inefficient or both. Take the fresh produce chain: the entire fruit and vegetable chain in Andhra Pradesh, from the production to the marketing stage, is not sufficiently developed. There are too few links between the production and marketing of produce. Small, fragmented players, with neither the financial muscle nor the know-how to invest in production and/or marketing dominate both ends of the chain, as well as the middle (i.e., procurement and transportation). As a result, at the production end, yields are low and wastage is high. Almost 25-30 per cent of horticultural produce is spoiled every year due to inadequate or improper post-harvest handling and lack of cold storage and transport facilities. Existing cold storage and transport facilities are adversely affected by the non-availability of uninterrupted power. At the marketing end, prices are high and quality is poor and inconsistent.

Developing the fresh produce value chain (**Exhibit 13.3**) will require a two-pronged effort: the formation of strong farmer co-operatives and the provision of institutional support. Farmer co-operatives will ensure that member farmers get better prices for their produce, invest in specific, shareable infrastructure to reduce wastage and help in getting better realisations, and form nodal points for extension work by Government R&D departments.

The Government will provide strong institutional support, for instance, by setting up special Boards, such as a Mango Board. These Boards will facilitate the provision of crucial inputs such as credit, extension and education; provide basic and specialised infrastructure; and develop market mechanisms, such as market yards, export promotion boards, etc., to develop what is now a fairly dispersed activity. They will also help popularise the usage of new technology and tools, such as the drip and sprinkler irrigation systems.

As for the processed food chain, large-scale investment will be required for its initiation and development (**Exhibit 13.4**). Strong linkages along the entire horticultural value chain will have to be developed. The preferred strategy for

**Exhibit 13.3**  
**DEVELOPING THE FRESH PRODUCE VALUE CHAIN**



achieving this is to invite large corporations to enter the sector. These corporations will take an integrated approach to developing the sector: they will work closely with farmers to improve yields; invest in specific infrastructure to reduce wastage; invest in R&D to develop specific varieties of fresh produce as well as processed products for export markets; focus on improving quality through better packaging and storage technologies; and build export market information and networks for exporting their products.



Exhibit 13.4

**DEVELOPING THE PROCESSED FOOD VALUE CHAIN**



<p><b>From</b></p>	<ul style="list-style-type: none"> <li>• Production of predominantly 'table-top' varieties</li> <li>• Low yields</li> <li>• Poor farm management practices</li> <li>• Smaller farms</li> </ul>	<ul style="list-style-type: none"> <li>• Several inefficiencies in procurement system</li> </ul>	<ul style="list-style-type: none"> <li>• Limited organised activity</li> <li>• Dominated by small-scale units with outdated technology, small scale of operations and inconsistent quality</li> <li>• Inefficient due to high costs of procuring large quantities of pulpy fruit</li> </ul>	<ul style="list-style-type: none"> <li>• Strong brands built by the few organised sector players</li> <li>• Mostly unbranded goods with limited regional distribution focus</li> <li>• Limited exports</li> </ul>
<p><b>To</b></p>	<ul style="list-style-type: none"> <li>• Production of 'pulpy' varieties for processing</li> <li>• Larger farms</li> <li>• Contract farming</li> </ul>	<ul style="list-style-type: none"> <li>• Direct procurement from farms by corporations</li> <li>• Use of superior post-harvesting technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Driven by large organised sector with large, efficient plants</li> </ul>	<ul style="list-style-type: none"> <li>• Aggressive brand-building</li> <li>• Significant focus on developing export markets</li> </ul>

**THE GOVERNMENT NEEDS TO ACT ON SEVERAL FRONTS**

The Government will act to develop the horticulture sector to its full potential through initiatives on four fronts: developing or facilitating the development of infrastructure; creating policy which encourages growth and development; facilitating education, R&D and technology development; and encouraging private investment in the horticulture and food processing sector.

## Setting up specialised infrastructure

Massive investment will be required in building infrastructure in horticulture belts, not only to remove current bottlenecks, but also to facilitate expansion of activities. The Government will either invest in building this infrastructure itself or invite private investment to do so. Major initiatives will include:

- Creating basic infrastructure such as well-developed ports, airports, rail facilities, roads (especially between major production centres and transport centres or market yards) and providing continuous and adequate power and water supply.
- Providing specialised infrastructure at major production centres, market yards, and transport centres, e.g., cold chains; warehouses; pre-cooling facilities; facilities to sort, grade and pack produce; vapour heat treatment facilities; refrigerated or air-conditioned air-cargo facilities, etc.
- Modernising, streamlining and regulating the working of market yards by upgrading their infrastructure (providing cold storage and communication facilities, produce grading mechanisms, etc.) and enabling the provision of facilities like regular information on domestic and export prices.
- Setting up horticultural industrial parks for specific fruits and vegetables. To illustrate, a Mango Industrial Park could be set up close to Vijayawada where mango growing activity is concentrated. These parks would house all processors of the particular fruit/vegetable (e.g., makers of mango pulp, mango jam/jelly, mango pickle, mango fruit juice concentrate, etc.). Such parks would provide several benefits:
  1. A simplified land leasing process for processors' factories (currently cumbersome and long-drawn out). The Government or the park authority (if it is an independent body) would own the land and lease it to corporations as and when necessary.
  2. Common infrastructure facilities. Round-the-clock availability of power, telecommunications, water, etc., is necessary to attract the processing industry to Andhra Pradesh. Developing parks would be a good means of providing infrastructure facilities. Thus, even if the overall power situation in the State were not to improve, twenty-four hour power supply could, in a selective, focused manner, be provided to parks.

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*Developing parks would be a good means of providing infrastructure facilities.*

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3. Exports assistance. Since a large part of processed products would be exported, assistance relating to exporting goods can be provided in a targeted manner. A customs office/export cell could be set up to provide single window clearance for all formalities. In this way, exportable material leaving the park could be directly loaded on to the aircraft or ship concerned and export documentation procedures could be simplified.

### Creating policy favourable to growth

To enable growth, the Government will frame regulation, where required, and simplify procedures. This will require action on the following fronts:

- Enabling contract farming. Contract farming will oblige the farmer to sell a contracted quantity of his produce to a particular buyer and, in turn, oblige the buyer to buy from that particular farmer at the contracted price. Such an arrangement will allow companies to work closely with farmers for an assured supply of low-cost, high quality feed inputs. In turn, farmers will get an assured market, technical advice and financial assistance. Informal contract farming relationships already exist in India (for example in the sugar sector). However, they often suffer from the low enforceability of such contracts. Therefore, the State will consider formulating a legal framework for contract farming that clearly defines a tripartite 'contract farming' relationship between the farmer, the corporate institution and the Government. The Government, as a third party to the contract, will make sure that the farmer's interests are protected. Enforcement mechanisms including one for quick resolution of disputes will also be provided.

This will enable farmers and corporations to work closely together to their mutual benefit. The corporations can give farmers technical advice and access to quality inputs. This will improve yields and simultaneously provide corporations with adequate supplies of quality produce.

- Bringing cultivable wastelands under horticulture. Over the next ten years, 41 lakh hectares will be developed through watershed development programmes. This will allow the expansion of horticulture. It will also create economic benefit from a previously unused asset and provide employment to the rural poor living close to these wastelands.
- Setting up autonomous boards for all the major fruits/vegetables. This will be done for those fruits and vegetables with large export potential and those in which the State has a large share (mango, grape, chilli, etc.). Among other things, these Boards will:

1. Act as nodal points for extension work, help in farmer education, and work closely with farmer co-operatives to improve farm management practices and the quality of farm produce.
  2. Collect export and domestic market information on prices, demand and supply; analyse international and domestic demand, supply and pricing trends, etc., to be able to advise farmer co-operatives and individual farmers on cropping patterns, etc.
  3. Co-ordinate with credit agencies to provide credit to farmer co-operatives and individual farmers.
  4. Help arrange financing for exporters and act as a mediator between Indian exporters and foreign buyers.
- Encouraging the development of central commercial nurseries and introducing the Nursery Act to regulate seed and plant material to supply quality plant material and hybrid seeds.
  - Creating processes and institutions to provide the local farmer (particularly the small, poor farmer) with access to credit (through local self-help groups, rural private sector banks, etc.). To some extent, contract farming will allow the farmer to get financial assistance from the contracting corporation. Strong farmer co-operatives and Boards will also assist in securing credit. But in areas where these relationships or institutions do not exist, providing credit through mechanisms such as local self-help groups, and rural private sector banks, becomes important.
  - Encouraging the development of horticulture in drylands. Horticulture crops need less water resources than crops like rice, and would be ideal for cultivation in drylands. Several crops (e.g., guava, pomegranate, tamarind and mango) can be profitably cultivated in these conditions, using dryland farming technology and drip irrigation where feasible. Dryland horticulture will bring economic benefit to underdeveloped regions, and thus contribute to equitable economic development.
  - Removing or significantly reducing sales tax on processed foods. This will make prices of processed foods comparable to those of fresh produce, thus boosting demand for processed fruits and vegetables in the domestic market.
  - Providing fiscal incentives to help modernise the sector and make it more efficient. These may be in the form of policies to subsidise certain types of modern

equipment to encourage their use (e.g., drip and sprinkler irrigation systems to reduce water consumption) or tax benefits/reduction of excise and customs duties for procuring modern equipment (e.g. reducing duties on cold storage equipment to make it viable for the private sector to set up such facilities).

- Removing procedural bottlenecks to ensure speedy checks and clearances with minimal unpacking of packed products at important transport points like ports, airports and railway junctions to prevent delays and thus wastage of perishable produce.

In many cases, creating favourable policy for the rapid development of horticulture will require Centre-level policy changes. The State government will persuade the Centre to enable these changes.

### **Facilitating skill-building and R&D**

The Government will actively encourage R&D in horticulture to improve yields and farm management practices, and encourage the adoption of new technologies in packing, grading, and storage. It will also create a skilled workforce of scientific and extension officers who will, in turn, play an important role in skill transfer. To do this, the Government will either set up, or facilitate the establishment of, specialised R&D and educational institutions specialising in horticulture and related technology. These institutions will work closely with co-operatives and boards to extend R&D to the farmer.

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*The Government will actively encourage R&D in horticulture to improve yields and farm management practices, and promote the adoption of new technologies.*

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### **Attracting private investment in horticulture**

The Government will maintain an open-door policy towards large Indian and foreign investors. In fact, it will seek out potential investors and market Andhra Pradesh's potential, its advantages, and the facilities it offers, to them. This promotion effort will focus on establishing a dialogue and building a relationship with the target set of investors.

A further promotional effort will be undertaken: creating awareness among farmers that the entry of large investors is to the overall benefit of the industry.

### **DEVELOPMENT WILL INITIALLY BE FOCUSED IN THREE ZONES**

Initially, the development effort will be focused in three main zones, chosen because horticultural activity is concentrated here. These areas will be the first targets for

developmental initiatives (e.g., for the setting up of specialised and basic infrastructure) as they are likely to be high impact areas. They are:

- The area around Vijayawada in Krishna district and the East and West Godavari districts where there is a heavy concentration of mango orchards.
- Areas around Hyderabad where vineyards abound.
- Anantpur and Chittoor districts where a variety of vegetables (tomatoes, french beans, brinjal, etc.) are grown.

Once these zones are developed, attention can be turned to other parts of the State where horticultural produce is grown.

## **HORTICULTURE WILL CREATE GROWTH IN THE MEDIUM TERM**

Horticulture will be a medium term growth engine. It will stimulate growth over the next 10-15 years for at least two reasons.

First, while yields can be improved quickly for vegetables, where the production cycle is short, improving yields for fruits like mango will take a long time. Testing and stabilising yield improvement technologies may take as long as 10 years given the long gestation periods in growing mango trees, as also the fact that, in many cases, different varieties have to be grown to get fruit with high pulp content suitable for processing.

Second, since the domestic market for processed fruits and vegetables is still very small, the growth opportunity lies mainly in exporting these products. However, exports growth is contingent on a number of factors such as implementation of WTO agreements by different countries, improvements in the quality<sup>28</sup> of products, and superior packaging technologies, and so can only take place over a period of 10-15 years. However, this sector will see spectacular growth once the food-processing industry gets established and grows. Andhra Pradesh will then reap the benefits of the considerable strengths it has developed in the horticulture sector.

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<sup>28</sup> While tariff barriers are being lowered worldwide as a result of the WTO agreement, many developed countries are imposing non-tariff barriers. These relate to the quality of the products. For example, many countries do not accept mangoes imported from India due to suspicions of fruit-fly pest infestation. Similarly, the export of many processed mango products has been restricted because they are not aseptically packed. To surmount these non-tariff barriers, exported products and their packaging should conform to international standards.

## CHAPTER 14

# Taking the Lead in Fisheries

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*The development of the fisheries sector will create considerable impact, particularly by providing livelihoods for the poor.*

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Andhra Pradesh has rich fishery potential in all areas: inland, marine and brackish water. The State has a coastline of 974 km and a continental shelf of 33,227 square km; a river course of over 8,500 km; and large fresh water and brackish water lakes. Brackish water areas are estimated to exceed 150,000 hectares. In addition, the State already has over 275,000 fishermen operating out of 508 landing centres. Since a large number of these fishermen come from weaker sections, the development of this sector will create considerable impact, particularly by providing livelihoods for the poor.

By 2020, Andhra Pradesh will have a thriving fisheries sector. Fish production will be four times its current size, reaching over 10 lakh tonnes a year. The sector will boast of thriving, diversified exports and provide ample stocks of a highly nutritious food to the people of Andhra Pradesh and other states.

In line with the strategy to develop agriculture, the State will undertake the following initiatives to achieve the vision:

- Develop the fisheries value chain and boost exports.
- Create and promote investment in infrastructure to support the development of fisheries.
- Ensure the setting up of institutions to build skills.
- Ensure sustainable development.

- Promote the welfare of the State's fishing community through investments in housing, education, and health.

## **DEVELOP THE FISHERIES VALUE CHAIN AND BOOST EXPORTS**

Though Andhra Pradesh is a major centre for fisheries in India, its fishery potential, like India's, is under-utilised. For example, only 25 per cent of Andhra Pradesh's inland fishery potential has been utilised so far. To truly capture the rich potential of this sector, the State will need to develop the fisheries value chain. This entails improving productivity and production, ensuring credit, and developing an organised logistics and marketing system. In addition, it would require the boosting of exports to capture the opportunity from growing exports markets.

### **Increasing productivity and production**

Currently, Andhra Pradesh produces around 1.5 lakh tonnes of fish (including shrimp and other species) in the marine sector and 2 tonnes in the inland sector. However, it has the potential to produce 4 lakh tonnes in marine fishery and 8 lakh tonnes in fresh water fishery. This potential can be tapped by increasing the area under fresh water production, increasing coastal aquaculture, and introducing new technologies to enhance production and minimise wastage.

Expanding the production of fresh water fish must be a major part of the strategy to achieve the vision. The State will consolidate the lead it has already created in freshwater fish production by spreading awareness about technologies, e.g., for seed production, to fish farmers. This will encourage diversification into producing more types of fish, such as eel, murrel and catfish. Another major initiative in freshwater fisheries is to grow freshwater prawns as an alternative species to shrimps. In marine fisheries as well, the State will need to pursue the development of other varieties, such as seabass. Here as well, it will need to acquire technology and spread its use among fish farmers.

For marine fisheries, the State can develop the following technologies: creating artificial reefs and fish aggregating devices; diversifying mechanised fishing into gill netting; encouraging voyage fishing by deep sea trawlers and providing suitable technologies for collecting "trash" fish from these vessels.



Similarly, a host of technologies can be introduced to boost fresh water fisheries. They include cage culture in reservoirs and perennial water bodies for rearing table fish; pen culture for rearing fish seed to stock size and releasing them in reservoirs; fish culture in running waters along irrigation canals; fresh water pearl culture; diagnosis of fish diseases and development of remedies.

Brackish water fisheries can also be promoted through new technologies. These will include popularising alternate species for culture; diagnosing prawn diseases; and introducing artemia culture for live feed of prawn juveniles. In addition, the State will actively pursue the setting up of Brackish Water Users' Associations that can invest in and take control of water bodies, lake drainage systems, power and road connections, charging users appropriately.

### **Providing access to credit**

As in many areas of agriculture, the development of the fisheries sector is hampered by the lack of credit. The Government will, therefore, need to introduce various mechanisms to ensure access to credit. These would include sanctioning loans for fisheries from co-operative banks on the same terms as for the rest of agriculture; establishing a credit network for Fisheries to finance deep sea and mechanised fishing vessels, processing plants, hatcheries, and other such infrastructure; and strengthening the State Fishermen's Co-operatives Federation to finance co-operatives.

### **Developing an organised domestic marketing system**

The development of the sector will require a cold chain and transport infrastructure linking production centres to consumption and marketing centres. The cold chain must comprise a network of storage facilities, complete with ice production and fish preservation facilities, and insulated transport. To eliminate wastage and increase exports of fish-products and by-products, investment in processing facilities will also be essential.

Andhra Pradesh will also need to set up a well organised and integrated domestic marketing system for this sector. At the wholesale end, this will mean establishing markets in all districts with facilities for ice production, packing, and inspection. To ensure quality, inspections should be strictly enforced, particularly for exported products. At the retailing end, the State will need to promote franchise retail outlets,

with the equipment to store fish and fish products for at least a week. These franchise stores should be supplied with products by centralised fish consumer services.

## Boosting exports

The global fisheries market is growing fairly rapidly, with an expected demand supply gap of 620.5 lakh tonnes by 2025. With production declining in leading exporting countries such as Thailand, the Philippines, Malaysia and China (due to over-exploitation), and importers consequently looking for new pastures, the outlook is bright for Indian marine exports. However, today India accounts for only around 1 per cent (in value) of world trade. Hence, large scale efforts are needed to capitalise on this exports opportunity.

Andhra Pradesh already accounts for close to 15 per cent (in value) of India's marine exports. To further boost exports, the State will first need to diversify its exports from their current domination by prawns into fish, filleted fish, canned products and fish by-products. In addition, the State will need to undertake a number of initiatives to enhance production and ensure quality. These include providing suitable post-harvest technologies to minimise wastage; pursuing semi-intensive farming for sustainable, environment-friendly production; creating the required infrastructure, such as a transport network and cold storage facilities; and ensuring hygienic and attractive packaging of finished products.

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*Andhra Pradesh already accounts for close to 15 per cent (in value) of India's marine exports.*

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## CREATE AND PROMOTE INVESTMENT IN INFRASTRUCTURE

As in most sectors, the growth of the fisheries sector will hinge on the creation of adequate infrastructure. The State will need to invest as well as promote private investment in basic and specialised infrastructure of many kinds.

In terms of specialised infrastructure, as stated earlier, a cold chain must be established throughout the State. Moreover, the marine sector will need the expansion of landing centre facilities at all important landing centres. The inland sector will need the establishment of fish seed farms/hatcheries and the encouragement of cage culture in reservoirs. In addition, the Government will need to consider the establishment of special Fisheries Estates in water-logged areas. For brackish-water fisheries, prawn disease diagnosis facilities will be crucial. These could be set up in association with the Indian Council of Agricultural Research and

corporate research bodies. In addition, the sector will need ports, power, and all-weather roads and fishing harbours complete with all facilities, such as preservation, dry docking, etc.

### **ENSURE SKILL BUILDING**

The sector faces an acute shortage of manpower. The State has already acted to meet this need. Andhra Pradesh now has a number of training institutes: two marine fisheries training centres in Kakinada and Machilipatnam and three inland training centres, among others. The training centre at Kakinada has now been upgraded into the State Institute of Fisheries Technology. However, to ensure manpower and skills of the levels required to achieve the vision, the State will need special initiatives. Two such initiatives would be strengthening the State Institute of Fisheries Technology and setting up Fishermen's Academies with the objective of enrolling children of an appropriate age and providing them with intensive training in specialised skills. The focus would be on providing students with the full range of skills such as operating fishing vessels, managing fish farms and hatcheries, and so on.

### **ENSURE SUSTAINABLE DEVELOPMENT**

Fish farming has tended to have an adverse impact on the environment mainly through overfishing and pollution. As a result, the industry has attracted severe regulation on its activities. Finding ways to ensure sustainable and environment friendly development must, therefore, be a major focus of the vision for 2020.

The State will need to enact legislation and frame regulations to govern the industry with a view to conservation and sustainable development. This legislation should cover such aspects as the treatment of effluents and the creation of buffer zones for shrimp farms to prevent the contamination of drinking water and soil. Assessing the environmental impact of all projects should be mandatory to avoid such problems as the damaging of fragile ecologies through aquaculture.

### **PROMOTE WELFARE**

To ensure the development of the fishing community, the State will need to provide social and economic infrastructure as well as security against the hazards of this occupation.

The State will emphasise the provision of education and health facilities for all habitations of the community. In addition, to improve their quality of life, it will ensure the provision of low cost housing materials, services such as sanitation and drinking water, and infrastructure such as roads, power and bridges.

Another major requirement of the fishing community is cover for the major risks associated with its occupation. The State will need to ensure investment in better shore-vessel communication systems, and disaster warning systems. In addition, the State will need to provide insurance for craft, as well as enforce safety regulations to prevent avoidable mishaps.

This broad approach to the development of the fisheries sector will ensure that Andhra Pradesh captures the full potential of its fisheries sector.

## CHAPTER 15

# Dominance in Agro-Industry and Other Major Sectors

The development of agro-industry will be a major vehicle of growth for Andhra Pradesh's trade and economy since the sector generates large scale employment and provides high returns. An important element of the growth agenda will, therefore, be making maximum use of the opportunities and potential to develop agro-industries.

By 2020, Andhra Pradesh will have a modernised and vibrant agro-industry, bringing organised activity into rural regions. Agro-industry will create higher incomes, higher export earnings, and high employment in rural areas, thus stemming migration to cities. In addition, the State will have established an unbeatable lead over other Indian states in the many agricultural sectors in which it has significant strengths.

To achieve this vision, the State will need to:

- Enable the growth and strengthen the performance of the sector.
- Develop sectors in which the State has built considerable strengths. These include cotton, seeds, oilseeds, sugar, tobacco, maize and spices.

## ENABLING THE DEVELOPMENT OF AGRO-INDUSTRY

To stimulate the growth of agro-industry, the State will need to act on several fronts: improving productivity and value addition; strengthening the marketing of agro-

based products; emphasising exports; providing infrastructure; and framing policy that stimulates and facilitates growth.

### Improving productivity

To raise productivity, the State will need to act in three ways: consolidate today's fragmented farming operations, foster research and development, and encourage the use of modern technology.

Today, achieving high productivity is difficult due to the small size of agricultural holdings. The small size of holdings has another disadvantage: it hinders the ability of farmers to raise resources and market their produce. To increase productivity, the State will need to find ways to help farmers increase the scale of farming operations. Farmers' co-operatives and contract farming would be two successful options.

By organising themselves into co-operatives, farmers will be able to acquire economies of scale. This will allow them to obtain inputs and realise better prices for their produce. India already has several success stories in agricultural co-operatives, most notably in the dairy sector in Gujarat and the sugar industry in Maharashtra. Andhra Pradesh will, therefore, emphasise the development of such co-operatives. Once established, these co-operatives will be allowed to run as independent entities with little or no interference by the Government.

Contract farming allows companies to work closely with farmers for an assured supply of low-cost, high quality agricultural produce. In their turn, farmers receive an assured market, superior inputs, technical advice, technology transfer and financial assistance. This arrangement leads to higher productivity and better linkages between the production and processing ends of the value chain.

The second element of the effort to raise productivity will be encouraging research and development. The Government will facilitate the development of R&D institutions to develop new varieties, tools, equipment and technologies. It will coordinate with the Indian Council for Agricultural Research and other Central agricultural research organisations as well as the state agricultural university to spearhead research in line with the requirements of a particular location. One model that can be followed is that of contract research.

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*The State will need to consolidate fragmented farming operations, foster research and development, and encourage the use of modern technology.*

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To be truly useful, the research carried out needs to be 'extended' to the farmer. While technology transfer through contract farming will meet this need to some extent, the Government will also need to focus on technology transfer through demonstrating its viability, i.e., through extension services.

A third way of raising productivity is to encourage the use of modern technology in farming, post-harvest operations, and processing. Today, inadequate or outdated post-harvest technologies contribute significantly to the wastage of produce.

### **Strengthening the marketing of agro-based products**

Inadequate marketing systems, including too many intermediaries, hinder the development of agro-industry. Today, farmers lack information about the business opportunities for their products. The State, therefore, will need to provide them with market information systems so that they have access to information on market demand and opportunities, prices and best practices.

In addition, too many intermediaries exist between the farmer and the customer—some sectors have as many as six or seven. These intermediaries are needed because of the lack of storage and transport infrastructure. They perform the distribution function that transport companies, commodities processors, and co-operatives provide in other countries. The system, however, is expensive, since it raises the prices of produce many times by the time it gets to the customer or processing company. Worse, it does not benefit farmers, since they receive only a fraction of the retail price of the produce.

To improve realisations for farmers, the State needs to invest or promote investment in infrastructure and encourage direct selling by farmers.

### **Emphasising exports**

The export of agro-based products can be a long term opportunity for Andhra Pradesh. To capture this opportunity, Andhra Pradesh will need to actively develop export markets. This will require two main initiatives: building skills and creating infrastructure.

Tackling export markets requires different skills. First, exporters need to thoroughly understand import practices in all major importing countries. Second, they need to understand consumer preferences in the importing country. Finally, exports require a focus on quality and superior packaging.

To develop exports, Andhra Pradesh will also need to build up its port infrastructure. Today, most exports take place through Kakinada, Visakhapatnam and other ports. These ports are congested, resulting in long waiting periods. This drives up costs and makes Indian exports uncompetitive.

### Providing infrastructure

Massive investments will be required in building infrastructure for agro-industry, not only to remove current bottlenecks, but also to facilitate expansion of activities. The Government will either invest in building this infrastructure or invite private investment to do so. Major initiatives will include:

- Creating basic infrastructure such as well-developed ports, airports, rail facilities, roads (especially between major production centres and transport centres or market yards) and providing continuous and adequate power supply.
- Providing specific infrastructure at major production centres, market yards, and transport centres, e.g., cold chains; warehouses; pre-cooling facilities; facilities to sort, grade and pack produce; vapour heat treatment facilities; refrigerated or air-conditioned air-cargo facilities, etc.

### Framing growth-enabling policy

Today, the production, marketing and processing of agricultural produce is subject to a vast body of regulation. To facilitate growth and encourage private entrepreneurship in this sector, the Government will review regulation and simplify procedures. In addition, it will frame new regulation, where required. This will require the following actions:

- **Enabling contract farming:** The State will consider formulating a legal framework for contract farming that clearly defines a tripartite 'contract farming' relationship between the farmer, the corporate institution and the Government. The Government, as a third party to the contract, will make sure that the farmer's interests are protected. Enforcement mechanisms including one for quick resolution of disputes will also be provided.
- **Creating access to credit:** This will be achieved by setting up institutions and processes to provide the local farmer (especially the small, poor farmer) with credit (through local self-help groups, rural private sector banks, etc.). To some



extent, contract farming will allow the farmer to get financial assistance from the contracting corporation. Strong farmer co-operatives and Boards will also assist in securing credit. But in areas where these relationships or institutions do not exist, providing credit through mechanisms such as local self-help groups and rural private sector banks, becomes important.

- **Simplifying procedures:** To encourage entrepreneurship and private investment, it is essential to simplify the procedures involved in setting up an agro-industry unit.

### FOCUSING ON IMPORTANT SECTORS

As part of its growth agenda, the State will focus on the four primary growth engines identified: rice, dairy, poultry, and horticulture. However, the State has built considerable strengths in other agricultural sectors as well. These include seeds, oil-seeds, cotton, sugar, maize, tobacco, and spices. The State will pursue initiatives to further develop these sectors. In this section, the strategy for developing seeds is outlined. In line with this approach, strategies will be developed for other important sectors.

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*Andhra Pradesh  
can develop  
a strong  
commercial  
seed production  
sector.*

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#### **Becoming the seed bed of India**

As a large and predominantly agricultural economy, India has one of the largest seeds markets in the world. Though over 80 per cent of this market is currently supplied by seeds saved by farmers from previous harvests, the purchased seed component of the market has been growing rapidly. Moreover, as an agricultural economy, India's top priorities would be to increase food production to maintain food security, increase agricultural productivity and upgrade agro-industry. For one, this will increase the overall market. To satisfy an estimated demand for foodgrains of 2250 lakh tons by 2005, the demand for seeds is expected to grow by 18 per cent a year. Secondly, the focus on agricultural productivity and agro-industry would encourage the use of hybrid and high-yield varieties with the potential to dramatically increase yields.

Andhra Pradesh can leverage these trends to develop a strong commercial seed production sector. Due to its varied agro-climatic zones, the State produces several varieties of seeds for an array of food and cash crops. In fact, Andhra Pradesh's seed growers supply about 75 per cent of the country's total hybrid seed requirements for many crops like maize and sorghum.

Seed production is also an optimal livelihood for farmers in rain-fed areas. Farmers in a large number of regions in Andhra Pradesh have become contract growers. Being labour-intensive, contract growing has generated much employment.

To develop its seeds sector, the State will need to act on four fronts: create infrastructure; provide access to finance; ensure skill building and research; and provide appropriate regulation.

- **Infrastructure:** To boost seed production, processing and distribution, the State will need to invest or promote investment in basic infrastructure (power, water, all-weather roads, etc.) as well as specialised infrastructure. For example, one of the biggest bottlenecks today is inadequate storage. Coupled with improper handling (seed is treated and handled like any other grain), this can severely affect seed quality. For processing, storage must be built at the processing units. For marketing, warehousing infrastructure must be improved and options such as separate storage units for seeds with staff skilled in proper handling techniques must be provided. In addition, the sector will need an adequate network of seed testing and quality control laboratories with trained and responsive staff and all requisite infrastructure.
- **Access to finance:** Lack of working capital is the biggest bottleneck for seed growers. Most seed farmers use crop loans for production. These loans must be repaid by harvest time. Since farmers receive payment from processing plants only 4-6 months after delivering the seed, they have no capital for the next season's production. Suitable options for providing working capital through formal channels must be explored. Crop insurance is the other major area of development. Insurance would be particularly useful given that seed production is a risky activity in terms of the high probability of rejection during various laboratory and field tests.
- **Skill building and research:** The State will need to strengthen research and technology in the fields of genetic engineering and biotechnology. This is already part of the vision strategy. Initiatives such as the 'Knowledge Corridor' (see Chapter 16, 'Knowledge-led Growth') will spur agricultural research in general, and research on inputs such as seeds in particular.

Seed research must focus on developing seed varieties suitable to different agro-climatic conditions (e.g., drought tolerant and pest resistant varieties) as well as

hybrid lines of higher genetic purity and quality. Already, Andhra Pradesh's N.G. Ranga Agricultural University, the Indian Council of Agricultural Research, and other national-level research organisations, are undertaking significant research in these areas. Going forward, joint co-operative R&D efforts between the private and public sector agencies must be encouraged along with transfer of technology from foreign companies.

- **Appropriate regulation:** Policy initiatives, such as the seed policy (introduced in 1975 and revised in 1988), have greatly spurred the growth of commercial seed production in India. Moreover, the policy has encouraged private sector participation, especially in hybrid seeds and tissue culture. However, the further growth of this sector will hinge on appropriate regulation. Patent law is a particularly pressing concern. Lack of patent production will prevent the inflow of the latest seed research and production into India. Regulation is also required to maintain the quality and purity standards for seeds.

By building on its strengths in agriculture and developing its agro-industry, Andhra Pradesh will turn a clear advantage into an invincible lead.

# Driving Andhra Pradesh's Industrial Growth

A major element of Andhra Pradesh's growth agenda will be building a thriving and prosperous industrial sector.

By 2020, Andhra Pradesh's industrial sector will be growing at 11 per cent a year in real terms. Andhra Pradesh will be the preferred destination for industrial investment. The State will have a competitive economy, driven mainly by private investment. Furthermore, it will pursue sustainable development, through investments and approaches that conserve resources and safeguard the environment.

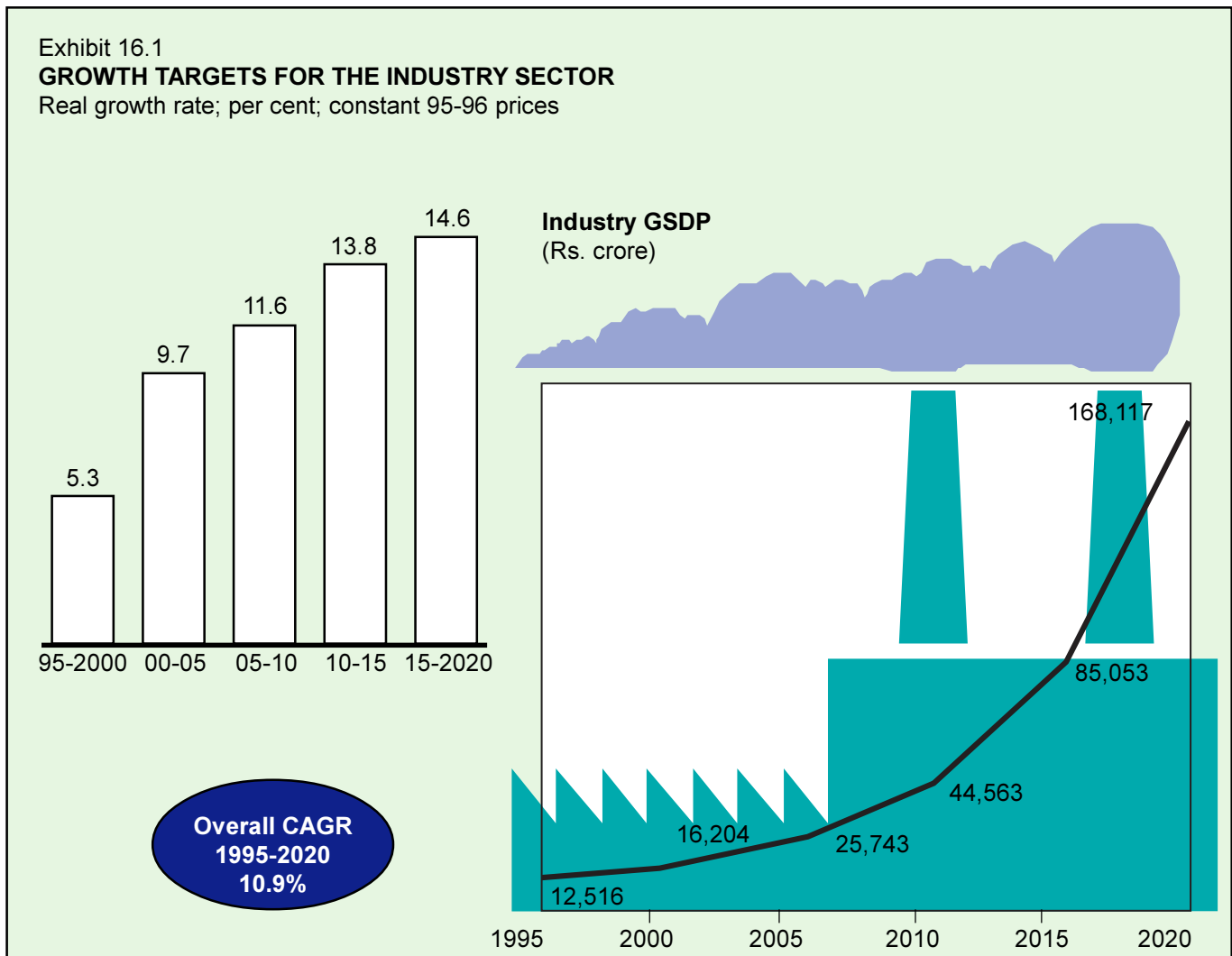
To achieve this vision, the State will aggressively pursue strong industrial growth, focus on employment generation, and target the levels of investment required.

- **Industrial growth:** Andhra Pradesh will target a quantum leap in industrial growth, to achieve an average annual growth rate of 11 per cent in real terms over the next 25 years. This will bring about a 13-fold increase in industrial GSDP from around Rs.13,000 crore in 1995-96 to around Rs.1,70,000 crore in 2020 (**Exhibit 16.1**).
- **Employment generation:** As Andhra Pradesh's economy develops, more jobs will be created in industry and services. This process will be complemented by a shift of surplus labour from agriculture to other sectors as agriculture itself becomes more productive, efficient and technology-intensive, and moves from being a subsistence activity to an economic one. By 2020, Andhra Pradesh's industrial sector will account for 21 per cent of its economy and will need to provide 43 per cent of new jobs in the State.

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*Andhra Pradesh will target a quantum leap in industrial growth, to achieve an average annual growth rate of 11 per cent in real terms over the next 25 years.*

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- **Investment:** To achieve the growth levels envisaged by 2020, Andhra Pradesh will need a total investment of roughly Rs.11,65,000 crore. Most of this investment will have to be raised through private investment.

The growth thrust will focus on three types of industries: knowledge-based, resource-based, and labour intensive. Knowledge-based industries include Information Technology (IT), biotechnology, and pharmaceuticals. However, since IT has both a manufacturing and a services aspect and since growth will come mainly from IT services, the vision and approach for the IT sector is discussed in Chapter 23 in the section on services growth engines. Similarly, biotechnology is

included under knowledge-based services and discussed in Chapter 24 of the same section. The vision and approach for developing the pharmaceuticals sector is laid out in this section.

Resource-based industries include mining, construction and agro-industry. While the vision and strategy for mining and construction are spelled out in this section of the document, agro-industry is discussed in the section on the agriculture growth engines.

Labour-intensive industries include garments and leather products. The vision and strategy for these industries is described in this section. In addition, infrastructure will be a tremendous engine of growth due to the massive need for infrastructure to implement the growth thrust. It has been discussed in Section I. Finally, the State will also encourage the growth of small-scale industries as an important sector of the State's economy.

The sectors listed above have been identified as growth engines because they meet at least one of three criteria: they build on the State's strengths; have the potential to create great economic impact; or can capture opportunities created by global trends. The rationale for the selection of each sector is outlined in the section 'Andhra Pradesh in 2020: An Overview'.

These growth engines will be developed through the comprehensive programme outlined in the Overview. It includes the creation of basic and specialised infrastructure, policy reform and deregulation, skill building, and promotion of the State to investors. The following chapters lay out the vision for each sector and the approach to achieving the vision.

## CHAPTER 17

# Scaling New Heights in Construction

The construction industry spans a wide range of activities: the construction of infrastructure, such as roads, bridges, dams, ports and airports; industrial construction, such as the building of factories, industrial complexes and power plants; real estate development, such as the construction of housing, offices, cinema houses, shopping complexes, etc.; and construction services like design, project management and consulting.

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*Andhra Pradesh will be the centre of a booming construction and construction services industry.*

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As Andhra Pradesh's economic development takes off, the demand for construction will soar for two main reasons. First, the thrust to build the growth engines will stimulate the development of almost the entire range of infrastructure: roads, railway lines, dockyards, airports, power plants, and so on. Second, economic growth will create the need for industrial estates, business complexes and housing. The construction industry will thus become a major contributor to economic development.

By 2020, Andhra Pradesh will be the centre of a booming construction and construction services industry. Construction activity will contribute 10 per cent of GSDP. Andhra Pradesh will be a key exporter of construction services to other Indian states. And Andhra Pradesh will lead other Indian states as an exporter of construction services to the world.

How exactly will the construction industry become so important to the economy? How will its growth be advanced?

Exhibit 17.1

**TOWARDS A WELL-DEVELOPED CONSTRUCTION INDUSTRY**

**From**

- Neglected sector; considered 'unprofessional'
- Underdeveloped construction sector driven by Government's contracting practices
  - Lack of transparency
  - Emphasis on price
  - Micromanagement of small-time contractors
- Few and narrowly focused training institutes
- Largely scattered unorganised activity

**To**

- Industry status; increased respectability due to increased organised sector participation
- Developed and mature construction sector driven by improved Government contracting practices
  - Standard, internationally accepted contracting formats
  - Emphasis on quality as well as price
  - Emphasis on turnkey projects with contractor responsible for project management
- Large network of trades training schools and polytechnics; construction education spearheaded by National Academy of Construction
- Active industry association that works to organise industry and provides accreditation, finance and training

- Massive demand for construction will be created over the next 25 years, much of it arising in the next five to ten years. This sector will thus become an engine of growth in its own right.
- Andhra Pradesh will develop a vigorous programme to unleash the construction growth engine (**Exhibit 17.1**). This will entail:
  1. A major shift in the Government's approach to the industry, given that the Government will remain its biggest client.
  2. An emphasis on developing industry associations to play the crucial role of providing training, finance, and expertise to industry players.



3. Initiatives to provide the sector with much-needed finance.
4. Actions to remove bottlenecks to growth and introduce quality control.
5. Initiatives to set up skill-building and research institutions to make the State a centre of expertise in construction activity and training.
6. Initiatives to attract leading construction companies to set up operations in Andhra Pradesh.

### A CONSTRUCTION BOOM

Andhra Pradesh will invest over Rs.4,00,000 crore till 2010 in the development of infrastructure like ports, roads, power plants, etc. This will give rise, directly and indirectly, to huge demand for the construction industry, much of it originating in the next five to ten years.

Construction can thus be a major source of economic growth in the near term. As infrastructure projects come up, there will be massive demand for civil construction, such as roads, and industrial construction, such as power plants. As industry grows, stimulated by the creation of infrastructure, demand for plant construction will boom. At the same time, the emphasis on environmental protection will stimulate further construction, e.g., of water treatment plants. The rise in real incomes that this growth will bring, along with the need for public and private housing (e.g., the building of townships by corporations) will further boost the construction industry.

All this growth will have a tremendous multiplier effect: core industries situated in Andhra Pradesh—cement, coal, steel—will also expand rapidly. The boom in construction activity will also generate employment on a large scale.

Construction activity will induce growth in practically every region in the State, intensifying wherever infrastructure and industrial development takes place. The Rayalaseema area, in particular, will benefit from this growth engine since it will be a major supplier of building materials given the availability of limestone (as well as a number of cement plants), various kinds of granite and other building materials in this region.

As stated before, the State Government will not be in a position to build infrastructure on the scale required on its own. It will, therefore, encourage private sector participation in infrastructure development in a much bigger way than before. This will drive major change in the construction industry and set it on a new growth trajectory.

This, however, will happen not automatically but through a concerted effort by government and industry. However, the State Government will initially play a decisive role in this effort. It will thus need to radically change its approach to Government-sponsored construction.

### **A DIFFERENT APPROACH TO CONSTRUCTION**

The Government is the largest client for the construction industry since most construction is undertaken for State- or Centre-sponsored infrastructure development and housing. As a result, the Government's approach towards construction has largely influenced how the industry has developed, particularly in terms of skills and practices. On the whole, these have remained narrow and unspecialised, for several reasons.

First, an emphasis on low costs has led to a bidding and bid evaluation process that focuses mainly on price. Furthermore, since bids seldom allow for flexibility in design, contractors have no incentive to invest in design capability, better technologies, or skilled labour.

Second, bidding and contracting processes do not follow the standard, internationally accepted, contract format recommended by agencies like the World Bank. This is particularly true in the case of contracts with domestic companies. This leaves contracts open to charges of corruption, nepotism, and so on. Furthermore, projects are often broken into packages, with individual bids invited for each package. The overall project is conceived and designed by the government department under whose aegis the works have to be constructed, leaving little room for initiative or decision-making by contractors. Not surprisingly, they see little need to upgrade their capability and knowledge about the latest construction methods, designs, and materials.

Together with a number of other issues, such as a tendency to stick to proven and tested technologies, equipment, and buildings, the construction industry has tended to remain relatively underdeveloped.

Going forward, much of the construction stimulated by the implementation of the growth agenda will still be undertaken by the Government, but a large part will be sponsored by the Government and undertaken by private players. The Government is therefore likely to remain the largest client for the construction industry in the immediate future. To help develop the industry quickly, the Government's approach to construction activity will need to change. It will now focus on achieving transparency and accountability in contracting; emphasising quality as well as cost; and shifting towards turnkey projects. The Government's role in construction will also change from micromanagement to facilitation of projects.

### **Transparency and accountability**

The Government will follow a transparent contracting process. Contract documents will follow international standards, be clearly worded, and will lay out the responsibilities for both the Government and the contracting individuals or party. Such a contract will stand in an international court of law, and will leave no room for ambiguity about the responsibilities of the contracting parties. This will instil confidence in the construction industry and will also make foreign parties positive about signing contract documents.

### **Emphasis on quality as well as cost**

To guarantee quality execution of construction projects, the Government will set up fairly rigorous pre-qualifications for bidders.

Furthermore, since an emphasis on initial cost at the expense of quality and reliability is counterproductive in the long run, other criteria such as prior experience and resource availability will be used, along with bid price, for selecting tenders. To keep a check on the bid price, the Government will work out the 'lowest workable price' for a contract, below which all bids would be rejected. This approach will compel contractors to upgrade their skills and resources, leading to a qualitative change in the industry.

### **An emphasis on turnkey projects**

Rather than break construction contracts into many small jobs to be executed by small contractors, the future approach will be to shift towards outsourcing projects on a turnkey basis to a professional construction agency. This will achieve two

benefits. It will ensure that the latest skills, designs, materials, technologies, and equipment are used. It will also ensure better management of cost and time and encourage the industry to graduate from a 'simple works execution' model to larger, more value-added activities, such as planning and design.

### **Facilitation not micromanagement**

As opposed to day to day on-field management of projects, the Government will switch to facilitating the execution of construction projects, keeping track of important aspects such as overall costs and time, and monitoring for quality. The Government will thus focus on three aspects of construction projects:

- Choosing the right construction company to carry out the contract.
- Clearing the ground for the construction agency to begin work immediately; reducing procedural delays that could lead to work stoppages; and working actively to resolve stoppages when they do occur.
- Closely monitoring the progress of the project by holding frequent reviews to ensure that time, cost, and quality conditions are being met.

Given these changes in the Government's role in construction, it will become increasingly possible for a more focused team to undertake its responsibilities.

## **THE DEVELOPMENT OF INDUSTRY ASSOCIATIONS**

In other countries, industry associations have played an important role in providing training, short-term finance, information (about foreign markets, contracts, new building materials, technologies), and quality control expertise to industry participants. In Malaysia and Singapore, for example, the Construction Industry Development Board (CIDB) plays a key role in fostering the development of the construction industry (**Exhibit 17.2**). In India, a national Construction Industry Development Council (CIDC) has been formed for the same purpose.

Andhra Pradesh will need a state-level industry association which works in conjunction with the CIDC and the State government to develop the construction industry. A major role for this association would be to introduce quality control by providing accreditation for different contractors. The association would give its member contractors a quality rating based on such factors as their expertise,

Exhibit 17.2

**THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD OF SINGAPORE**



Source: Internet – CIDB home page

experience, and resources—financial as well as skilled labour. Quality levels for a rating would be publicised so that the public could use them when hiring a contractor, say, for building houses. Peer pressure would ensure that the rating is fair.

### **INITIATIVES TO PROVIDE ACCESS TO FINANCE**

Today, the construction industry finds it difficult to raise long-term and working capital finance since financial institutions and banks do not lend to this sector. Moreover in Andhra Pradesh, contractors are not organised enough to form co-

operatives that will finance working capital. Obviously, the industry cannot grow until this bottleneck is removed.

Several options are available to provide finance to the industry. First, construction could be declared an industry so that it is eligible for the same financing and incentives the manufacturing industry receives from commercial banks.

Second, a state-level Construction Development Bank could be set up. Part of its equity could be held by the State Government, part by national developmental banks like the Industrial Development Bank of India or the Industrial Credit and Investment Corporation of India, and the rest by the public. This would provide the industry with long-term and working capital finance as well as bill discounting facilities for large projects<sup>29</sup>.

Third, small contractors, who may not be eligible for institutional funding even if construction has industry-status, will be encouraged to form credit co-operatives.

## **ACTIONS TO ENCOURAGE GROWTH AND INTRODUCE QUALITY CONTROL**

Currently, the development of the construction industry is constrained mainly by high duties on construction equipment. Indian construction companies are protected from international competition by high import duties (almost 50 per cent) on foreign equipment. This creates high prices and virtual monopolies in the domestic industry and makes it impossible for the construction industry to access modern sophisticated equipment at reasonable prices.

The State Government will persuade the Central Government to reduce duties on construction equipment. This will encourage contractors and the Government to use modern sophisticated machinery. It will also give Indian labour the exposure and skills to operate sophisticated machinery, making it more competitive in foreign markets. Additionally, duties should be gradually reduced and the domestic equipment industry should be encouraged to modernise, innovate and become more competitive on cost and quality.

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<sup>29</sup> While access to finance must be provided, care will be taken to prevent the kind of reckless construction preceding the financial crisis in Thailand and other Asian countries.

The Government will also have a major role to play in introducing quality control in this sector. An effective way to achieve this objective will be to introduce accreditation processes. The Government can work along with industry associations to develop accreditation systems.

## A STRESS ON SKILL-BUILDING AND RESEARCH

Skills in the construction industry have remained poor, particularly at the three important levels of tradesman, supervisor, and project manager. This is partly due to a lack of demand for these skills and partly to the lack of institutions to help build them. Moreover, the construction industry in the State has failed to build expertise in the use of new technologies and materials.

To make Andhra Pradesh a centre of construction expertise, therefore, the Government will act on two fronts: setting up institutes for training in construction engineering and trades; and focusing on basic and applied research in new technologies, materials, and equipment. Both objectives will be met through the National Academy of Construction (NAC), being set up by the Government in Hyderabad in collaboration with industry majors, national construction institutes and industry associations. The NAC will provide training and research through six different institutes.

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*The National Academy of Construction will provide training and research through six different institutes.*

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The Construction Workmen Training Institute, to be established by the CIDC, will offer training in trades like masonry, form work, bar bending, plumbing, sanitation, electricals, etc. Training in different trades will continue to be added, as required.

The Builders' Association of India will establish the Contractors Development Institute. This institution will provide training in productivity improvement, the use of IT, work procedures, quality assurance, safety in construction, reform of the contracting system, and rating of contractors, among many other subjects.

The National Institute of Construction Management and Research will set up an institution of the same name to train construction engineers and managers in areas like construction management, finance management, project management, infrastructure development, and industrial relations.

A Construction Methods and Materials Research Institute, to be set up by the Structural Engineers Research Centre and the National Council for Construction

and Building Materials, will undertake research in construction methods and materials. The Institute will regularly advise Government departments on the latest, most appropriate building materials, new equipment, etc., to reduce total cost while maintaining the quality of construction. Its activities will include data collection and dissemination, publication of bulletins, and networking with international institutions.

The Institute of Architecture and Design, to be established by the Jawaharlal Nehru Technological University and the Indian Concrete Institute, will provide training in aesthetics, planning, improved design practices and environmental protection.

The Andhra Pradesh Housing Board will set up a Housing Development Institute. This institute will focus on mass production technology for low cost housing, low cost building materials, and innovative financing schemes. It will be a centre of excellence for adaptive research in areas of importance to the State, such as cost-effective methods for construction in rural areas (e.g., low cost pre-fabricated housing).

Apart from these six institutes, the State will set up a Construction Materials and Equipment Exhibition Centre. The objective of this centre will be to expose industry professionals, workmen and the people to the latest technologies, methods and materials in construction. Modelled on a similar institution in Munich, Germany, the centre will be run on a commercial basis. It will have covered pavilions, an open display area, a trade centre, a function centre, an auditorium and conference hall and a construction industry museum.

The new approach to construction by the Government, the focus on development and the emphasis on training and research will provide Andhra Pradesh with a construction industry well equipped to tackle the demands of the growth agenda and stimulate growth in its own right.

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*A Construction Materials and Equipment Exhibition Centre will expose industry professionals, workmen and the people to the latest technologies, methods and materials in construction.*

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## CHAPTER 18

# Building a Strong Position in Garments and Leather Products

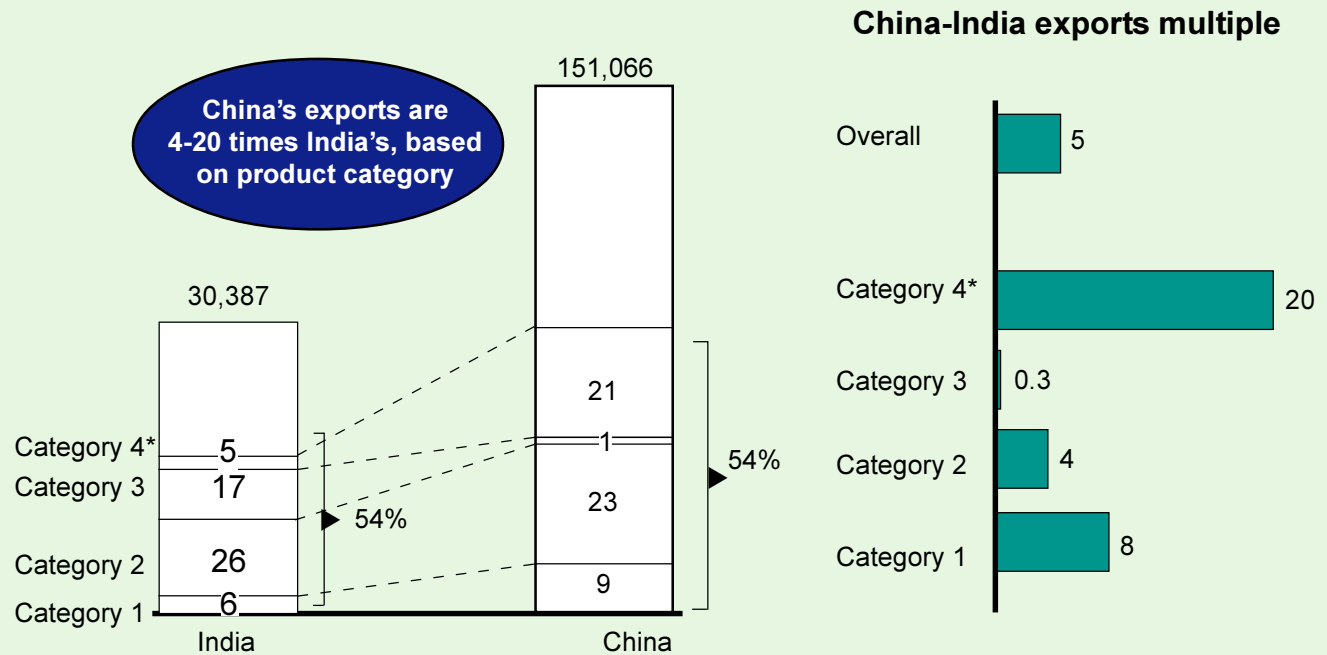
A number of industries such as garments, leather products, toys, woodwork and electronics assembly provide large-scale employment because they are highly labour-intensive. Moreover, they offer high potential for growth, mainly through exports. Such labour intensive, export-oriented industries have been the engines of growth and the mainstay of several Asian economies. Korea has achieved major growth through focusing on textiles and garments; Malaysia by focusing on electronics assembly; and China is rapidly building a strong position in garments, leather products, and toys.

However, labour costs are now rising in countries like Korea and Malaysia, offering other countries like India, which also have competitive labour costs, the opportunity to cater to world markets through the manufacture and export of these products. India has already made a strong beginning in labour-intensive industries like garments and leather products. Garment exports amounted to Rs.12,300 crore in 1995-96 and have grown at 27 per cent in the last five years. Exports of leather and leather products amounted to Rs.6,100 crore in 1995-96 and have grown at 18 per cent in the last five years. There is plenty of scope for further growth. With similar labour costs, China's leather goods exports are four times those of India's (**Exhibit 18.1**).

Andhra Pradesh can build a substantial position in labour-intensive industries. Like the rest of India, the State has competitive labour costs; an advantage that will become even stronger if the productivity of its workers is increased. The State can also capitalise on its long coastline by quickly building large ports and the logistics infrastructure needed to facilitate exports.

Exhibit 18.1

**COMPARISON OF CHINESE AND INDIAN EXPORTS OF LABOUR-INTENSIVE MANUFACTURED GOODS 1996, US\$ million**



**Notes :**

1. Category 1 - Hides, skins, leather products, footwear, headgear, etc.  
Category 2 - Textile and textile articles  
Category 3 - Pearls, precious stones, gems & jewellery  
Category 4 - Electronic and electrical equipment, parts, accessories, machinery, etc.
2. US\$ to Rs. exchange rate taken as 1:35

\* Category 4 consists of assembled electronics & electrical products and parts, as well as less labour-intensive goods like boilers and reactors.

Source: China Statistical Yearbook 1993-97; China Customs Statistics; DGCI&S; CMIE; Team analysis

By 2020, Andhra Pradesh will be home to a large, thriving base of labour intensive, export-oriented industries. The State will drive the growth of Indian exports of these goods and will contribute significantly to India's positive image in the world market. The growth of these industries will provide large-scale employment, even for less skilled labour, and increase incomes and prosperity in the State.

Achieving this vision will be a major challenge since Andhra Pradesh today does not have a large industrial base geared towards exports in these labour intensive industries. To achieve the vision, therefore, the State will follow a three-pronged approach:

- Focus on the leather products and garments industries initially and later develop other labour intensive industries such as toys, woodwork and electronic assembly.
- Build world class, focused Exports Processing Zones to boost exports activity in these industries.
- Provide supporting regulation and skill-building initiatives to promote the development of these industries.

### FOCUSING ON GARMENTS AND LEATHER PRODUCTS

Andhra Pradesh will initially focus on developing the garments and leather products industries for four reasons: the large international market for these products; India's well-established and growing international presence in garments and leather products; the phasing out of quotas imposed by the Multi-Fibre Agreement; and the highly labour intensive nature of these activities.

- **A large international market exists:** There is significant international trade in labour-intensive goods. For example, US textile and apparel imports in 1997 were approximately US\$ 60 billion of which imports of apparel from Asian and Middle Eastern countries exceeded US\$ 25 billion. In addition, garments and leather/leather products form the largest proportion of world trade in labour-intensive goods.
- **India already has a growing international presence in these sectors:** In 1996, Indian exports of garments touched \$3.5 billion (Rs.12,300 crore) in value. For leather and leather products (finished leather, footwear, garments, accessories), exports amounted to \$1.8 billion (Rs.6,100 crore). Furthermore, export of these products has grown at 27 per cent and 18 per cent respectively in the last five years. Andhra Pradesh's exporting industries can capitalise on the international reputation and relationships already built through these efforts.
- **Quotas are being phased out:** Under the Multi-Fibre Agreement (MFA), the US and the European Union imposed quota restrictions on garment exports from certain countries including India. Since these restrictions did not apply to countries like Bangladesh, Sri Lanka and Mauritius, they could build a strong exports base in garments. With the phasing out of the MFA under WTO requirements, the advantage these countries have enjoyed will disappear. This represents a

considerable opportunity for Indian garment manufacturers who have the added advantage of a large supply of good quality raw material in their own country. However, since the quota restrictions, etc., are likely to be abolished only in the early years of the next decade, growth engines like garments will begin to have an impact on the economy only after 2005 (see Exhibit 8 in the Overview).

- **These are the most value-added and labour-intensive activities in their value chain:** Garments and leather products are the highest value added segments of the textile and leather value chains. Much more income can be generated through the export of garments than the export of cotton, yarn or fabric and through the export of leather products than that of leather. Garments and leather products are also the most labour-intensive activities in their respective value chains.

## BUILDING WORLD-CLASS EXPORTS PROCESSING ZONES

Countries like Korea and Taiwan, and now China, have effectively used focused development efforts such as setting up Exports Processing Zones to spur exports and to attract foreign investment. This approach was particularly useful in the initial stages of their exports drive, when these countries did not have the technical or administrative capacity to develop a country-wide system that would support exports growth.

Following this successful model, exports of garments and leather products from Andhra Pradesh will be promoted by building world class Exports Processing Zones (EPZs). Critical factors in the success of these EPZs will be an advantageous location; the provision of essential facilities such as well-developed infrastructure, conducive policy, a good physical environment and support services, and training, research and skill-building mechanisms; and, most importantly, focused and intensive marketing to attract investment in the EPZs. Since developing the EPZs will require investments of a level beyond the means of industry today, the initial investments will have to be made by the Government. However, the Government will actively involve the private sector in building infrastructure and providing infrastructure services, and in the management of the EPZs.

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*Exports of garments and leather products from Andhra Pradesh will be promoted by building world class Exports Processing Zones*

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### An advantageous location

Experience has shown that EPZs are highly successful when located close to an urban centre with an international airport and with close access (one trucking day)

to a port. In Thailand, in the mid-'80s, an EPZ was set up on the outskirts of Bangkok, and another near the northern city of Chiang Mai. While the one near Bangkok was soon fully occupied, two years after its establishment, the one near Chiang Mai had only one factory.

Andhra Pradesh will set up, develop and promote two EPZs, one near Secunderabad for garments and one towards the southern border, close to a port, for both garments and leather products. The Secunderabad EPZ will be the Apparel Export Park (AEP) situated 18 km from Secunderabad railway station and 3 km from National Highway 7. Already under development, the AEP offers several advantages. It is close to an international airport, Hyderabad, making it easily accessible to international buyers, experts and investors. It is also close to an existing garments industry base (at Hyderabad and Secunderabad) and hence skilled labour will be available in plenty.

The Park will bring about the consolidation of a large number of small-scale garment-making units in and around Hyderabad and other parts of the State and country. It will also have skill-building institutions such as the Apparel Design Training Centre and the National Institute of Fashion Technology. It will be provided with the entire range of basic and social infrastructure required for successful operation. This will include assured power supply, adequate water supply, good roads, warehousing, truck terminals, banks, shopping complexes, training institutions, creches, and so on (see section 'Providing essential facilities' below).

### Providing essential facilities

The success of the EPZs will hinge on the provision of adequate infrastructure within the EPZ; conducive policy; facilities such as housing and support services; and training, research and skill-building mechanisms.

- **Infrastructure:** The EPZs will need sufficient, high quality infrastructure such as good communication facilities, continuous power and water supply, good roads and connections within the EPZ and to the nearby port and airport. Hyderabad airport will have to be developed into a large, advanced international airport with well-developed cargo handling facilities and several international flight connections. Similarly, Andhra Pradesh's ports will have to be developed to handle a growing, export-oriented industry. Basic transport infrastructure outside the EPZs will also be required. In addition, roads must be built between the EPZs and Hyderabad/Secunderabad, Chennai, Bangalore, Mumbai, and Salem.

- **Policy:** A stable policy environment will be needed to attract foreign investment. The EPZs will need a single-window clearance system for government procedures (on the lines of the Board of Investment in Sri Lanka), as well as quick and simplified customs clearances and export procedures. Moreover, the State will need to provide fiscal incentives like tax holidays along with the usual duty exemption schemes. Pre- and post-shipment credit facilities for exporters will also be required.
- **Housing and support services:** To attract investors, the EPZs will need to have housing, schools, hospitals, clubs for entertainment, in short, all the facilities of a township. In addition, special services, such as creches for the children of working women, must be provided.

The EPZs will also need basic support services such as banking, trade finance, foreign exchange facilities and credit lines; freight services; and a well developed network of industries supporting garments manufacture such as accessories, threads, small machine parts, etc.

Banks with strong international networks, specifically connections to major importing countries, will be encouraged to open branches in the EPZs so that financial transactions between Indian exporters and international buyers can take place smoothly. Banks will also be encouraged to open a trade finance advisory cell to advise firms on financial arrangements and the implications of their export/import transactions. This will help Indian exporters deal with the intricacies of international trade.

- **Training, research and skill building:** To develop and upgrade skills and hence improve labour productivity, and to ensure a constant supply of skilled labour, training institutes, e.g., for tailoring and design, will be needed. For garments, the State has already set up an Apparel Training and Design Centre to provide shopfloor training.

In addition, common research facilities for all EPZ units, such as CAD/CAM, testing and quality control facilities will be required since firms will have to ensure that their products meet international quality standards. Testing and quality control facilities could be approved by international organisations like the Shoes and Allied Trades Research Association (SATRA) of the UK or PFI, Germany. Without SATRA-approved quality, international buyers want to first test samples

in their own laboratories and only then place purchase orders. This causes a delay of more than a month and can make Indian manufacturers less competitive in terms of delivery lead times and flexibility. These aspects of customer service are critical buying factors for international retailers who have to contend with tight schedules in order to meet changes in fashion.

- **Focused marketing of the EPZ:** This will make or break the EPZs. Getting the EPZs to critical mass quickly is crucial to making them financially viable entities. To achieve this, the EPZs will need intensive marketing to investors. This marketing could be undertaken by a specially formed non-profit EPZ Authority, responsible for running the EPZ and aggressively marketing it to investors, among other things. The organisation would be staffed by officials from the State Government and industry. The Chief Minister or State Government officials will visit specific parts of the world to target potential investors and market the EPZ to them, in the same way as Hyderabad/Hi-Tec City are being marketed as destinations for IT investment.

### PROVIDING OTHER KEY INGREDIENTS OF SUCCESS

To successfully develop the garment and leather products industries within the EPZ and outside, at least two other actions will be required: (1) removing the reservation of the garments and leather products sectors for the small-scale sector; (2) providing institutions for building vocational (e.g., tailoring) and specialised (e.g., garment design) skills.

To boost the growth of the garments and leather products industries, the Government will have to remove stipulations reserving these areas for the small-scale sector or, failing this, at least increase investment limits. This will allow players to invest in modernising and upgrading facilities; and encourage larger players who can influence export trends and buyer perceptions to enter. In addition, the Government will need to lobby the Central Government to reduce duties, such as import duties on textile equipment and accessories, to allow manufacturers to upgrade easily.

To improve skills and create a large pool of skilled labour for the manufacture of garments and leather products, vocational training institutes will be needed. In addition, to create specialised skills, institutions, such as design institutes, will need to be set up.

Countries like Taiwan have shifted from purely low-skilled, labour-intensive exports to high-technology, less labour-intensive exports, through better research and skill upgrading. Even in labour-intensive exports, countries like China (which is often considered a low quality goods producer) are rapidly moving up the quality ladder through a focus on training, skill-building and research.

A focus on the labour-intensive garments and leather products industries will enable Andhra Pradesh to achieve a major objective of its growth agenda: creating income and prosperity for its people.



## CHAPTER 19

# Tapping Andhra Pradesh's Mineral Wealth

Andhra Pradesh has huge reserves of key minerals such as coal, limestone, granite, bauxite, and barytes. In fact, the State is estimated to have a third of India's total mineral wealth. Andhra Pradesh is the only southern state with coal deposits and has 20 per cent of India's limestone reserves and 27 per cent of its bauxite reserves. The world's best granite, Black Galaxy, is found only in Andhra Pradesh.

Careful exploitation of this mineral wealth would create a thriving and sustainable mining industry in Andhra Pradesh, generating sizeable incomes for its people. The mining sector<sup>30</sup> also has much export potential: there is considerable demand in world markets for granite and bauxite. Furthermore, Andhra Pradesh's long coastline would provide significant logistical and cost advantages for exports.

By 2020, Andhra Pradesh will have a strong mining sector, growing at 10-12 per cent a year. The State will have strong mineral-based industries like cement, alumina and granite and healthy, growing exports of minerals like granite. Andhra Pradesh will be India's cement and granite powerhouse and continue to be a dominant producer of coal in South India. The State's mineral potential will be utilised in an environmentally and socially sustainable manner (**Exhibit 19.1**).

To achieve this vision, the State will implement the following programme:

- Focusing on developing select, high potential minerals.

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<sup>30</sup> The term 'mining sector' is used here to include not only traditional mining but also related activities such as exploration and downstream mineral processing.

Exhibit 19.1

### VISION 2020 FOR THE MINING SECTOR IN ANDHRA PRADESH

From

- Largely untapped mineral wealth
- Underdeveloped mining sector
- Minerals-based industries limited to cement
- Very little exploration activity
- All development completely State-driven
- Limited focus on exports

- Focus on developing 4 high potential minerals (coal, bauxite, limestone, granite)
- Adopt a clear State-level policy on mining that removes policy bottlenecks and encourages environmentally sustainable exploration and mining
- Develop or enable development of dedicated infrastructure
- Enable private sector participation through clear, well-structured deals and simplified procedures

To

- All mineral reserves (including bauxite reserves) tapped and developed in an environmentally sustainable manner
- Developed, thriving and sustainable mining sector
- Thriving minerals-based industries – cement, alumina and aluminium, coal-based power plants, granite-processing, etc.
- Significant exploration and prospecting yielding potential new reserves
- Active private sector participation in developing mining sector
- Significant focus on exports and on participating in world markets (granite, bauxite, alumina)

- Adopting a policy framework that allows sustainable use of the State's mineral wealth.
- Developing infrastructure that enables access to minerals and creating institutions that support the development of mining.
- Actively seeking private investment in mining.

## DEVELOPING HIGH POTENTIAL MINERALS

Today, Andhra Pradesh's mineral wealth is largely untapped. Though it ranks second in reserves, the State ranks only fifth in mineral production in India. Annual coal production is an almost negligible proportion of reserves (0.3 per cent). The State produces only 14 per cent of India's limestone though it has 20 per cent of its reserves; it does not mine bauxite at all, though it has 27 per cent of India's reserves.

Accordingly, the State will focus on developing three or four key minerals: coal, granite, limestone and bauxite. These minerals have a tremendous potential to create economic impact either directly or through the development of downstream industries. Coal mining alone can generate incomes of about Rs.5,000 crore, while an increased supply of limestone can stimulate significant cement production. Coal, granite and limestone are the State's 'strong suits' and Andhra Pradesh should be able to build a reasonably strong position in these industries. In the case of bauxite, however, almost all deposits are to be found in the tribal areas of the State and the law prohibits the exploitation of any resource located in tribal areas except by the Government or tribals themselves.

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*Coal, granite, limestone and bauxite have tremendous potential to create economic impact either directly or through the development of downstream industries.*

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The State also has other mineral reserves but the economic impact from developing them is not likely to be very high. Barytes is a good example. Andhra Pradesh today supplies one-fourth of the world's consumption and can raise this to one-third. However, the world market today amounts to less than Rs.100 crore and the mineral has limited potential for downstream processing. Therefore, although barytes will continue to be mined, the mineral will not be a focus area.

Apart from developing the four minerals listed above, the State will actively encourage exploration and prospecting in beach sands for gold, diamonds, and natural gas. Continuous exploration and prospecting is necessary to ensure that Andhra Pradesh has enough reserves to develop over the long term. The key to the success of Australia's mining sector is sustained high investment in exploration; almost Rs.4,000 crore is spent every year on exploration alone. Preliminary prospecting suggests that Andhra Pradesh has considerable deposits of these minerals and gases. If these assessments are confirmed, they will offer significant potential for the State economy.

## **ADOPTING A CONDUCTIVE POLICY FRAMEWORK**

To develop the mining sector in the State, it is critical to enunciate a clear policy on mining for the sector as a whole. This policy should provide a framework for economic operation of the mining industry while addressing key issues of environmental sustainability, local resettlement and resource conservation.

The mining policy should also remove obstacles to developing minerals such as the prohibition of private mining of reserves in tribal or forest areas. Since neither the Government nor the tribals have the resources to invest, these reserves are likely to remain untapped unless this policy is reviewed. Changing the policy would unleash this potential and develop not only the mining sector but also the underdeveloped parts of the State. Orissa has already set the precedent. Today, the state has a thriving aluminium and bauxite industry because it allowed private mining of reserves located in tribal areas.

While reviewing its policy, Andhra Pradesh will ensure that the interests of the local population and tribals are protected perhaps by following Australia's approach when it allowed private mining in aboriginal lands. Australia used several mechanisms, including developing detailed resettlement plans, earmarking a part of mining royalties for local development, and educating local aborigine leaders on the economic benefits of developing the reserves.

A major emphasis in framing enabling policy will be to create regulation that makes mining environmentally sustainable and economically feasible. Regulation can ensure environmentally sustainable mining in many ways, such as making the restoration of mined areas a precondition for obtaining mining licences, or developing financial instruments that guarantee restoration of land. For instance, Western Australia requires that, before initiating mining, enterprises provide 'performance bonds' (bank guaranteed security deposits) guaranteeing that they will restore mined areas once mining in a particular area has been completed. Deposit sizes are kept marginally above the restoration cost to make it economically beneficial for enterprises to restore mined land.

## **DEVELOPING DEDICATED INFRASTRUCTURE AND INSTITUTIONS**

To build a strong mining sector, sufficient infrastructure to link mineral deposits to their markets is essential. This has been critical to developing minerals and related

industries in other countries. For instance, in South Africa, dedicated mineral rail lines connect deposits at Sishen and Saldana to a major port, Richards Bay. Furthermore, the provision of a port dedicated to minerals at Richards Bay has greatly stimulated coal exports.

In addition to creating such links, Andhra Pradesh will need to provide access to deposits, particularly in remote areas. Huge limestone deposits in Kurnool and Nalgonda and bauxite reserves in north-eastern parts of the State are particularly inaccessible. To enable the export of granite, mining enterprises will need dedicated infrastructure such as a processing park (at Prakasam or Nellore) and strong linkages to a port on the southern coast. Some infrastructure will be developed by mining companies themselves. For instance, in Orissa, an international mining company, Rio Tinto, has offered to build a dedicated railway line for its mines. However, even if private enterprise builds the specialised infrastructure it needs, the Government (State or Central) will need to facilitate and support the investments of mining enterprises, whether private, Central or State, in creating access to remote mineral deposits.

The State will also need to set up services to assist the development of mining. These include drilling contractors; laboratory and analytical services; ground and aerial survey facilities; research centres; and equipment and machinery suppliers. Thriving mining sectors in other countries are well provided with this kind of support. In Perth in Western Australia, a proliferation of such services supports the mineral industry.

### **ATTRACTING PRIVATE INVESTMENT IN MINING**

Mining and exploration are highly capital intensive. For instance, developing a coal mine of Singareni's current size will require an investment of Rs.3,000 crore. Vibrant exploration activity is critical to identifying new mineral deposits as existing ones are exhausted. However, government-owned mining enterprises are financially weak and suffer from budgetary constraints, limiting their ability to invest in exploration. Therefore, to develop strong mining and minerals-based industries in the State, it is critical to attract private investment in mining and exploration.

Further, the mining industry in the world is rapidly globalising and major companies like Australia's Broken Hill Proprietary (BHP) are gaining in

importance. Attracting investment by these majors will be a pre-condition to developing competitive mining and mineral-based industries in the State and gaining access to global markets.

Under the Centre's new mining policy, mining has been opened to private investment and states have been given the authority to develop the sector. Andhra Pradesh needs to act on three fronts: (1) create well-structured relationships with private players; (2) simplify approval processes; and (3) proactively attract private majors to make exploration and mining investments in Andhra Pradesh.

- **Carefully structure relationships with private players:** The relationship with private players will need to include many elements that, taken together, will allow the creation of a strong mining sector. These include:
  1. Providing secure land rights so that investors can safely commit large resources to mining projects.
  2. Developing objective performance criteria for continuation of title, e.g., minimum annual investment, mining schedules, and gaining investor agreement to these at the start.
  3. Allowing transfer of title to minimise 'title hoarding' and enable the utilisation of untapped mines.
  4. Clarifying progression from exploration to mining rights, e.g., allowing 'conjunctive rights', i.e., rights to both exploration and mining, if necessary.
  5. Creating reasonable and mutually acceptable conditions for joint ventures.
  6. Structuring royalties carefully, e.g., *ad valorem* in line with international practice, to allow economic operations while ensuring a fair return for the use of resources owned by people.
  7. Deregulating pricing for commercial purposes, e.g., in coal, to stimulate private entry.
- **Simplify approval/clearance processes for private exploration and mining:** Approval processes for mining are notoriously tedious even in other parts of the world. However, quick approvals are essential for competitiveness, especially in

a dynamic and international commodity-pricing environment. To simplify procedures, the Government will need to:

1. Minimise the number of clearing authorities. Authorise a 'one-stop council' to grant mining and prospecting leases quickly.
2. Simplify land acquisition processes.
3. Quickly identify, and assign for private mining, blocks unutilised by public sector enterprises like Singareni due to lack of funds.
4. Lobby for quicker Central Government processes (e.g., permissions from the Foreign Investment Promotion Board for gold, diamonds; quicker/automatic clearances from the Directorate General of Civil Aviation/Defence Ministry for aerial prospecting).
5. Make operational the regulation allowing prospecting and exploration in large areas to allow scale.

• **Proactively attract private players:** To attract private investment in the sector, the Government will need to undertake the following initiatives:

1. Gather and collate geological information about minerals in the State and make it available to prospective private entrants.
2. Provide 'industry status' to mining to allow players to benefit from incentives to industry.
3. Develop effective marketing materials.
4. Proactively seek out world majors and market Andhra Pradesh's potential to them.

To achieve these objectives, key short term initiatives will be undertaken over the next three years. They include:

- Framing mineral-specific policies for all major minerals including bauxite and integrating them into an overall mining policy.

- Studying Orissa's approach to allowing private mining in backward areas as well as Australia's to developing aboriginal lands to build the case for private mining in Andhra Pradesh's tribal areas.
- Framing a strategy for private participation in mining.
- Reviewing and streamlining current procedures for mining and exploration.

The liberalisation and development of Andhra Pradesh's mining sector will allow the State to create considerable wealth from its mineral reserves.



## CHAPTER 20

# A Major Pharmaceuticals Centre

The Indian pharmaceuticals industry<sup>31</sup> is large and rapidly growing. The domestic market is now Rs.12,500 crore in size. Exports are almost Rs.2,500 crore and are growing rapidly at 20 per cent a year—today, over 60 per cent of bulk drugs and over 15 per cent of formulations produced in the country are exported. The domestic market (dominated by formulations) is expected to grow by 15-20 per cent over the next 10-15 years, driven mainly by increased healthcare spending, and improved healthcare infrastructure and delivery systems. Exports will grow faster especially in generic formulations as India-based companies capitalise on their low manufacturing costs.

Imminent regulatory change will have significant impact on the industry. First, once it signed the Uruguay Round of WTO (then GATT) agreements, India committed itself to granting Intellectual Property Rights by amending its patent law to recognise product, and not just process, patents after 2005. After this year, Indian pharmaceutical companies will lose their primary advantage over multinational companies operating in India: the freedom to produce drugs developed and patented by other companies, so long as the process is modified. Second, the number of drugs under price control is likely to reduce as has been the trend. Finally, expected reform in the insurance sector will change the method and cost of healthcare delivery. For instance, the opening up of health insurance will increase the number of people covered by health insurance (currently negligible), spurring the growth of the domestic market.

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<sup>31</sup> Comprising the manufacture of bulk drugs, intermediates, and formulations, as well as research and development of new drugs.

This regulatory change will create both challenges and opportunities for Indian pharmaceutical companies. Multinationals, inhibited so far by the laws applicable to their parent companies, and the lower realisations in the domestic market will renew their interest in India. The new scenario will offer India-based companies (both Indian and multinational) at least three opportunities: producing off-patent bulk drugs and generics for international markets; making on- and off-patent drugs for the domestic market; and undertaking research and development (R&D) for new molecules.

Andhra Pradesh is well-positioned to capture these opportunities. The State has a dominant position in the Indian pharmaceuticals industry. Roughly one-third of the country's bulk drugs is produced in and around Hyderabad; the city is rightly considered 'The Bulk Drug Capital of India'. Andhra Pradesh's pharmaceuticals sector is well known internationally for its skills in chemical synthesis and process engineering, and its speed to market. The State can capitalise on these strengths—acting quickly in the window of opportunity provided by regulatory change—to build a strong, globally competitive pharmaceuticals industry.

By 2020, a large part of India's pharmaceuticals activity (manufacturing of bulk drugs, intermediates, and formulations, as well as research and development) will be based in Andhra Pradesh. The State will be the preferred location for investment in pharmaceuticals, for Indian as well as multinational companies. It will also be a centre for pharmaceutical and healthcare education and research, and will be known for innovation in these areas (**Exhibit 20.1**).

How will India-based companies respond to the challenges and opportunities that the regulatory change will create? How will Andhra Pradesh capture these opportunities to create economic impact? To summarise:

- Indian and India-based companies will build strong positions in the domestic formulations and the international generics market. They will also strengthen their R&D effort to conduct basic research and undertake the development of new molecules.
- Andhra Pradesh will use the opportunities to unleash the rapid growth of its pharmaceuticals sector by moving quickly to:
  1. Build the requisite infrastructure (such as Bulk Drug Estates and Exports Promotion Zones for formulations) to attract international and domestic players.

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*Andhra Pradesh will be the preferred location for investment in pharmaceuticals, a centre for pharmaceutical and healthcare education and research, and will be known for innovation in these areas.*

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**Exhibit 20.1**

**VISION FOR THE DEVELOPMENT OF THE PHARMACEUTICAL INDUSTRY IN ANDHRA PRADESH**

**From**

- Home for significant bulk drugs production
- R&D limited to reverse engineering of molecules; chemical synthesis
- Good supply of technical people and skilled workers
- Existing manufacturing activity not focused on environmental considerations

Andhra Pradesh leverages existing strengths to capitalise on the opportunities provided by a changing global regulatory scenario

- Builds dedicated industrial estates for bulk drugs and formulations
- Ensures all development takes place as per environmental plans
- Facilitates the establishment of specialised educational institutions in Medical Sciences/Biotechnology

**To**

- Home for one-third of India's entire pharmaceuticals activity (bulk drugs, formulations, intermediates, R&D)
- R&D extended to basic research and drug development; increased focus on bio-technology and areas highly relevant to India like tropical diseases and alternative medicine
- Supply of educated, skilled workers greatly enhanced through establishment of specialised educational/research institutions and a University of Medical/Life Sciences
- All manufacturing kept within environmental norms

2. Create favourable policy and simplify procedures to make it easy to operate in the State.

3. Create, or facilitate the creation of, specialised educational and research facilities.

**BUILDING ON THE OPPORTUNITIES FROM REGULATORY CHANGE**

In response to the three major opportunities available, India-based companies will exercise three options.

First, they will set up manufacturing capacity to make off-patent bulk drugs and generics formulations to cater to export markets. They will also undertake outsourcing arrangements for multinationals. India is an attractive base for producing drugs going off-patent as well as generics formulations because of India's skills in chemical synthesis, process engineering and lower time to market, all at competitive costs.

Second, Indian and India-based companies will also focus on serving the attractive domestic market. Indian and multinational companies will set up, solely or in collaboration, manufacturing and marketing ventures to supply drugs (both on- and off-patent) to the domestic market. Multinational companies are likely to introduce more of their patented products in the Indian market and even expand manufacturing in India. However, this is likely to happen only after 2005. Indian companies, on the other hand, will move quickly to consolidate and strengthen their presence in the Indian market before 2005. They will also try to exploit the small window of opportunity till 2005 by stepping up process research to reverse-engineer patented molecules, increase their product portfolio and build market share in these drugs. In the new fiercely competitive scenario, weaker companies will be taken over or will fade out. This trend towards consolidation has already started as is evident in the heightened pace of mergers and acquisitions among pharmaceutical companies in the country today.

Third, large Indian players will set up R&D facilities to conduct basic research and development. India's large pool of scientific expertise at competitive costs (the cost of a researcher in India is one-fifth that of the US) and its strong base of research and skills in chemical synthesis and process engineering, will spur multinational companies to contract out basic research and drug development to India-based research companies. In addition to basic research, Indian companies could also undertake pre-clinical and clinical development activities such as stability testing and bio-equivalence tests, as well as clinical research. Indian companies are well-placed to do this given their competitive position in pre-clinical and clinical development.

Andhra Pradesh has the potential to capture all three opportunities. But the extent to which these advantages can be turned into investment will depend on whether it can provide adequate infrastructure; favourable policy and simplified procedures; and a better developed skill and knowledge base. **Exhibit 20.2** shows how Ireland's Cork region has been developed into a major pharmaceuticals centre.

Exhibit 20.2

DEVELOPMENT OF THE PHARMACEUTICAL INDUSTRY IN A PARTICULAR REGION :  
CASE STUDY OF IRELAND (CORK)

Description

- 220 companies in Ireland are involved in the manufacture or distribution of pharmaceuticals, chemicals and associated products. 70 of these are pharmaceutical producers. Most of these companies (28) are concentrated in the city of Cork
- Eight out of the top 10 pharma companies in the world have plants in Ireland
- Plants are concentrated in Cork, especially around the 1,000 acre Ringaskiddy industrial area in the city's harbour
- Most activity is at the high-tech value end of the industry (e.g., bulk-actives under patent)

Key factors for development

- Favourable corporate tax regime: manufacturing and exporting companies have to pay only 10% corporate tax as opposed to the normal 40% till the year 2010
- Easy availability of a well-educated workforce

Impact

- Pharma industry in Ireland contributes over £ 1 billion (US\$ 1.7 billion) each year to the Irish economy
- Pharmachem companies have invested over £ 2 billion (US\$ 3.4 billion) in the Irish economy till date and have provided well-paid, full-time and stable employment: they have been the Irish economy's most stable employers

Environmental issues

- Ireland is a forerunner in Europe in implementing the Integrated Pollution Control (IPC) licencing scheme. An IPC licence is a single licence to cover emissions and takes into account transfers of chemicals from one medium to another. IPC currently applies to all new and existing large-scale pharmachem companies

Source: Press articles: Reuters Textline, The Irish Times, The Times (London); Internet

## BUILDING THE REQUISITE INFRASTRUCTURE

To make Andhra Pradesh one of India's key pharmaceuticals and healthcare centres in India, the State will undertake specific initiatives to set up the requisite infrastructure.

To facilitate the manufacturing of bulk drugs, a large bulk drugs estate will be set up close to the coast. The estate will have common integrated facilities for effluent treatment, waste disposal, etc., and a pipeline of at least 200 metres running into the sea to dispose of treated waste. It will be connected by a highway to the nearest airport/

port and to Hyderabad. The estate will also be provided with telecommunications infrastructure, including dedicated links to Hyderabad; assured water and power supply; and air travel facilities between Hyderabad and the nearest city.

The State will also set up two formulations parks, one close to Hyderabad, and the other, an Exports Processing Zone possibly close to the bulk drugs estate. These parks will also be provided with assured power and water supply, good roads and telecommunications facilities. The EPZ will be connected to the nearest airport/port by a highway and will share the bulk drugs estate's air travel infrastructure. Both the bulk drug estate and the EPZ will be provided with local townships complete with housing and amenities such as hospitals and schools.

The park at Hyderabad will be close to the proposed 'Knowledge Corridor' which has a zone for biotechnology-based and other research in medicine, life sciences and pharmaceuticals. This zone will be built around a world-class medical/life sciences university. Facilities available in this zone are described in Chapter 24 on 'Knowledge-Led Growth'.

## **CREATING FAVOURABLE POLICY AND SIMPLIFYING PROCEDURES**

Almost all Indian states (particularly Gujarat and Maharashtra, which have also dominated this sector) will compete for investment. Andhra Pradesh will thus have to differentiate itself by providing not only the requisite infrastructure but also a superior operating climate. This would mean clearing investment proposals faster; providing for quicker environmental and other clearances; and locating manufacturing facilities in line with environmentally sustainable developmental plans. To spur basic drug development and research activity, the State will need to provide for strict enforcement of intellectual property rights. To this end, it will facilitate drug patenting, introduction and testing by setting up special cells through which applications can be speedily channelled and submitted to the relevant Central Government authorities. The State will also set up venture capital funds that will invest in small research units undertaking research in chemical synthesis and biotechnology. Lastly, though customs is a Central subject, the State will facilitate exports by providing a single-window channel for customs clearances.

In addition to removing procedural delays and bottlenecks and instituting a strong enforcement mechanism for patent protection, the State will provide fiscal incentives

like tax holidays, land at concessional rates, etc., to attract investment. The fiscal incentive structure will change over the years, with stronger incentives provided in the years immediately after 2005. Over and above this, the State will work closely with the Centre to ensure the quality of the drugs produced by introducing mandatory audits and checks and ensuring that pharmaceuticals companies adhere to Good Manufacturing Practices (GMP).

### CREATING SPECIALISED EDUCATIONAL AND RESEARCH FACILITIES

To develop a knowledge- and information-intensive sector such as pharmaceuticals, knowledge-building institutions are critical. In fact, a key reason for the mushrooming of the bulk drugs industry around Hyderabad has been the presence of government-owned research institutions such as the Centre for Cellular and Molecular Biology (CCMB) and the Indian Institute of Chemical Technology (IICT), as well as the research base of Indian Drugs and Pharmaceuticals Ltd (IDPL). This has helped Hyderabad develop world-class process engineering skills. However, to develop and sustain the pharmaceuticals sector in Andhra Pradesh long term, substantially higher investments in skill-building and knowledge building are required. The State will need to facilitate the development of institutions providing specialised education in pharmacy, pharmacology, biotechnology and medicine.

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*The State will facilitate the development of institutions providing specialised education in pharmacy, pharmacology, biotechnology and medicine.*

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Chapter 24 details the plan for Andhra Pradesh's 'Knowledge Corridor' with three distinct zones, one of which revolves around Medical Sciences and Biotechnology. This zone will have a University of Medical Sciences/Life Sciences to spearhead research in biotechnology, pharmaceuticals, and disease prevention and cure. Linked to this university will be hospitals, focused on areas like cancer treatment or cardiovascular diseases, and research institutes, focused on areas like tropical diseases. Apart from providing specialised medical services, these institutions will also provide opportunities for clinical drug testing, drug development, and so on. The State Government will take the lead in setting up educational and research institutes to further the development of areas like alternative medicine (homeopathy, ayurveda) where the private sector may not be willing to make substantial investments.

By turning the developments after 2005 to its advantage, Andhra Pradesh will build on its considerable achievements in the pharmaceuticals sector to become the Pharmaceuticals Capital of India.

# Dynamic Small-Scale Industries

Small-scale industries form a significant part of Andhra Pradesh's economy. The sector contributes around 6 per cent of GSDP and employs close to 2.5 lakh people.

Many of the growth engines selected for focused development, e.g., construction and pharmaceuticals, will give rise to many opportunities for small-scale industries. The sector will thus be a major focus in the strategy to create rapid growth in the State.

By 2020, Andhra Pradesh will have many dynamic and profitable small-scale industries. Propelled by technological development and capability building, small-scale units will flourish all over the State. The proliferation of these industries will provide many opportunities for entrepreneurship and employment, leading to a significant rise in income for the State's people.

The approach to developing small-scale industries will focus on:

- Building skills and promoting technological development.
- Providing infrastructure and credit.
- Reforming policy and simplifying procedure.
- Providing assistance with marketing.
- Encouraging the development of special categories of entrepreneurs (women, scheduled castes and tribes, backward classes, etc).

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*Propelled by technological development and capability building, small-scale units will flourish all over the State.*

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## **BUILDING SKILLS AND PROMOTING TECHNOLOGICAL DEVELOPMENT**

To meet the growing need for skilled manpower in this sector, the State will invest, as well as attract private investment, in vocational education and training by increasing the number of Industrial Training Institutes, polytechnics, engineering colleges, and other skill-building institutions.

The focus will be on ensuring that training in these institutions is oriented towards the needs of industry. This will be achieved in many ways. Advisory committees with representation from industry will be set up to advise on curricula, equipment, on-the-job training, and campus recruitment. Practising entrepreneurs will be invited to teach or take some classes in training institutes. Finally, students will receive practical training in local industries.

To become globally competitive, the small-scale sector will have to invest in modernising and upgrading its technologies. This will be achieved through collaboration with research institutes; setting up a technology exchange and setting up a technology development and modernisation fund.

- **Collaboration with research institutes:** Small-scale industries will interact closely with research institutes such as the Indian Institute of Chemical Technology, the Centre for Cellular and Molecular Biology, and the Institute of Tool Design, to upgrade their technology through the latest advances in knowledge in their segment. Since technology transfer to small units is currently restricted by the 24 per cent limit on equity participation by large units, the State will lobby the Government of India to increase this limit to at least 49 per cent.
- **Technology exchange:** The Andhra Pradesh Technology Development Corporation will set up a technology exchange to provide information to small entrepreneurs about the latest technological developments worldwide, including the scope for technology transfer. The exchange will operate in close association with industry associations such as the Confederation of Indian Industry, consultants, and international organisations such as the World Assembly of Small and Medium Enterprises.
- **Technology development and modernisation fund:** The Small Industries Development Bank of India set up this fund in 1995. So far, small-scale industries in Andhra Pradesh have received Rs.1.5 crore through this fund. Going forward,

it will be given wide publicity to encourage more small-scale units to make use of this mechanism for securing funds.

## **PROVIDING INFRASTRUCTURE AND CREDIT**

As in most other sectors, small-scale industry will need both basic and specialised infrastructure to achieve the growth envisaged. The initiatives to promote growth engines such as garments, knowledge-based services, and information technology will also benefit this sector. Thus, the theme parks, such as the Apparel Exports Park and Biotechnology Park (see Chapters 18 and 24) will provide infrastructure and infrastructure services to small-scale industries situated in these parks, through their own or private investment. Providing captive mini-power plants, industrial water supply, roads, street-lighting, sanitation, etc., will be an integral part of this approach. Similarly, the provision of infrastructure, such as international airports, ports, warehouses, cold storage chains, cargo-handling facilities, and container services, will help to boost exports in the small-scale sector.

The Government will also encourage the setting up of private industrial estates to introduce competition in the provision of infrastructure services. Special facilities, such as clearances from the Pollution Control Board, Municipalities, the State Electricity Board, etc., will also be provided to these private estates.

A major impediment to the growth of small-scale industries is their lack of access to institutional credit. Faced with tighter capital adequacy norms and pressure to improve profitability, commercial banks are reluctant to lend to this sector and try to hedge their risk by insisting on collateral to fully cover loans. Furthermore, there are long delays in sanctioning loans.

The State Government will actively work with the Reserve Bank of India to ensure that small-scale units get adequate and timely credit. The Government will also ensure that the specific needs of this sector are met. This includes ensuring credit for the tiny and cottage industries sector and providing mechanisms for the meeting of dues to small-scale suppliers from defaulting large and medium units.

## **REFORMING POLICY AND SIMPLIFYING PROCEDURES**

Policy restrictions and complex procedures greatly hinder the growth of the small-scale sector. Reforming policy and simplifying regulation are thus preconditions to boosting the growth of this sector.

## Reforming policy

The two major areas of reform would be fiscal concessions and labour law.

- **Fiscal concessions:** In 1996, liberal fiscal concessions were provided to all new industries, large, medium or small. As a result, older units are finding it hard to compete with newer ones and becoming sick. Moreover, these fiscal concessions are being misused in several ways. For instance, a unit coming to the end of a tax holiday period is declared sick and closed down. The same entrepreneur then registers a new unit merely to get the tax concession once again. Such fiscal incentives also lead to unhealthy competition between states, which offer all kinds of concessions, justifiable or not, to attract investment in their state.

The Government will revise its policy to remove these anomalies. In addition, to improve the competitiveness of the small-scale sector, it will seek a dialogue with other state governments, particularly those of the southern states, to rationalise fiscal incentives and curb unhealthy competition.

- **Labour law:** The strength of small-scale units lies in their flexibility in production. The multiple labour laws, however, sometimes restrict this flexibility. These different laws need to be revised and combined into a single legislation. The State Government has already set up an Industrial Commission to study and recommend the consolidation of these laws and will pursue this issue with the Centre.

## Simplifying procedures

As for most industry in India, the setting up and operation of small-scale industries is severely hampered by the tangled web of procedures to be followed and clearances to be obtained. For small-scale industries, the most problematic procedures are the multiple registrations, certifications, and inspections required.

Some action has already been taken to address these issues. The Central Documentation and Clearance Centre (CDCC), set up in the Commissionerate of Industries, helps entrepreneurs obtain all the necessary clearances within a specific time and attaches an 'escort officer' to every project to follow up with Government departments. A voice-mail system has also been installed through which entrepreneurs can get information about the status of their applications. In addition,

the Industrial Commission mentioned above will also work to simplify and consolidate procedures.

To rationalise the inspection process, the Government will allow accredited private agencies with a credible track record to undertake inspections and issue certificates.

## PROVIDING ASSISTANCE WITH MARKETING

Small-scale units also need assistance with marketing themselves and their products. The Government will provide this assistance indirectly by providing supporting infrastructure and opportunities for trade exchanges.

The Government will set up permanent exhibition-cum-convention centres in district headquarters and large industrial towns. While the Government will invest in the construction of these centres, their management will be handed over to associations of small-scale units or professional agencies.

In addition, the Government will set up an International Trade Fair and a large Convention Hall in Hyderabad. This centre will organise international exhibitions, fairs and conferences to help local industries market their products in international markets. The Government will also help small-scale units participate in foreign exhibitions and organise visits of foreign trade and industry delegations to Andhra Pradesh.

Furthermore, to encourage ancillarisation by large manufacturing units, the Government will organise vendor development programmes in major cities of the State.

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*The Government will set up permanent exhibition-cum-convention centres in district headquarters and large industrial towns.*

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## ENCOURAGING THE DEVELOPMENT OF SPECIAL CATEGORIES OF ENTREPRENEURS

In keeping with the general policy towards the development of the small-scale sector, and its policy to develop women and disadvantaged groups, entrepreneurship among these groups will be encouraged in several ways.

First, emphasis will be placed on identifying industrial activity suitable to areas in which disadvantaged groups live, and to the creation of infrastructure, augmentation of credit, and capability building, for these groups. This will include helping them

acquire technical and managerial skills through training programmes. To ensure access to credit, the State Government will encourage the setting up of local area banks and exclusive banks for women. Second, entrepreneurs from disadvantaged groups will be offered special fiscal concessions such as enhanced tax limits.

This integrated approach will bring about the resurgence of small-scale industry in Andhra Pradesh, fostering economic growth and bringing prosperity to all groups and regions of the State.

# Harnessing the Opportunity in Services

The service sector is of key importance to an economy aspiring to achieve rapid growth and prosperity. The sector has been the key vehicle of growth and employment in developed economies. Over the last 50 years, it has led GDP growth in these economies, more than doubling its share of GDP over this period and dramatically increasing its share of employment.

This trend towards a dominant services sector is also evident in our country, particularly in Andhra Pradesh. The services sector in the State already accounts for nearly 43 per cent of GSDP and employs 20 per cent of the workforce. Going forward, this sector will play a critical role in achieving Vision 2020 for Andhra Pradesh.

Achieving Vision 2020 calls for the creation of 18-20 million new jobs by 2020. The question is: where are these jobs to be found? Neither agriculture nor industry will be in a position to create jobs in the numbers required. Agriculture in the State already employs 70 per cent of the population. Furthermore, the declining land-man ratio shows that this sector can no longer absorb further additions to the workforce. Industry typically does not create the larger proportion of jobs in the economy. In terms of employment, the sector accounts for 11 per cent of jobs today. Given growth trends, and even with the growth stimulated by the effort to realise the vision, by 2020, agriculture and industry together can be expected to account for only 43 per cent of new jobs. Clearly, the services sector will have to fill the gap.

There are other compelling reasons for focusing on the services sector. First, developing this sector helps create prosperity: in different economies, there is a high

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*The service sector is of key importance to an economy aspiring to achieve rapid growth and prosperity. The sector has been the key vehicle of growth and employment in developed economies.*

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positive correlation between high GDP per capita and the intensity of services activity in the economy, mainly because wage levels in this sector typically exceed those in industry and agriculture. Second, in economies with a strong emphasis on services, people tend to climb the 'skill ladder' much faster. Finally, since services businesses are typically skill- and not investment-intensive, they are ideal growth vehicles for countries with scarce capital and a large workforce.

Andhra Pradesh will, therefore, focus on developing its services sector as a critical aspect of realising its growth aspirations.

By 2020, Andhra Pradesh will have a thriving services sector that contributes more than 60 per cent of the State's GSDP and is a major generator of new, higher value-added jobs in the economy. Marked by entrepreneurship, innovation and continual upgrading of skills and technology, it will have created new avenues for growth, especially in rural areas, and considerably raised the standard of living in rural Andhra Pradesh.

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*Andhra Pradesh will have a thriving services sector that contributes more than 60 per cent of the State's GSDP and is a major generator of new, higher value-added jobs in the economy.*

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To achieve this vision, the services sector will have to grow at around 12 per cent per annum on an average for the next 25 years. This will amount to a 16-fold increase in the size of the sector, amounting to an increase in its contribution to GSDP from Rs.34,000 crore in 1995-96 to Rs.5,40,000 crore in 2020 (**Exhibit 22.1**). In terms of investment, though this sector is less capital-intensive than industry, significant investments will still be needed mainly to develop the infrastructure (e.g., communications network) needed to spur growth in services businesses. Overall, investments totalling around Rs.17,27,000 crore will be required until 2020 to achieve the targeted growth in this sector. By 2010, investments of over Rs.3,60,000 crore will be required.

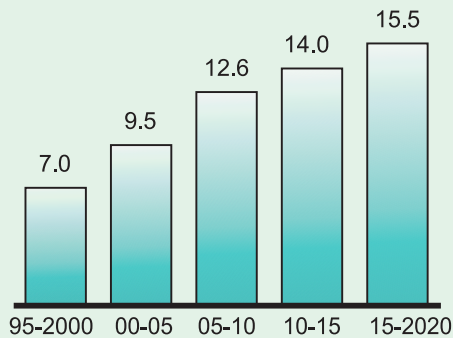
To achieve the growth levels targeted, the State will focus on the following growth engines: Information Technology; Knowledge-based Services; Tourism; Logistics; Small-Scale Services; Healthcare; and Education. The rationale for their selection is provided in the section 'Andhra Pradesh in 2020: An Overview'.

The key thrust in developing the services growth engines will be Government-led initiatives, many of which are already underway. These will be on the lines of the Government's successful efforts to develop a world class IT base and make Andhra Pradesh a preferred location for global IT companies. Proactive government initiatives have been key to creating a vibrant IT sector in the State. Similar initiatives in other sectors will create opportunities for several large, high-investment services

Exhibit 22.1

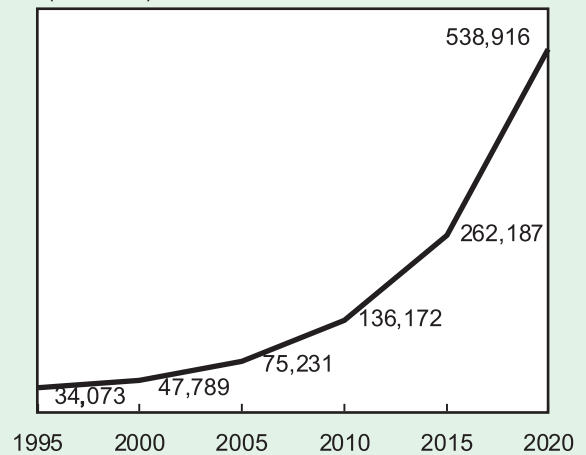
**GROWTH TARGETS FOR THE SERVICES SECTOR**

Real growth rate; per cent; constant 95-96 prices



**Overall CAGR  
1995-2020 =  
11.7%**

**Services GSDP**  
(Rs.crore)



businesses and jobs for highly skilled professionals. These initiatives will also spur the growth of several low-investment businesses and generate employment for semi-skilled workers.

Developing the services sector will mean replicating the IT model for other growth engines such as Tourism, Logistics and Knowledge-based services. These initiatives will be bolstered through a comprehensive programme that includes regulation reform, infrastructure creation, the promotion of private investment and a major thrust on advanced education. This programme is laid out in the chapters that follow on the individual services growth engines.



# A Premier IT Centre of India

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*Andhra Pradesh will leverage information technology to attain a position of leadership and excellence in the information age and to transform itself into a knowledge society.*

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India is already a key player in the global Information Technology (IT) software and services arena. IT software and services could be India's largest exports industry and the first one in which the country develops several world class companies. This rapid growth in IT offers tremendous opportunity for the State. Andhra Pradesh will leverage information technology to attain a position of leadership and excellence in the information age and to transform itself into a knowledge society. The State will use information technology to improve the quality of life of its residents and help them achieve higher incomes and employment. It will also aggressively promote the pervasive use of IT to achieve higher levels of efficiency and competitiveness in both public and private enterprises.

By 2020, Andhra Pradesh will have achieved one of the highest levels of IT literacy in the world. IT applications will have transformed the day-to-day life of Andhra Pradesh's people; IT will deliver services and information to the people's doorstep and be used in every aspect of their lives. The State will have a well-endowed information technology industry, spanning the areas of hardware, software and human resources.

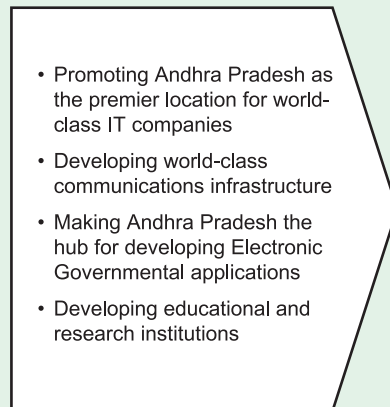
Long before 2020, Andhra Pradesh will be a premier centre for IT and will be recognised globally as a key location for IT companies. It will be the destination of choice for IT professionals and IT companies, both domestic and foreign. Having created outstanding institutions and attracted the world's best professionals, the State will be India's most important IT education centre. Andhra Pradesh will be

Exhibit 23.1

**THE ROAD TO BECOMING THE PREMIER IT CENTRE OF INDIA**

From

- An emerging IT centre; fast catching up with Bangalore
  - Select global players like Oracle, Baan, Microsoft, Integraph operating in Hyderabad
  - Early investment in Hi-Tec City: 1 sq. km
  - Attractive place to work for IT professionals
- First steps towards creating centres of educational excellence in IT: Indian Institute of Information Technology set up
- Initial moves towards making IT a way of life



To

- A premier centre for IT software and services in India and the world
  - Large and thriving IT mega-hub in and around Hyderabad (over 50 km); supplementary location in Visakhapatnam
  - Significant number of the Top 500 global IT companies have centres in Hyderabad
- Preferred destination for IT professionals
- An information-based society in which IT is a way of life
- Pioneer in Electronic Government applications
- The IT education centre of India; leader in distance and distributed learning model-based education

one of the leading information-based societies of India and the world and a model state in the use of IT (Exhibit 23.1).

The State has already moved to develop a world class IT base. It is now a preferred location for global IT players like Microsoft, Oracle, Baan and Metamor. In recent times, the State capital, Hyderabad, has generated much momentum in attracting global players. Recent initiatives include the setting up of the Indian Institute of Information Technology, a creative collaboration between the Government and the private sector. This has spurred prominent companies such as IBM, Microsoft, Oracle and Sun Microsystems to set up training institutes in the State. In addition, the

Government has initiated the development of the Hi-Tec City complete with state-of-the-art infrastructure. Finally, the Government is taking the necessary steps to boost IT usage in the State and create India's first Electronic Government.

Andhra Pradesh has also made much progress in developing an IT base. The Government is making IT a part of people's lives through the Electronic Government initiative. The State is setting up a wide area network using the existing fibre optic networks of the Department of Telecommunications connecting the State administration at Hyderabad with the districts. The State Wide Area Network will provide connectivity for a Government Intranet and will support intra-governmental communications for data, voice and video. The State Government is also in the process of finalising a joint venture with a Singapore-based company to deliver value added network services to citizens.

The presence of public sector companies, such as CMC and ECIL, and of private sector IT companies has created a strong technology base in the State. Today, over 150 companies (as compared to 14 in 1992) are registered with Hyderabad's Software Technology Park (STP). Prominent companies in Hyderabad include Satyam Computers, Baan Software, Oracle, Metamor and Intergraph. More recently, Andhra Pradesh attracted one of the most important global software players to the State when Microsoft decided to locate a software development centre in Hyderabad focusing on cutting edge technologies. Andhra Pradesh also has over a hundred professional training institutes producing between 12,000-15,000 IT personnel annually.

Capitalising on this start, Andhra Pradesh will work towards achieving its vision for the IT sector by accelerating its five-pronged programme:

- Developing world-class IT infrastructure, including broadband digital connectivity.
- Making Andhra Pradesh the hub for developing Electronic Government applications.
- Promoting Andhra Pradesh as the premier location for world class IT companies.
- Developing education and research institutions to make Andhra Pradesh a premier IT Education centre in India.
- Bringing IT into the service of the people in all parts of the State.

## DEVELOPING WORLD-CLASS TELECOMMUNICATIONS INFRASTRUCTURE

Andhra Pradesh will need to develop an advanced communications network in the targeted IT areas and major business hubs. Several IT services of the future will need far more telecommunications bandwidth than the services of today. Project Oxygen of the CTR group will be establishing terrestrial networks capable of supporting bandwidths of up to 1 terabit per second. Such high bandwidths will be necessary to sustain the communications explosion in the Information Age.

The Government will facilitate and promote the establishment of broadband digital networks in the State. For example, the existing transmission and distribution network of the Andhra Pradesh State Electricity Board could be used to establish a digital backbone in association with the private sector. The Government will also initiate action to provide high bandwidth connectivity with international gateways. Terrestrial connectivity will be set up with available nodes such as FLAG (Fibre optic Link Around the Globe) at Mumbai or Project Oxygen at Visakhapatnam (expected to be in place in 2003).

In addition, the Government will promote the use of satellite communication systems to provide connectivity, especially to remote locations in the State. A number of international players are investing in global mobile personal communication services (GMPCS), such as voice, fax, low rate data, and messaging, and in broadband satellite systems. AT present, Iridium, Globalstar and ICO are positioning GMPCS systems, all of which are likely to be in service by early 2000. Similarly, companies like Lockheed Martin, Loral, Alcatel, Hughes, and Motorola are setting up broadband satellite services, most of which are likely to be available in the early years of the 21st century.

The State Government will also promote the use of wireless communication technologies to provide better communication services to State residents since, in certain situations, wireless communications have distinct advantages over other means of communication. High quality, digital wireless telephony that ensures more efficient use of the radio spectrum will be particularly encouraged. The Government will ensure the efficient management of the radio frequency spectrum to maximise convenience to users. An integrated approach to wireless communications to meet governmental requirements will be developed.

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*The Government will promote the use of satellite communication systems to provide connectivity, especially to remote locations in the State.*

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The development of new technologies offers the distinct possibility that cable television networks will become a multi-purpose communications medium for homes and offices. In view of the wide reach of cable television networks in the State, the Government will explore the possibilities of using such networks to provide better and more cost-effective communications to State residents. With a television penetration of 20 per cent, Andhra Pradesh already has over three million home with access to a TV. Over 60 per cent of these homes have a cable connection as well. Moreover, TV and Cable TV penetrations are showing stupendous growth. Between 1995 and 1997, the number of homes with a TV has risen by 70 per cent and cable connections by a whopping 228 per cent. Even at a much more modest growth rate, by 2010, Andhra Pradesh could reach TV penetration levels of over 60 per cent of households and cable penetration levels of close to 100 per cent of these households in the longer term.

## **MAKING ANDHRA PRADESH THE HUB FOR ELECTRONIC GOVERNMENT APPLICATIONS**

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*IT will be used not merely to automate processes but as a strategic tool to simplify procedures and revamp processes.*

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The State Government is committed to leveraging IT to achieve greater accountability, responsiveness and transparency. Thus, IT will be used not merely to automate processes but as a strategic tool to simplify procedures and revamp processes. The Electronic Government initiative will achieve all this and more. To enable this initiative, the Government is setting up infrastructure, putting in place a large number of services for the people, and reviewing regulation, as required.

It would be useful to list some of the benefits the Electronic Government will provide. First, it will allow citizen-Government transactions at any convenient time or place throughout the day or year. At present, citizens can usually transact business with Government departments only during office hours. With the Electronic Government initiative, however, most Government services will be available 24 hours of the day.

Second, cross-departmental integration of information will provide a one-stop interface for all transactions between citizens and the Government. This will increase the convenience of citizens in more ways than one. For instance, a change of address provided to one Government department will be incorporated in the databases of other departments without the need for multiple correspondence. IT will, therefore, make it possible for the Government to deliver one-stop, non-stop services to its citizens.

Last, the use of IT and the integration of databases and services will remove the element of monopoly in the dispensation of Government services to citizens. Many of the maladies of Government currently arise from its monopoly of information. The Electronic Government initiative, therefore, will also reduce the scope for corrupt practices.

As part of the Electronic Government initiative, an overall IT architecture will be defined for the State that will ensure consistency and inter-operability of the databases of different Government agencies and departments. Open standards will be adopted as far as possible. All databases requiring distributed access will be web-enabled. A Central Data Repository, together with Government Information Locator Services, will be set up to provide information support to citizens and to public/private agencies. All acts, rules, regulations, manuals, and Government orders will be digitised to enable electronic access. Base maps of the State will be digitised to ensure uniform adoption by Government departments and agencies. Such maps will also be available in a suitable form for access by citizens.

The State is currently setting up its value added network services. The scope of this project will be expanded to provide a wide range of services to citizens. Currently, about 21 services in six broad categories have been identified. They include public utilities, registration and stamps, commercial taxes, transport services, employment exchanges, and procurement by the Government.

To guarantee high quality services, the State Government is currently defining a number of citizen's charters spelling out the standards of service that Government departments/agencies are to maintain. All charters will be available electronically. Mechanisms for redress of grievances will also be provided.

The State will undertake a comprehensive review of existing legislation with a view to suitably amending it, as required, for the pervasive use of IT. Cyber laws will be enacted, where necessary, to facilitate the adoption and use of IT both within and outside the Government. One objective of such legislation will be to ensure the right to privacy of citizens along with their right to information.

The success of the Electronic Government initiative will require the creation of a dedicated group of enablers within the Government. The State Government will identify, train and motivate a highly committed set of officers who would combine a deep understanding of technology with a high level of expertise. In addition, the

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*The State Government is currently defining a number of citizen's charters spelling out the standards of service that Government departments/agencies are to maintain.*

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change management skills needed to address issues with the induction of IT will be systematically developed in Government. The Government will define an organisation structure for the future and will set a clear time frame for implementing it.

In parallel, training for Government staff will be revamped to equip them with the skills they need in the Information Age. A Centre for Electronic Government will be set up to provide training to Government staff. The Centre will showcase technologies and applications, and provide research and consulting support for the use of IT in government.

Flexible working hours will be introduced, wherever feasible, and telecommuting will be encouraged together with workflow automation systems in Government/ departments and agencies.

## PROMOTING THE STATE AS A PREMIER IT LOCATION

To become a premier location and sustain this position, Andhra Pradesh will need to act on two fronts. First, it must provide companies and professionals with infrastructure and living conditions comparable to any other location in the world. IT professionals are highly valued globally and have their pick of choice jobs and living conditions all over the world. They will choose to move to Andhra Pradesh only if working and living conditions are close to those of other countries of the world. Second, the State must develop and implement a compelling promotional programme to attract enough IT companies to create critical mass in Hyderabad within the next five years.

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*Andhra Pradesh will provide companies and professionals with infrastructure and living conditions comparable to any other location in the world.*

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### Building infrastructure

The first task will be to create infrastructure. The State will need to develop a much larger area than Hi-Tec City as the State's IT hub and equip it with world class facilities. Hi-Tec city is only one square kilometre whereas the US' Silicon Valley is an 80 km strip and Malaysia's Multimedia Super Corridor (MSC) is a 750 km strip. By planning a large location early, Andhra Pradesh will be able to avoid the unnecessary congestion that occurred in some states and keep real estate prices at reasonable levels for a longer period of time. Specific initiatives on this front will include developing a Master Plan for creating a significantly expanded version of Hi-Tec City in the area around Hyderabad and planning in advance for additional centres like Visakhapatnam (IT professionals typically prefer to live in cosmopolitan urban or suburban areas).

Business areas with cutting edge facilities will need to be supplemented by outstanding residential facilities and living conditions, e.g., Cyberjaya in the MSC. The State Government will invite private sector participants to create satellite townships near the Hi-Tec City and the other IT hubs it plans to develop in the near future.

### **Promoting Andhra Pradesh**

The State will go all out to attract the world's top 500 IT companies and get the maximum number to locate in Andhra Pradesh. It will aim to attract a large number of companies to invest in the State by 2000. The promotion campaign will comprise three initiatives. First, the State will develop a specific programme aimed at top global companies. This will consist of targeted promotions in Silicon Valley and Europe. Second, the State will develop alliances with targeted countries such as Japan, Singapore and Germany to encourage companies in these countries to set up IT centres in Hyderabad, Tirupati or Visakhapatnam with dedicated links to their IT hubs. Third, the State will promote the use of venture capital to make Hyderabad the hub of new start-ups. This will include launching its own venture capital funds and attracting key global venture capitalists to develop Andhra Pradesh-focused funds.

Many of the projects relating to the Electronic Government initiative will be large and pioneering and, therefore, very attractive to IT players. In addition, they will include large software development efforts, a major part of which will be undertaken in Andhra Pradesh itself.

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*Andhra Pradesh will use IT to improve the quality of education in general and of primary education in particular.*

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### **DEVELOPING EDUCATION AND RESEARCH INSTITUTIONS**

Andhra Pradesh will use IT to improve the quality of education in general and of primary education in particular. The attitudes, skills, and values required to succeed in the information age are very different from those required in the past. For example, collaborative skills and teamwork will be far more important in the future than they have been in the past. Consequently, teaching methods will require substantial change. The State will provide access to IT networks to bring about a radical change in the pedagogy and content of education. In fact, a principal goal will be to provide schools with high quality educational content. Initially, SMART schools will be set up in a pilot basis in select locations. Later, the concept will be expanded to cover all schools.



Internet connectivity will be systematically provided to all schools, colleges and universities. To avoid being swamped by foreign information content over the Internet, the Government will encourage the creation of high quality educational material in Telugu. Digital libraries will be set up to preserve and propagate the State's rich cultural heritage.

To advance IT education in the State, the Government has set up the Indian Institute of Information Technology. However, the IIIT is only a start. Andhra Pradesh will reach far beyond this programme to become a premier IT research and education centre in India, particularly for new and innovative areas like e-commerce, etc.

The effort to become India's IT education and research capital will include two thrusts. First, the State will develop several institutions comparable to the IIIT in locations such as Visakhapatnam, Vijayawada and Tirupati to spread the avenues for a high quality IT education beyond Hyderabad. These institutions could either be dedicated to IT education or offer more generalised courses like the IITs or IIMs but with a strong IT content. Andhra Pradesh will collaborate with top global universities to provide world-class, specialised IT education.

Second, the State will become an innovator in technology-based learning through the distance and distributed learning models. Andhra Pradesh will forge links with international educational institutions to introduce distance learning and knowledge enhancement programmes. In addition, the State Government will attract leading IT education companies to develop web-based IT education formats as Internet access grows in the State. Andhra Pradesh will also set up a virtual university to promote distance education in the State.

To make its vision a reality, the State will explore innovative models of working with the private sector to fund IT projects and deliver IT services in a cost and time effective way, ensuring that everyone involved—the Government, the private sector, and the people—are net gainers.

## **BRINGING INFORMATION TECHNOLOGY INTO THE SERVICE OF THE PEOPLE**

The primary focus of the State will be to use IT to improve the quality of life of the State's residents. Consequently, the State will give priority to IT applications that can bring about a tangible improvement in the lives of the people. These will include ensuring better information access and enabling e-commerce.

Applications providing better information access to people in rural areas will be developed. For instance, farmers will be provided with information on market prices and better farming practices through the Internet. The benefits of such information can be gauged by the fact that, in countries like the Philippines, subsistence farmers have become specialists in pineapple cultivation through the use of IT. New technologies will enable the delivery of highly personalised services to individual farmers.

The global expansion of e-commerce will enable the effective use of electronic networks to market the products and services of artisans and small-scale industries. Women in Panama, for example, are beginning to use the Internet to market their handicrafts. Internet services will be set up to improve both the quality and marketing of the products of cottage and small-scale industries.

The communications network will be expanded to provide affordable communications to the people. In countries like Bangladesh, the Grameen Phone service has enabled poor women to purchase mobile phones as an economic investment.

IT can be used to advance education as well as business. Andhra Pradesh will, therefore, use IT as a strategic tool to improve the quality of education and to provide access to education, for instance, through distance learning.

The State has already made considerable progress in bringing IT into the service of the people. The Electronic Government initiative and the value added network service to be introduced in the State will provide the State's people with easy access to data and the means to quickly conduct transactions with Government departments. It will also establish a user-friendly interface between the Government, State residents, and businesses. The details of both these initiatives have been provided in the section 'Making Andhra Pradesh the hub for electronic government applications'.

To secure all the benefits outlined above, Andhra Pradesh will strive to achieve the highest penetration of computers and information appliances in the country.

IT software and services offer Andhra Pradesh one of the most significant growth opportunities. By moving fast to implement its growth programme, the State can establish a dominant position in this sector.

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*The State will give priority to IT applications that can bring about a tangible improvement in the lives of the people.*

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# Knowledge-Led Growth

An important element in the growth of developed economies like the US and Japan has been the contribution of the 'knowledge worker'. A knowledge worker is an individual with specialised knowledge and skills in fields like software, medicine, accounting or engineering. The more an economy can utilise and attract knowledge workers, the faster is its development. Andhra Pradesh's Institute of Information Technology will create a cadre of software professionals—a large congregation of knowledge workers in the State. Their presence will be further expanded by the development of the Andhra Pradesh Knowledge Corridor.

The Andhra Pradesh Knowledge Corridor will be a large area equipped with the infrastructure required to foster research and develop a new set of IT enabled services, many of which will facilitate the commercialisation of newly-developed technologies. The Knowledge Corridor will foster activity that promotes economic development through the development or exchange of knowledge and technologies. It will have world-class universities that provide easy access to intellectual capital and continually develop knowledge workers. The Knowledge Corridor will provide an investor-friendly environment that not only attracts large corporations to set up their R&D centres here but nurtures entrepreneurship and start-ups.

Knowledge corridors have been conceptualised, planned and implemented in other parts of the world. The Research Triangle Park (RTP) in North Carolina, USA and the Hsinchu Science-based Industrial Park in Taiwan are two successful examples (**Exhibits 24.1 and 24.2**). The RTP focuses on R&D but allows assembly operations (though no full-scale manufacturing) to be carried out. The Hsinchu Park focuses

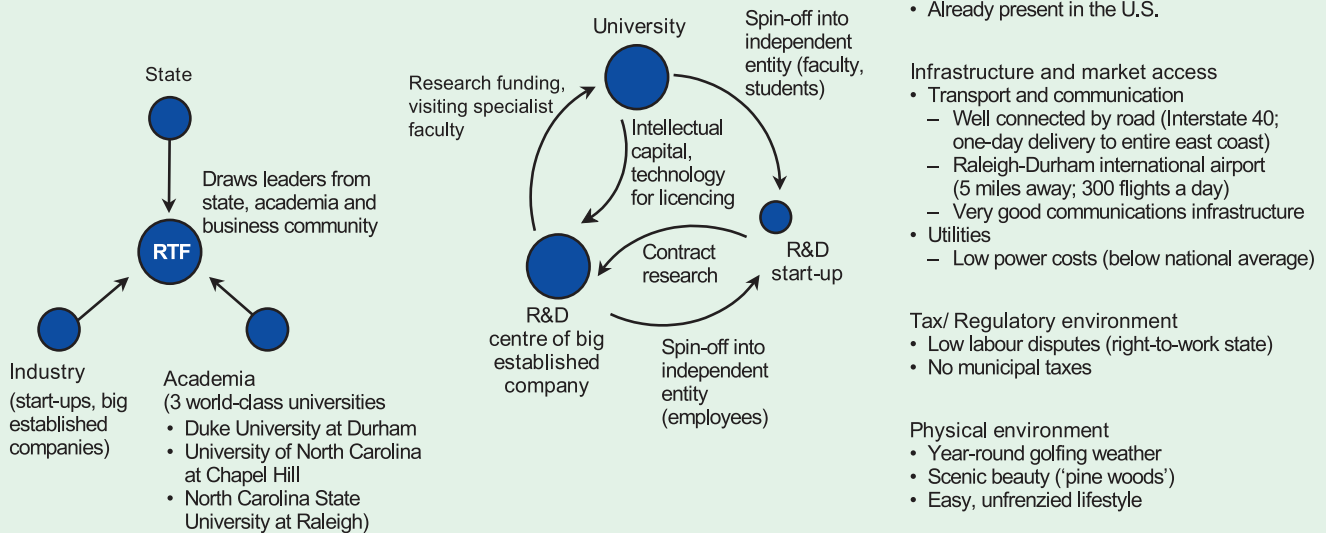
Exhibit 24.1

**NORTH CAROLINA RESEARCH TRIANGLE PARK: FEATURES**

1. Run by the non-profit Research Triangle Foundation (RTF), not the State

2. Concept relies heavily on symbiotic relationship between industry and academia

3. Most key factors for success already present or created



Source: Press clippings, Internet, 'The Early History of the Research Triangle Park' (Albert N. Link)

on research in the physical sciences and electronics, and allows manufacturing activities to be undertaken.

The potential to create a Knowledge Corridor in India is high. Not only does research in areas like advanced materials, cutting-edge industrial technologies and biotechnology provide attractive opportunities, several options to develop a centre for knowledge-based remote services using IT networks are also emerging. For example, corporations like Bechtel and Fluor Daniel are leveraging Indian engineers in areas around Delhi to offer remote engineering services to their global offices and clients. In American Express and GE Capital, Indian accountants work from

Exhibit 24.2

### A TALE OF TWO RESEARCH PARKS

	<b>Hsinchu Science-based Industrial Park, Taiwan</b>	<b>North Carolina Research Triangle Park</b>
<b>History</b>	<ul style="list-style-type: none"> <li>Taiwan's first industrial park, located an hour away from Taipei, in Hsinchu</li> <li>Established in 1980; 400 ha in size</li> <li>Home to 170 companies (30% foreign); R&amp;D expenditure averaging 6% of sales</li> </ul>	<ul style="list-style-type: none"> <li>Established in 1958</li> <li>6,800 acres (8 miles long, 2 miles wide)</li> <li>Home to large research and manufacturing companies – IBM, NT, Burroughs Wellcome, etc.</li> </ul>
<b>Concept</b>	<ul style="list-style-type: none"> <li>Established to foster hi-tech industry development in Taiwan</li> <li>3 science and technology institutions situated close by to provide intellectual capital</li> <li>Manufacturing allowed in the park</li> <li>Facilities (utilities, services, housing, etc.) funded and provided by the state</li> </ul>	<ul style="list-style-type: none"> <li>Established as R&amp;D park to encourage innovation and move away from traditional low value-added industries</li> <li>Flanked by 3 world-class universities that jointly educate 75,000 students a year, provide scientific manpower and have symbiotic relationship with industry</li> <li>Manufacturing not allowed, only assembly operations</li> </ul>
<b>Facilities</b>	<ul style="list-style-type: none"> <li>Special incentives to investors—low-cost loans and government grants, tax waivers, tax holidays, capital repatriation, easy access to venture capital</li> <li>Handling of export/import licences, warehousing, shipping, etc., by Park's administration</li> </ul>	<ul style="list-style-type: none"> <li>World-class communication/transport infrastructure</li> <li>Low-cost utilities</li> <li>No municipal taxes</li> <li>Technology Licensing Committee to speeden up licensing procedures</li> </ul>
<b>Impact</b>	<ul style="list-style-type: none"> <li>23,000 people employed in Park</li> <li>Industry growth 4 times that of rest of Taiwan in 1996</li> <li>Labour productivity twice that of rest of Taiwan</li> <li>Industry turnover \$11 billion, went up by 68% in '96 over '95; profitability up by 38%</li> </ul>	<ul style="list-style-type: none"> <li>Highest per capita PhDs and engineers</li> <li>\$1 billion in wealth added every year</li> <li>Has 94 R&amp;D companies and numerous start-ups</li> <li>Hosts some 36,000 technical people</li> <li>R&amp;D firms in the RTP have relocated their manufacturing locations to areas close to RTP</li> </ul>

Source: Media articles, Internet, 'The Early History of the Research Triangle Park' (Albert N. Link)

offices in India for the global operations of these companies. United Television in Mumbai is using Indian artists to develop animation films for leading global companies, transferring their output through satellite networks.

Andhra Pradesh will make a large and pre-emptive strike for the large emerging market for Indian R&D, technology development and remote services by creating India's first comprehensive Knowledge Corridor, combining world class universities, globally competitive and innovative knowledge-based businesses and cutting edge research centres.

By 2020, Andhra Pradesh's Knowledge Corridor will be the preferred location for R&D and technology commercialisation in India (or even Asia) and a primary centre for knowledge-based remote services. The State will be the preferred location for knowledge workers to live and work.

Andhra Pradesh will achieve this ambitious vision by acting on four fronts:

- Establishing the Knowledge Corridor by creating three world class educational institutions focused on Medical Sciences/Biotechnology, Industrial Technology and IT-enabled Remote Services. Each institution will have linked R&D centres and business estates where new enterprises can start up and flourish (as has happened with Stanford University and the Massachusetts Institute of Technology).
- Aggressively promoting the Knowledge Corridor as a business and investment location to corporations, Non-Resident Indian entrepreneurs (many of who are from Andhra Pradesh) and venture capitalists.
- Providing specialised infrastructure including superior telecommunications, uninterrupted power, well developed business estates, and attractive residential areas.
- Persuading the Central Government to enact the necessary regulation, particularly on Intellectual Property Rights (IPRs), without which the Knowledge Corridor cannot realise its potential.

## ESTABLISHING THE KNOWLEDGE CORRIDOR

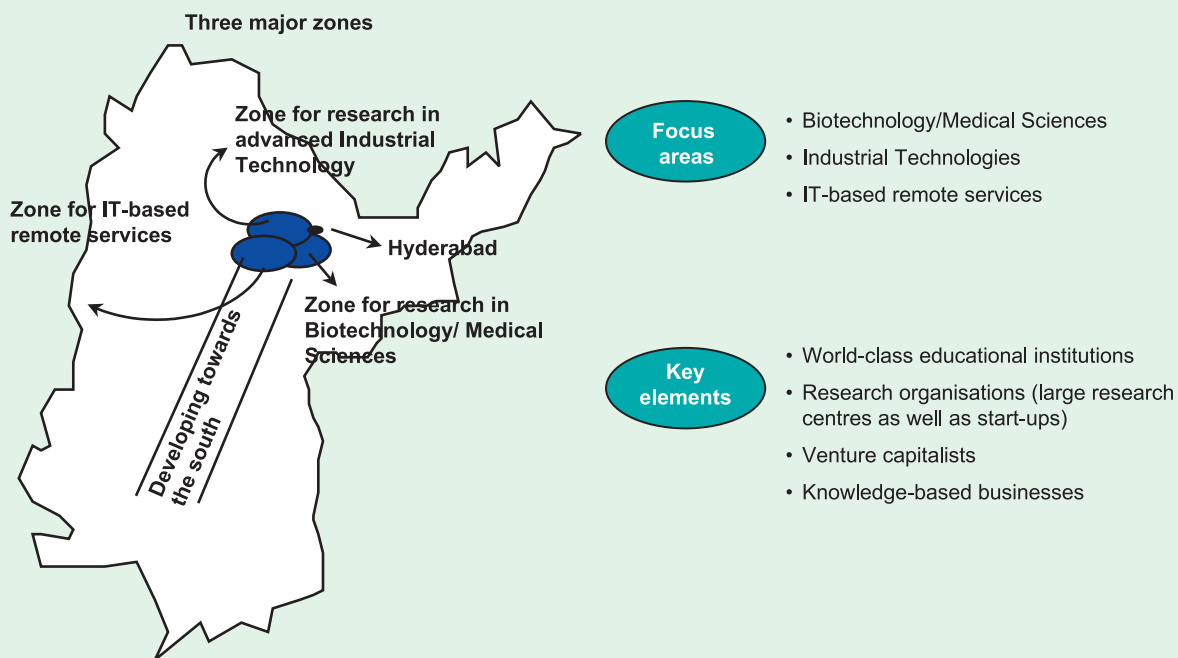
Andhra Pradesh's Knowledge Corridor will begin at the Hi-Tec City near Hyderabad where a number of leading software companies will create new facilities.

The Knowledge Corridor will be developed by making large extensions to this area: with the Hi-Tec City at one end, it will extend towards the south. The State will develop three new 'zones', each around a world class educational institution that offers specialised education and conducts research in a particular field of knowledge (**Exhibit 24.3**). Each zone will also have research centres and business estates to spur research, technology development and technology commercialisation in its particular field: Medical Sciences and Biotechnology, Industrial Technology, and IT-enabled Remote Services.

Exhibit 24.3

**ANDHRA PRADESH'S KNOWLEDGE CORRIDOR: FEATURES**

CONCEPTUAL



- **Medical Science/Biotechnology:** The first step in the creation of this zone is the Biotech Park being set up in collaboration with the Industrial Credit and Investment Corporation of India (ICICI). This will be a profit-making venture focused on research for industrial production. The thrust areas are based on current demand in, and the future potential of, Andhra Pradesh and include hybrid seeds, plant protection, vaccines, bio-informatics, and environmental biotechnology, among others.

This zone will also have a University of Medical Life Sciences, spearheading research in pharmaceuticals and disease prevention and cure. Linked to this university will be hospitals, focused on areas like cancer treatment or cardiovascular diseases,

and research institutes, focused on areas like tropical diseases. Apart from providing specialised medical services, these institutions will also provide opportunities for clinical drug testing, drug development, etc. The zone will also have a number of R&D units, concentrating on basic research on new drugs, biotechnology applications, medical products and devices, etc., in close collaboration with the University and its associated institutes. In addition, it will have an estate in which businesses focusing on these and related areas will be set up.

- **Industrial Technology:** An Institute of Industrial Technology will focus on developing cutting edge industrial technologies and on areas like advanced materials and opto-electronics. Government- and private-sector-funded R&D programmes on the lines of the National Science Foundation programmes in the US will be linked to the curriculum. This zone will also have estates housing independent R&D units and businesses that focus on developing and commercialising applications for industrial technology.
- **IT-enabled Remote Services:** This zone will benefit from its proximity to the Hi-Tec City and the IIIT. A series of institutes focused on several niche areas in remote services such as design and animation, finance and accounting, multimedia and visual arts, will be set up to foster the development of skills for these services. A number of R&D start-ups and the research wings of large IT and multimedia organisations will be part of this zone as will be small and large businesses focusing on providing remote services. Large business complexes with all facilities required will be provided to attract and retain these organisations and businesses.

Each of the zones will be spread over sizeable areas. The institutions will be complemented by appropriate accommodation to create a campus-like environment. With the development of the planned Hyderabad–Bangalore expressway, there will be enough scope to create a Knowledge Corridor of substantial size, which, by 2020, will be comparable to the best in the world.

## PROMOTING THE KNOWLEDGE CORRIDOR

Andhra Pradesh will implement a multi-pronged promotional drive for its Knowledge Corridor. This drive will target the following groups:

- **Businesses and Entrepreneurs:** Andhra Pradesh will aim to repeat its success in attracting IT ventures to the State in the three new focus areas as well. This will



include a special effort to attract NRIs from Andhra Pradesh to return to the State, set up and work in businesses that will develop the Knowledge Corridor. The State will also create an environment in which home-bred entrepreneurs can flourish.

- **Knowledge workers:** While these will primarily be attracted through the employment opportunities the new businesses will offer, Andhra Pradesh will invest early in creating the living conditions that will make knowledge workers willing to relocate to the State. For local knowledge workers, the State will generate sufficient excitement through its promotions so that they are encouraged to stay.
- **Financiers:** The State Government will make a special effort to attract appropriate venture capitalists and set up Andhra Pradesh-dedicated funds
- **Collaborating partners:** The State will seek collaborations with foreign universities such as Johns Hopkins for the Medical Institute or Carnegie Mellon for the Industrial Technology one. In addition, the State will also encourage corporations to set up educational departments in the university, or research centres (similar to IBM and Microsoft initiatives in IIT).

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*Andhra Pradesh will aim to repeat its success in attracting IT ventures to the State in the three new focus areas as well.*

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### PROVIDING SPECIALISED INFRASTRUCTURE

Knowledge workers are highly valued and highly mobile, travelling all over the world in response to attractive offers of employment. The large number of knowledge workers leaving India for employment overseas, e.g., software developers for the US, doctors for the Middle East, prove the point. To prevent the migration of its knowledge workers, Andhra Pradesh will have no option but to make working and living conditions in the Knowledge Corridor as good as those offered by the best employers in the world.

To provide satisfying conditions, the State will need to build appropriate infrastructure. At the very least, the Knowledge Corridor will need power round the clock; a high capacity telecommunication network and high speed connectivity; clean and hygienic living and working conditions; and quality real estate for business and housing.

Initiatives similar to the ones to be undertaken for IT services, such as setting up mini-cities or townships with all amenities, along the lines of similar townships in

North Carolina, USA will be needed. To build townships of the desired quality, the State will have to call upon the services of world class real estate developers.

## ENSURING ENABLING REGULATION

As in all the growth engines, providing regulation that supports and enables growth is critical to success. This is especially true for the Knowledge Corridor since its development will hinge on the resolution of contentious regulatory issues such as Intellectual Property Rights (IPRs).

India's position on IPRs is the single biggest bottleneck to the establishment of the Knowledge Corridor; most global companies consider that Indian law does not adequately protect intellectual property. However, after 2005, India is likely to alter its laws to bring them into compliance with global policies on patents and IPRs. This should clear the path to creating the Knowledge Corridor. If Andhra Pradesh moves to establish the educational institutions early, it will be in the right position to exploit the post-2005 scenario.

In addition, the State Government will have to offer tax holidays, simpler licensing and patenting norms, smoother processes and the necessary laws for venture capital to flourish, not to mention a special cell to remove bottlenecks to the establishment of the Corridor. The last step is absolutely essential to ensuring that entrepreneurs/ investors favourably evaluate the Andhra Pradesh Knowledge Corridor as an investment location.

Building Andhra Pradesh's Knowledge Corridor will be a step taken in anticipation of a future in which a region's ability to develop and attract knowledge workers will provide a key economic advantage. By acting quickly to achieve its vision, Andhra Pradesh will become a leading location for knowledge-based institutions and businesses.

## CHAPTER 25

# An Outstanding Tourist Destination

Tourism is a high growth industry globally. Though currently only 3.5 per cent of the world's population travels internationally, by 2020, this figure is expected to double. In India, as well, economic growth and infrastructure development are expected to increase tourist arrivals: the World Tourism Organisation projects a 7.5 per cent annual increase in the number of tourist arrivals in India till 2001.

There are many other reasons why tourism should be a major growth engine for Andhra Pradesh's economy. The tourism industry generates large-scale employment. The labour to capital ratio for the tourism sector is one of the highest: each million-rupee investment creates jobs for 48 people compared to 45 in agriculture and 13 in manufacturing. In addition, the tourism sector has a high employment multiplier: in India, direct employment due to tourism is 8.5 million while total employment, including indirect employment, is 20 million. Tourism is also a large foreign exchange earner: the industry is the third largest foreign exchange earner in the country after jewellery and ready-made garments.

Most importantly, tourism helps generate higher incomes: the growth of tourism creates a variety of jobs in areas like transportation, hospitality services, and retailing, jobs with much higher salaries than the current per capita income of Andhra Pradesh. The growth of tourism will also help to combat poverty in the State by boosting demand for goods produced by its large number of artisans and for a host of small-scale services, such as car hire, cafes, tour guide services, and so on.

By 2020, Andhra Pradesh will be a leading tourism destination in India offering a variety of experiences to its visitors (**Exhibit 25.1**). The State will offer all the high

quality amenities making for a pleasurable stay and will enjoy a stellar reputation with visitors. Over 2.5 million international tourists and around 70 million domestic tourists will visit Andhra Pradesh annually.

Andhra Pradesh will achieve this ambitious vision by capitalising on its wide spectrum of tourism locations ranging from historical and religious sites to natural attractions like beaches. The State has tremendous unexploited potential. Properly developed, this can help the State attract a large share of foreign and domestic tourists. To capture the tourism opportunities available, Andhra Pradesh will position itself as a destination state-cum-transit hub. To support this positioning, the State will launch the following programme:

Exhibit 25.1

**VISION 2020 FOR THE TOURISM SECTOR IN ANDHRA PRADESH**

**From**

- Unexploited tourism potential
- Poor awareness about AP as a tourist destination
- Limited involvement of the private sector in developing the tourism sector

- Identification and focused development of several high-potential tourist destinations
- Building the required trunk and specialised infrastructure
- Building awareness about tourism potential in the State and creating a tourist-friendly State
- Focused and well-designed promotion campaigns in India and abroad

**To**

- Numerous, well developed tourist spots in the State
- AP well known as a leading tourist destination in India
- Large involvement of the private sector in
  - Building site-specific infrastructure
  - Providing tourism-related services
  - Promoting AP as a leading tourist destination

- Develop several high quality tourist destinations to attract more visitors to Andhra Pradesh and induce longer stays.
- Create a tourist friendly state in which people are enthusiastic about and welcoming to tourists.
- Provide the infrastructure required to make tourism in Andhra Pradesh a convenient and enjoyable experience.
- Promote Andhra Pradesh both in India and internationally as an attractive tourist destination.

## TREMENDOUS TOURISM POTENTIAL

With its ancient history and scenic locations, Andhra Pradesh offers numerous and distinctive opportunities for attracting domestic and international tourists.

The State has remarkable historical sites such as Golconda Fort, Charminar and the Nizam's palace in Hyderabad. It also has celebrated religious sites like Tirupati, Nagarjuna Konda and Amaravathi. Andhra Pradesh also has a vast coastline with its share of scenic beaches like those near Srikakulam and Visakhapatnam. And in Hyderabad, Andhra Pradesh has an increasingly popular business destination.

Tourism is well established in Andhra Pradesh. The State already accounts for 24 per cent of domestic tourist arrivals in India (inter versus intrastate). In 1996, domestic tourist arrivals in Andhra Pradesh amounted to 33.4 million and have grown at an annual rate of 10 per cent since 1990. The most popular destination was Tirupati, which cornered a 50 per cent share of these arrivals. In 1996, over 60,000 foreign tourists visited Andhra Pradesh, constituting growth of 8 per cent a year since 1990. However, the State accounts for only 3 per cent of India's foreign tourists. The most popular destination for foreign tourists was Hyderabad followed by Puttaparthi.

But Andhra Pradesh could do much more with its tourism destinations. Existing tourist attractions are largely underdeveloped. For example, in Tirupati, the average tourist stay is only 2.5 nights and the average expenditure on accommodation is only Rs.146 per tourist. In a survey of 1400 visitors, nearly 75 per cent indicated that they would stay longer if there was more for them to see or do. The State could also develop several new destinations for Buddhist pilgrims at Kondapur,

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*Andhra Pradesh offers numerous and distinctive opportunities for attracting domestic and international tourists.*

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Ghantasala, Jagayyapeta, Chandavaram and Saligramam, or for beach lovers on the coastline and at other historical sites. The lack of appropriate development and publicity has limited the scope of these locations.

Andhra Pradesh is not unique among Indian states in terms of missing out on opportunities. In fact, India, in general, is far behind Asian countries in its development of tourism. This is where the opportunity lies: in such a situation, Andhra Pradesh can emerge a winner by making the pre-emptive strike.

### **ANDHRA PRADESH AS A DESTINATION-CUM-TRANSIT HUB**

The State has three opportunities to position itself as a tourism destination: become a stand-alone destination; be a transit hub, working as a gateway to India along the lines of Singapore or Dubai; or be part of a wider tourist circuit, linked to destinations in neighbouring states. Andhra Pradesh will pursue all three.

Andhra Pradesh is well positioned to become a stand-alone destination, given its variety of locations ranging from historical and religious sites to beaches. However, it does not have a distinctive value proposition, such as Rajasthan with its historical heritage. Its central location in India makes Hyderabad well suited to be a transit hub. However, to successfully achieve the status of another Singapore or Dubai, it will first have to build the infrastructure and linkages required to other Indian and international cities. The State will concurrently pursue both options, developing strategies to position itself as a destination state-cum-transit hub. This will allow the State to cater to both types of tourists.

Andhra Pradesh will also pursue the third option: becoming part of a wider tourist circuit. This will allow it to tap into a wider pool of tourists. For instance, the State can attract Japanese tourists by linking its Buddhist sites to Gaya and Dharamsala to become part of the 'Buddhist circuit'.

### **HIGH QUALITY TOURISM DESTINATIONS**

The State Government has already done much to develop existing popular destinations like Hyderabad, Tirupati, Visakhapatnam and Nagarjuna Sagar—these have been awarded the status of Special Tourism Areas. Master plans have already

been developed for Hyderabad (**Exhibit 25.2**) and Tirupati. They will also be prepared for other Special Tourism Areas to ensure integrated development and identify avenues for private investment.

### More high profile destinations

To create a more comprehensive set of high profile destinations that fully exploit the State's tourism potential, Andhra Pradesh will identify, nominate or even create additional tourist areas. Destinations of the following categories will be developed:

Exhibit 25.2

**MASTER PLAN TO DEVELOP HYDERABAD AS A MAJOR TOURIST DESTINATION**

NOT COMPREHENSIVE

**Hotel projects**

- Water front retail plaza and apartments in Madarsa Makta
- Five-star hotel district near Police Lines, Pattigada
- Heritage Hotel at Shaikpet Sarai, Erram Manzil, Paigarh palace
- Resort at Sagar Mahal Guest House, Osman Sagar

**32 projects to improve tourist infrastructure, develop new locations and beautify existing sites**

**Visitor information centres**

- At James Street police station
- At Charminar police station

**Restaurants and convention centres**

- Convention centre at Sanjeevaiah Park
- Floating restaurant near Lumbini Park
- Indian states food court at old MCH office, Darash Shifa
- Chowki restaurant at Shamsher Kotha
- Heritage interpretation centre-cum-restaurant at APTTDC site, Golconda
- Restaurant at Vishranth Guest House, Osman Sagar

**Tourism locations**

- Night Bazaar at Charminar
- Museum of Islamic Art at Badshahi Asharkhana
- Restoring Mahboob Chowk market, Charminar area
- Improvements to Qutb Shahi Tombs
- Golf course at Naya Qila or Golconda Fort
- Theme park at Himayat Sagar
- Family entertainment centre at APTTDC site, Sardar Patel Marg
- International sports village at Miapur
- Shopping plaza at Mozzamjahi market

Source: EDAW Master plan for Hyderabad

- Buddhist religious sites in addition to Nagarjuna Konda to attract Japanese and other Buddhism devotees.
- Two or three beach resorts on the northeastern coastline close to Srikakulam and Visakhapatnam.
- Business destinations such as Visakhapatnam and, perhaps, one or two other cities (these could also be possible gateways to other forms of tourist activities, such as beaches).

### More private sector participation

Developing all these areas as tourist destinations will require a variety of initiatives. Many of these initiatives are best undertaken by the private sector. For example, the metropolitan areas which attract business people and other relatively wealthier travellers should have well-organised entertainment and shopping facilities. The 'underground' market in Atlanta, USA, a major tourist attraction, is a case in point. Singapore's Sentosa Island resort that combines several leisure activities is another example. Similarly, the beach locations in Andhra Pradesh would include not only hotels but also shopping cum entertainment villages on the lines of those in Phuket, Thailand or Cancun, Mexico.

Overall, a significant amount of private investment will be required in the key destinations to build hotels, retail outlets, transportation services, leisure centres like mini golf courses, bowling alleys, entertainment parks, theatres, health spas, etc. These facilities are already mushrooming in other major tourism and metropolitan areas in India. Andhra Pradesh cannot afford to be left behind.

But it just might be if the many existing barriers to private investment in setting up such facilities are not removed. To list some of them: land acquisition prices are too high, often exceeding the norm of 10-15 per cent of project cost. Strict Floor Area Ratio (FAR) and Floor Space Index (FSI) regulations prevent industry from quickly recouping land costs. Red tape leads to an average project clearance time of three years, too long by any standards. Concessions promised in the tourism policy of 1994, such as industrial water rates, have not been delivered.

Andhra Pradesh will need to rapidly change its policies and procedures to overcome these drawbacks. It can learn from successful government-business partnerships



in other countries like Australia and Canada that have yielded tremendous results in increasing the number of tourists and their average spending. Andhra Pradesh will create the first such effective partnership in India.

### **A TOURIST-FRIENDLY STATE**

To become a tourist friendly state, Andhra Pradesh will need to ensure that tourists feel welcome in the State and that its people feel enthusiastic about tourism.

This calls for action on many fronts. First, the State must offer the basic amenities a tourist requires (and takes for granted in developed and many developing countries). In addition to quality hotels, local transportation, taxi services, entertainment and shopping centres mentioned in the last section, tourists want access to clean public toilets, freely available telecommunication services, tourist information centres, conveniently located banks and currency exchange centres, among other services. Second, a tourist-friendly location should have an abundance of skilled service enterprises and people providing the services listed before. Third, tourist locations should be clean and well maintained. Finally, a tourist-friendly attitude must be developed; tourists should always meet with polite and helpful treatment.

Accordingly, the Government will act to create the environment and services required. It will encourage the creation of small businesses in the Special Tourism Areas to serve tourists. These will include STD booths, Internet access centres, fast food joints, etc. (see Chapter 27, 'The Bonanza in Small-Scale Services'). The State will also develop and launch an awareness campaign to help create an environment favourable to tourism. Finally, the Government will encourage the creation of appropriate vocational training institutions to provide State residents with the skills to serve the tourism industry.

### **APPROPRIATE INFRASTRUCTURE**

To promote tourism in Andhra Pradesh, large investments in infrastructure will be essential. Accordingly, specific initiatives, such as expanding trunk infrastructure and improving arterial roads in tourist locations, will be undertaken.

Expanding its trunk infrastructure in the form of highways, airports, ports, power, telecommunications, etc., will give Andhra Pradesh the basis to develop the transportation links to its tourist locations (see Chapter 7, 'Infrastructure: Creating

the Basis for Growth'). For example, a flourishing international airport at Hyderabad will itself provide a major fillip to business tourism.

Improving arterial roads in tourist locations will have to be given high priority. Some obvious examples are the Madras-Tirupati road link and the development of a high quality roadway to Nagarjuna Sagar. Location specific requirements, such as a ropeway in Tirupati or cable cars in Nagarjuna Sagar, will also need to be developed. In addition, these tourist spots will need uninterrupted power and water supply.

**Exhibit 25.3** illustrates the importance of infrastructure in developing tourism.

Exhibit 25.3

**TOURIST FACILITIES AND INFRASTRUCTURE ARE KEY TO DEVELOPING THE TOURISM MARKET**

EXAMPLE: ORLANDO

**Tourist facilities**

- **Theme parks**
  - Orlando has six theme parks: 4 by Disney, 1 by Universal Studios and 1 by Anheuser-Busch's Sea World
  - Each of these theme park companies have plans to open other parks
- **Water parks**
  - Orlando has six water parks
- **Convention centres**
  - The city has a 1.1 million square foot convention centre and plans to expand this to 3 million square feet
  - A second convention centre of 2.6 million square feet may be built at a cost of \$1 billion
- **Sports facilities**
  - Orlando has 125 golf courses and 800 tennis courts

- Tourism pumps in more than \$15.9 billion into the local economy including \$2.2 billion in wages
- Tourism will account for 40% of total growth in employment through the year 2000
- Tourism is the largest employer, generating 21.7% of total employment in Metro Orlando. 13% of these jobs were directly related to tourism
- 40 million tourists visited Orlando in '97. This is expected to go up to 57 million by 2008
- Tourism generates an annual surplus of \$100.8 million in taxes for the Government

**Infrastructure**

- The city has 92,000 hotel rooms; another 10,000 will be added by 2000
- Orlando International Airport was ranked 18th worldwide in total passenger traffic in 1994 and third among the top airports in the US in passenger growth. It is undergoing \$1.2 billion expansion
- Another \$10 billion will be spent in private construction during the next decade
- Restaurants, nightclubs, shopping centres, pleasant climate and environment are other major features of Orlando

Source: Press clippings

## AN ACTIVE PROMOTION CAMPAIGN

The Andhra Pradesh Government will aggressively promote tourism. Currently, the State spends only Rs.1 crore a year on tourism; in contrast, Rajasthan spends Rs.9 crore. Furthermore, the State Government undertakes most promotion activities without taking the help of the Central Government or other agencies. The Government of India tourism offices in India and abroad do not carry or distribute enough promotional material on Andhra Pradesh.

Recognising the need to do much more to promote the State to tourists, the Government will effect a major change in its approach. As a first step, the different tourist segments will be analysed and tailor-made promotions will be developed for each of them. These promotions will target mainly tourists with adequate spending power.

The State will use best practices in other countries to develop powerful promotions. For instance, the State could emulate Canada's approach: involving the private sector in promotional efforts. In Canada, the private sector was actively involved in planning and executing the promotional campaigns (not merely funding). This gave them a sense of ownership and increased their commitment. The Government will consider setting up a joint government-business promotion board and allowing this board to hire professional advertising agencies and public relations companies to promote Andhra Pradesh. In addition, it will encourage the more productive use of Government of India tourism promotion offices.

To build Andhra Pradesh's tourism sector on the lines described above, the Government has already undertaken some key initiatives. These will continue to be vigorously pursued over the next three years and include:

- Preparing Master plans for the Special Tourism Areas of Visakhapatnam and Nagarjunasagar.
- Initiating the review of incentives for the private sector.
- Establishing single window clearance for tourism projects.
- Identifying and implementing tourist-friendly initiatives such as information kiosks, metered taxis and air-conditioned coaches, and tourist police at important centres.

Tourism represents an attractive opportunity for the people of Andhra Pradesh to reaffirm their pride in themselves and their State. By achieving Tourism Vision 2020, the State can gain its rightful place as one of the best leisure spots in India.

# A Top Logistics Hub

Today, trade and widespread distribution are becoming highly profitable activities and companies the world over are increasingly focusing on improving distribution and logistics to create a competitive advantage. A key element of this strategy is creating or leveraging distribution and logistics hubs that act as centres for distribution to dispersed geographic regions. A distribution and logistics hub is an integrated, sophisticated set of transportation, warehousing and distribution facilities and services that provides access to a marketplace.

An important requirement for a distribution and logistics hub is the ability to combine, at one point, the movement of goods into and out of a country as well as distribution within the country. This minimises delays and duplication of processes for a company. Andhra Pradesh's central location within India, its strong transportation links with other parts of the country and the access it provides into India make it a suitable location for a distribution and logistics hub.

By 2020, Andhra Pradesh will be the distribution and logistics centre of choice for companies wanting to move goods within India as well as to and from India. It will match the logistical capabilities of global hubs such as Holland and Singapore and be the benchmark hub in India.

This vision may seem implausible but is, in fact, attainable. The ingredients for success already exist. Andhra Pradesh has good rail linkages to other parts of India. It also has a long coastline with one major port, two intermediate ports and 10 minor ports, which can be used to link India with international markets. The State also has several airports albeit with limited facilities. With improvements in infrastructure, these linkages are bound to improve.

In addition, the development of a distribution and logistics hub dovetails with other developments planned under Vision 2020. For example, growth in labour intensive, export-oriented industries like garments and leather products will require a strong focus on developing and serving export markets. A distribution and logistics hub will provide just the kind of infrastructure support this calls for: high quality ports, adequate rail and road links to international and domestic airports, and transportation facilities.

To achieve the vision, Andhra Pradesh will create the key factors for the success of a distribution and logistics hub. These will include:

- Creating the blueprint for a distribution and logistics hub in the triangular zone connecting Visakhapatnam, Kakinada, and Vijayawada.
- Building, upgrading and integrating the specialised infrastructure needed to create the hub and links to it.
- Creating efficient processes and working procedures in the hub (e.g., in customs) and building skills to support them.
- Galvanising the entry of key private players.
- Creating an autonomous body to market and manage the distribution and logistics hub.

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*A distribution and logistics hub can be created in the triangular zone that connects Visakhapatnam, Vijayawada and Kakinada.*

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## CREATING A DISTRIBUTION AND LOGISTICS HUB

The first step in the creation of the hub will be developing a blueprint. A distribution and logistics hub can be created in the triangular zone that connects Visakhapatnam, Vijayawada and Kakinada (**Exhibit 26.1**). Companies distributing goods through this zone will benefit from Vijayawada's railway linkages; the ports of Visakhapatnam and Kakinada; the road linkages of National Highways NH 5 and NH 9; and the planned airport developments and expansions at Visakhapatnam and Vijayawada.

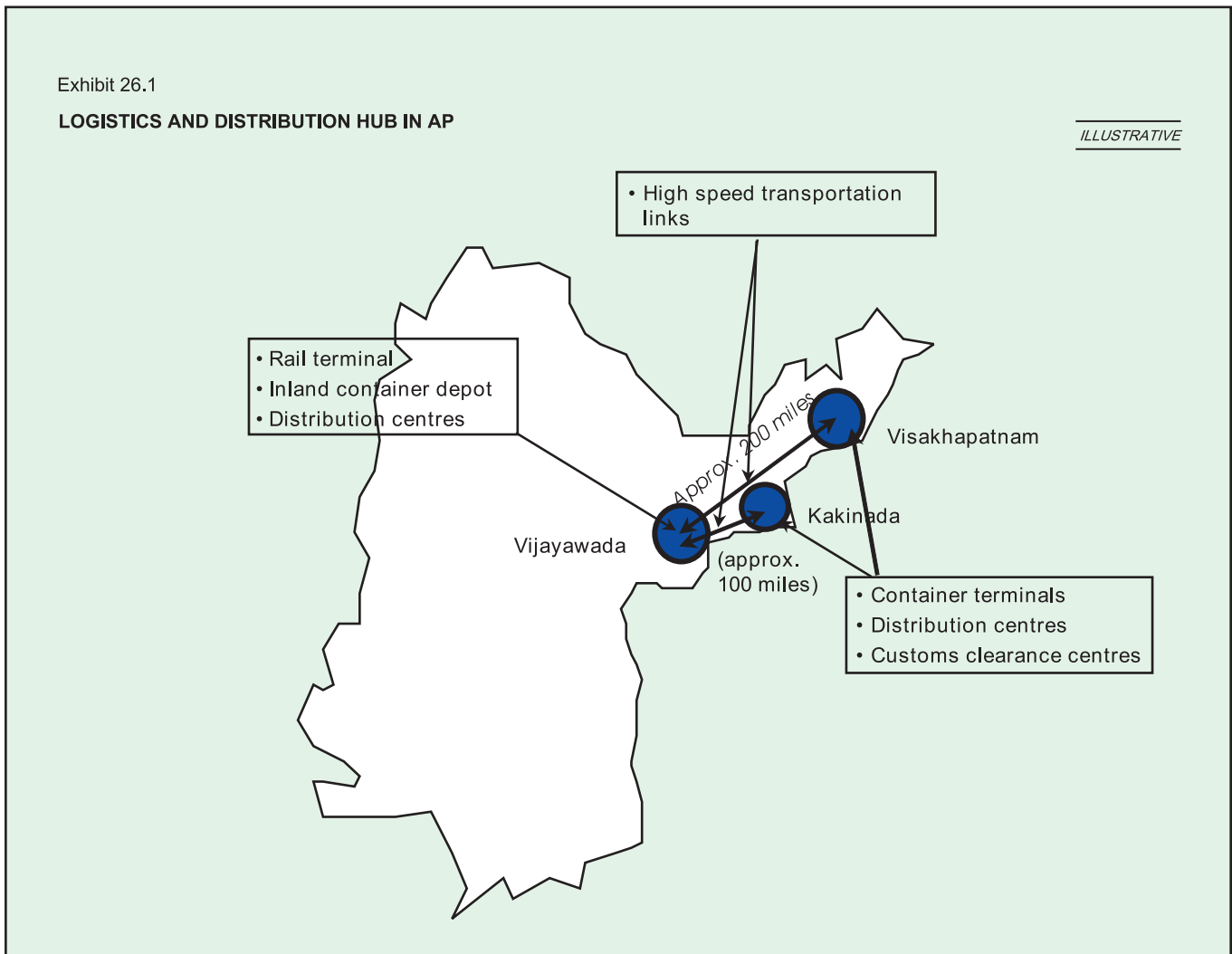
In addition, the creation of additional capabilities will need to be considered. These include:

- Developing a third port at Gangavaram.

Exhibit 26.1

**LOGISTICS AND DISTRIBUTION HUB IN AP**

*ILLUSTRATIVE*



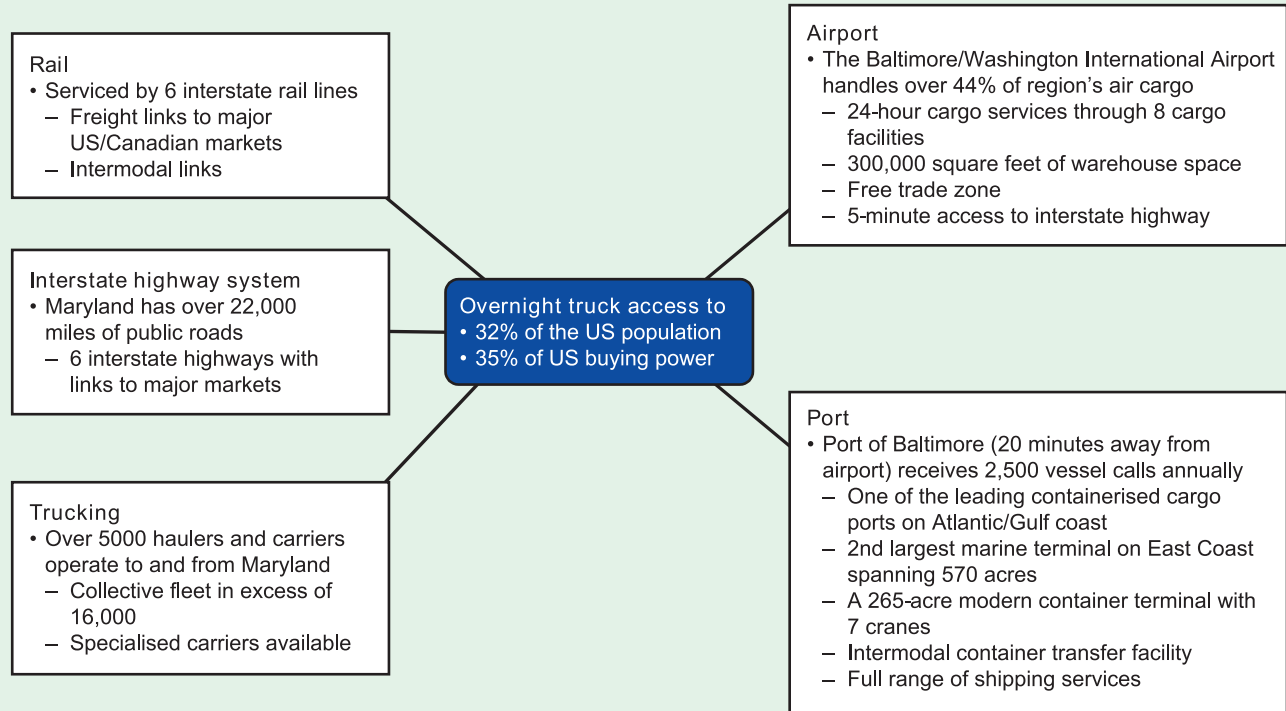
- Creating a separate rail terminal at Visakhapatnam and/or Kakinada.
- Configuring the road network differently.

These decisions should be based on the impact on transit times for goods, operating cost, required investment and reliability. Also, the design and layout of the hub should take into account the flow of goods and the nature of the goods to be shipped.

The Government will need to undertake this effort in conjunction with global players specialising in creating such capabilities. It will also have to seek the views of relevant private and public sector players in the development of the blueprint.

Exhibit 26.2

**MARYLAND AS A DISTRIBUTION HUB**



Source: Press clippings; Internet

**BUILDING, UPGRADING AND INTEGRATING HUB INFRASTRUCTURE AND LINKS**

To build the distribution and logistics hub, infrastructure in the hub itself and in links to the hub needs to be developed, upgraded and integrated.

Port and rail terminal facilities, rail lines, roads, airports and airport cargo terminals will need to be developed in accordance with world standards for facilities, operational efficiency and versatility in handling different types of goods. Maryland, (Exhibit 26.2), Holland (Exhibit 26.3) and Singapore could be used as benchmarks.



Exhibit 26.3

**HOLLAND'S LOGISTICS AND DISTRIBUTION HUB**

Transportation linkages

- Port of Rotterdam handles largest amount of cargo (tonnage) in the world
- Major sea and airports are strategically located around this key port
  - Amsterdam and other ports complement Rotterdam as major transshipment points
  - Amsterdam's Schipol airport, located only 40 miles from Rotterdam, is the third largest cargo airport in Europe
  - Five other regional airports support Schipol
- Extensive road, rail and waterway links to the hinterland exist
- Holland is tying into Europe's high-speed rail network; a dedicated rail line for container transport is being laid from Rotterdam to Germany

Distribution facilities

- Holland acts as a key centre of distribution to the European market; nearly 60% of the European distribution centres of American and Asian companies are located here
- Distribution facilities are state-of-the-art
  - ECT's three highly sophisticated container terminals account for 75% of containers loaded/unloaded at Rotterdam and provide seamless, sophisticated intermodal transport
  - Intensive use of EDI-technology and load-handling management systems at the terminals
  - 'Distri-parks' (areas designated for establishment of distribution centres) are connected directly to container terminals to minimise delay

Source: Press clippings; McKinsey research

Attention must be paid to the links between the facilities to allow access for multi-modal transportation. In addition, warehouses, distribution parks, container terminals, etc., will need to be constructed around the various transportation facilities.

For many areas currently under State Government control, the private sector will be encouraged to build infrastructure. Its participation will be invited through an equitable and transparent process. Furthermore, current plans for developing trunk infrastructure in the State need to be dovetailed with those for the hub.

For areas not under its control, such as railways and airports, the State Government will need to aggressively petition the Central Government to upgrade and build infrastructure, through private investment, where necessary (see Chapter 7).

## CREATING AND IMPROVING PROCESSES AND BUILDING SKILLS

To create a successful distribution and logistics hub, Andhra Pradesh will need to meet operational challenges by adopting world-class technology and business processes.

To begin with, the State will need to initiate major efficiency improvements in the various elements that will make up the hub. For instance, the procedures to obtain railway and airport cargo clearances will need to be improved immediately through exercises such as business process re-engineering. Since many of the agencies providing these clearances are controlled by the Central Government, efficiency improvement exercises will need to be conducted under its aegis. The State Government will need to push the agenda and seek to quickly bring about the changes required.

In the longer term, the State will need to match the performance of international hubs on aspects like on-time delivery and easy access to information for users. Practices like using Electronic Data Interchange (EDI) for submitting forms and checking delivery status will have to become routine. In Singapore, such processes are already in place through an electronic network called PORTNET. Through the Electronic Government initiative or separate focused efforts, the State will have to build such systems in its hub.

In addition, Andhra Pradesh will need to significantly expand the skills of staff working in the hub as well as ensure continual retraining. Again, international hubs have shown the way. The Port Authority of Singapore has created a training arm offering 80 courses related to port management. Port staff spend eight man-days a year on training in both technical skills like using IT systems and other work related skills like handling procedures and dealing with customers.

## GALVANISING THE ENTRY OF KEY PRIVATE PLAYERS

Large scale private sector players are active in key logistics and distribution hubs and handle tremendous cargo volumes in these locations. Delta in Rotterdam or

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*To create a successful logistics hub, Andhra Pradesh will need to adopt world-class technology and business processes.*

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the well-known courier hub of Federal Express in Memphis, USA, are examples of such private players.

Apart from creating capabilities itself, the Andhra Pradesh Government will need to attract world-class players to invest in building and participating in the hub. These players would include shipping operators, firms with large scale distribution centres, trucking companies, etc. Incentives such as lower taxes or the creation of free trade zones will need to be provided.

### **CREATING AN AUTONOMOUS BODY TO MANAGE THE HUB**

The success of the hub will depend not only on the efficient functioning of its individual components like ports, roads, railways, airports, etc., but also on how these facilities are leveraged in tandem. For instance, having a world-class port will not be enough if road and rail connections to the port are absent or inefficient. If large scale trade and distribution are to take place through Andhra Pradesh, the State will have to undertake a concerted effort with the Central Government, industry and service organisations to develop all the elements of the hub simultaneously and in synchronisation with each other.

The best way to achieve this would be to set up a dedicated autonomous body that catalyses the development of the entire hub. This organisation will develop a detailed blueprint for the hub, remove bottlenecks to its development by influencing State and Central Governments, set the technology standards for information flow, and develop an integrated programme for attracting private sector participation.

The Andhra Pradesh logistics and distribution hub is a logical extension of the overall infrastructure initiative and a tangible way for the State to jump-start trade. It will also play a vital part in the success of many growth engines with an emphasis on exports, such as poultry, horticulture and labour intensive manufacturing industries.

# The Bonanza in Small-Scale Services

The small-scale services sector represents a large opportunity for widespread economic growth and employment generation. Many services, such as local transportation, restaurants, retail outlets, travel agencies, packaging, publication, hair/beauty care, carpentry, laundry services, local advertising and promotional agencies, etc., mushroom rapidly as an economy grows and evolves into a services-led economy. In fact, small-scale services form a large part of the services economy. For example, over 40 per cent of the wages in the US services economy is currently paid within small services enterprises.

With economic growth, small-scale services will offer huge employment potential. This is important for Andhra Pradesh considering that, based on population growth and the worker participation rate, close to one million jobs have to be created annually for the next 20 years. More importantly, job opportunities will have to be created to absorb the large number of under-employed people in agriculture. Since the larger proportion of people in need of employment will be rural dwellers, livelihoods have to be found to suit people whose current occupations are dictated largely by their background and who have trade skills handed down over generations. They must also be found for rural women, who constitute a large part of the rural workforce, and whose mobility is limited by their role as primary caregivers in the family.

Small-scale services have great potential for providing such livelihoods and will thus become a key vehicle for the transition from an agrarian to an industry- and services-led economy.

By 2020, Andhra Pradesh will have a competitive, widespread small-scale services sector. The State will be the benchmark for promoting and developing small-scale services. Small-scale services enterprises will flourish in the State and facilitate the transition to a services economy by generating substantial employment opportunities.

As the economy grows, the services sector will grow in three ways<sup>32</sup>: (1) Growth in 'related' and 'support services', i.e., services like grain transportation or fertiliser retailing, which are linked to growth in underlying sectors such as agriculture or industry. (2) Growth in 'semi-autonomous services' which are services which need local purchasing power, e.g., personal services like laundry, hair cutting, etc. These will grow based on the needs of a growing economy and rising incomes. (3) Growth in 'autonomous services', i.e., services not linked to agriculture/industry or not dependent on local purchasing power, e.g., tourism, software development. Growth in these services is independent of growth in other areas (**Exhibit 27.1**).

The different types of services will grow at different rates. The fastest growing services will be those linked to other sectors of the economy, particularly agro-industry, the allied sector in agriculture, mining, tourism, and information technology. Next will be those in which both production and consumption are local. Remote services linked to the growth engines, such as grain transportation, will also grow quickly, if not as fast as the earlier two.

To stimulate the growth of small-scale services, Andhra Pradesh will adopt the following approach:

- Invest in building human capital and infrastructure.
- Promote the development of the small-scale services sector through focused development around the growth engines, creating high awareness about the new opportunities, and developing an independent Small Business and Entrepreneurship Promotion Board on the lines of similar efforts in the US and Singapore.
- Remove regulatory and financing obstacles to the development of new small-scale services enterprises.

### **BUILDING HUMAN CAPITAL AND INFRASTRUCTURE**

To ensure that the State's people can capture the opportunities available, Andhra Pradesh will promote investment in building its human capital and in infrastructure.

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<sup>32</sup> Vijay Mahajan, *Promoting Sustainable Rural Livelihoods in India: The Challenge of This Decade*, 1997.

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*Andhra Pradesh will be the benchmark for promoting and developing the small-scale services sector.*

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Exhibit 27.1

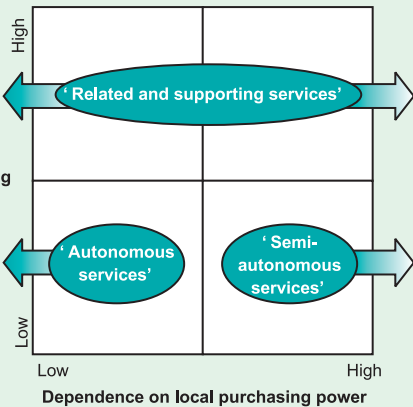
**SERVICES OPPORTUNITIES CREATED BY GROWTH IN THE ECONOMY**

**Classification**

- Will depend upon remote demand, but will be centred around specific underlying agri/industry sector, e.g., fertiliser retailing, grain transportation

**Relation to underlying agriculture/industry sectors**

- Will depend on remote demand for such services, e.g., travel operators, call centres



- Will be location-specific, i.e., will come up in areas where the underlying agri/industry businesses are concentrated, e.g., extension services, veterinary services

- Will depend on local demand for the services, e.g., personal services, canteens, trade, retailing, security services

**Strategy**

<ul style="list-style-type: none"> <li>• Locate in dispersed areas but provide links to location of agri/industry business</li> </ul>	<ul style="list-style-type: none"> <li>• Locate close to agri/industry sector business</li> </ul>
<ul style="list-style-type: none"> <li>• Locate in dispersed rural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Locate in dispersed rural, semi-urban or urban areas based on demand</li> </ul>

**Building human capital**

Small-scale services, including services businesses, will need people with specific skills such as carpentry, restaurant management, hairdressing, etc. These skills can best be developed through a proliferation of vocational training institutes or polytechnics (on the lines of the various computer training institutions) that have already developed in the State. The Government will encourage the private sector to set up such institutions in a variety of areas. In addition, a select group of local colleges will offer evening courses in these areas.

Skills will be developed in a host of areas. In agriculture and horticulture, these will include manual skills such as producing hybrid seeds; sorting and grading fresh produce; repairing equipment; etc. For tourism and entertainment, they will include cookery, catering, housekeeping, lighting, etc. In higher end areas such as business and financial services and software, they will be data entry, sorting, filing, mailing, courier services, and so on.

Furthermore, to ensure that its people can achieve the capability and productivity levels they will need to succeed in services jobs or businesses, Andhra Pradesh will ensure that they have access to primary healthcare and universal primary education. Scholarships for poor students and residential schools in remote areas will be emphasised to ensure that even disadvantaged groups can benefit from this important growth area.

### **Building infrastructure**

The State will attract private investment in roads, bridges, low-income housing, warehouses, cold storage, etc. Investment will be promoted in areas such as rural-urban transportation, providing roads and bus services to facilitate worker mobility. Where necessary, the Government will itself invest in building infrastructure in rural and remote areas. In addition, the State will provide incentives to private investors to build hotels, hospitals, etc., that will foster small-scale services businesses or provide services jobs. It will also promote further investments in communications and entertainment, such as Hi-Tec City and Film City.

### **PROMOTING THE DEVELOPMENT OF SMALL SCALE SERVICES**

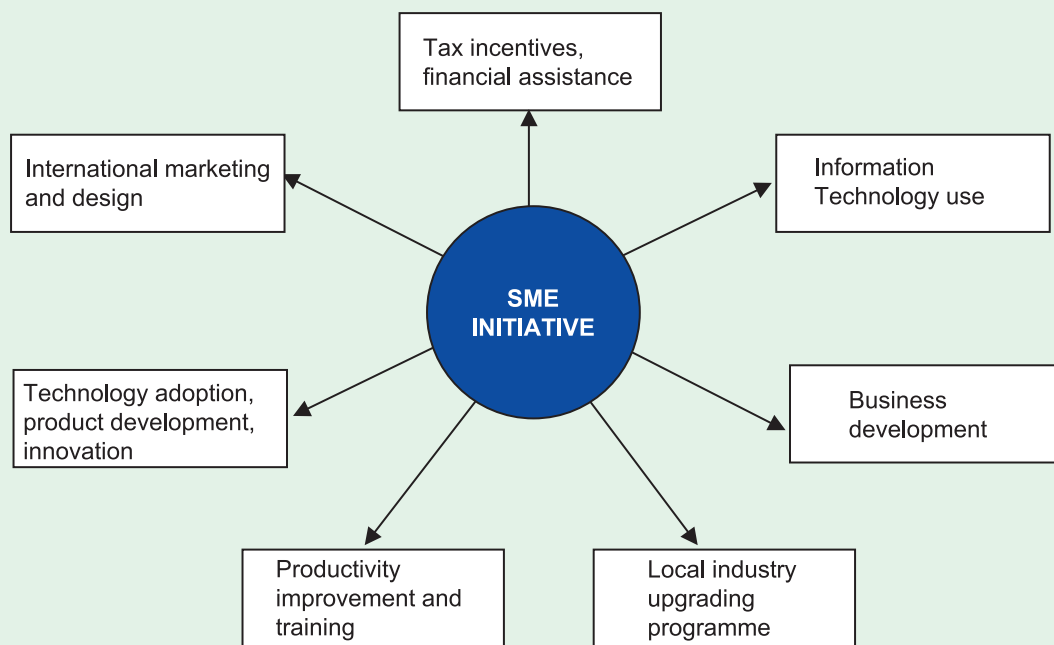
Many developed and newly developed nations have not passively waited for the small-scale services sector to evolve as part of the process of economic development. Instead, they have actively promoted its development. Small business and entrepreneurship promotion associations sponsored by the government are common in the US. These associations proactively identify opportunities, offer loans, sponsor training programmes on general business skills and provide guidance on tapping export markets. Similarly, Singapore's Enterprise Development Board provides a comprehensive support package for new enterprises (**Exhibit 27.2**).

In India and Andhra Pradesh, the government and its financial institutions have promoted the development of the small-scale sector. But this effort has suffered from an excessive manufacturing bias, often in industries where small-scale manufacturing is counter-productive. The result is an uncompetitive small-scale manufacturing sector in some segments and an under-developed small-scale services sector.

The Government's focus on the development of the small-scale sector will now shift toward services. It will set up a Small Services Promotion Board (SSPB) in the State with a charter to:

Exhibit 27.2

**COMPREHENSIVE SELF-HELP PACKAGE FOR SMALL AND MEDIUM ENTERPRISES DEVELOPED BY SINGAPORE'S ENTERPRISE DEVELOPMENT BOARD**



Source: SME Master Plan, EDB (1989)



- **Identify ‘small-scale services cluster’ opportunities:** The SSPB will proactively identify and promote ‘small-scale services clusters’ linked to other growth engines. Examples include local transportation services in the logistics hub; person-to-person services such as restaurants, beauty salons, etc., in towns and cities; tour operators and retail outlets in key tourism centres; security services in locations with many large companies, such as the IT hub/Knowledge Corridor, etc. **Exhibit 27.3** provides a list of some small-scale services opportunities that the growth engines will spawn.

Exhibit 27.3

**SMALL-SCALE SERVICES RELATED TO VARIOUS SERVICES GROWTH ENGINES**

<b>Growth engine</b>	<b>Large service businesses</b>	<b>Small service businesses</b>
IT	<ul style="list-style-type: none"> <li>• VLSI design centres</li> <li>• Software development centres</li> </ul>	<ul style="list-style-type: none"> <li>• Data-entry services</li> <li>• Cyber-café</li> <li>• Cable TV operators</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>• Large hotels/holiday clubs</li> <li>• Amusement/Entertainment companies</li> <li>• Travel/tour operators</li> </ul>	<ul style="list-style-type: none"> <li>• Tour-guides services</li> <li>• Taxi services</li> <li>• Information booths</li> <li>• Canteens/Dhabas</li> </ul>
Logistics	<ul style="list-style-type: none"> <li>• Port/Airport management companies</li> <li>• Truck fleet/bus fleet owners</li> <li>• Courier/Cargo companies</li> <li>• Cold storage services</li> </ul>	<ul style="list-style-type: none"> <li>• Redistribution stockists</li> <li>• Inter-city buses; rural-urban bus and goods services</li> <li>• Small-time packaging companies</li> <li>• Repairs/Maintenance</li> </ul>
Knowledge-based services	<ul style="list-style-type: none"> <li>• Bio-tech research centres</li> <li>• Agricultural research centres</li> <li>• Technology commercialisation and pilot testing</li> </ul>	<ul style="list-style-type: none"> <li>• Data entry services</li> <li>• Information gathering services</li> <li>• Agricultural extension</li> </ul>
Health	<ul style="list-style-type: none"> <li>• Corporate hospitals</li> <li>• Teaching hospitals</li> <li>• Large diagnostic centres</li> <li>• Health insurance companies</li> </ul>	<ul style="list-style-type: none"> <li>• Small rural diagnostic centres</li> <li>• Small rural clinics</li> <li>• Pharmacists</li> <li>• Medical equipment retailers</li> </ul>
Education	<ul style="list-style-type: none"> <li>• Specialised educational institutes</li> <li>• General education universities/colleges</li> </ul>	<ul style="list-style-type: none"> <li>• Coaching classes</li> <li>• Vocational training institutes</li> <li>• Basic computer training classes</li> </ul>

- **Guide entrepreneurs on legal, financial and business issues:** Entrepreneurs with basic skills will be trained on how to create a company, manage accounts, manage people, ensure quality control, undertake marketing, etc.
- **Provide small loans in key target areas to highly deserving entrepreneurs:** The SSPB will develop a 'benchmark' entrepreneur plan through a rigorous selection process (often through events like a 'Business Plan Competition'), and provide loans to deserving entrepreneurs.

Finally, promotion will also mean spreading awareness about new possibilities. By creatively using public media and holding innovative events like a 'tool bazaar' in small towns and villages, the Government will spread the message that entrepreneurship in services can be lucrative and rewarding.

For the SSPB to be effective, it has to penetrate to the local district level and generate excitement throughout the State. Its operations will be based on rigorous and fair practices that provide opportunities for the ventures with the highest potential for success

## REMOVING REGULATORY AND FINANCING OBSTACLES

The Government in the past has taken several steps to promote small-scale enterprises (albeit with a manufacturing bias). For example, District Industry Centres (DICs) were set up to promote small-scale industry.

But many of these measures have lacked force. For instance, the DICs are more focused on control than on promotion. The Government will rapidly change this situation by making the DICs more effective. Over time, they may evolve into the local chapter of the SSPB.

Lack of financing is another constraint to the rapid development of the small-scale services sector. While the SSPB will make a contribution, the State government will also encourage banks operating in the State to launch special programmes to promote small-scale service enterprises.

Small-scale services represent one of the biggest areas of opportunity for Andhra Pradesh. By facilitating their development, the State will transform the fortunes of many of its people.

# People-Centred, Growth-Oriented Governance

The Andhra Pradesh Government will have a critical role to play in implementing the growth agenda. But this will involve doing fewer things better, rather than doing more. In line with global trends, the Government will become more sharply focused, acting mainly as an enabler and facilitator of growth. Freed from the onerous task of intervening in several sectors of the economy, it will turn its attention to those sectors that critically need its assistance.

By 2020, the Andhra Pradesh Government will be an enabler of market-based development by providing a growth-conducive, deregulated policy environment. Its role will be to facilitate economic activity in sectors best operated by the private sector, and provide services in others. Decentralised decision-making will be the norm, with local bodies encouraged and empowered to participate in administration. Andhra Pradesh will have a reliable and efficient government earning the respect of all residents of the State. It will remain transparent, effective and responsive to the people, primarily by maintaining close contact with them and involving them in governance (**Exhibit 28.1**).

To achieve this vision, the Government will focus on the following initiatives:

- Refocus its priorities and spending, that is, concentrate its attention and resources on those sectors of the economy that need its intervention and let market forces govern the rest. For these sectors, the Government will act as a facilitator and catalyst of growth. At the same time, it will remain sensitive to the need for social equity and well being.

- Decentralise governance and ensure that the people have a decisive say in local administration.
- Introduce 'Electronic Government', i.e., use IT-based services to de-mystify procedures and improve the citizen-Government interface.
- Become a SMART (Simple, Moral, Accountable, Responsive, Transparent) Government by improving transparency and accountability and ensuring effective and responsive services.
- Enhance its capabilities and encourage an ethos of public service to strengthen policy making and performance.
- Take a leadership role in regulatory and other reform.

## REFOCUS PRIORITIES AND SPENDING

Today, the State Government plays a pervasive role in the economy. It runs a number of public enterprises, including transport, and operates key sectors like mining. In addition to playing an extensive role in agriculture, the Government dominates the social sector, particularly health and education. Furthermore, as a regulator, the Government's role is both broad, spanning most economic and welfare activity, and deep, including the micro-management of several sectors of the economy, and price control and policy making for the private sector.

As a result, its resources and managers are so overstretched that they cannot do justice to any area, let alone those that need attention and resources the most: basic education, primary healthcare, poverty alleviation and rural infrastructure.

In fact, social spending has been steadily decreasing. Today, the State spends 2.5 per cent of its GSDP on education and 1.2 per cent on health, compared to 3.2 per cent and 1.7 per cent respectively in 1980-81. Resources for creating trunk and rural infrastructure have also shrunk. These areas now receive only 2.2 per cent of GSDP compared to 3.2 per cent in other Indian states.

Furthermore, mushrooming establishment costs are now absorbing over 35 per cent of the State's revenue resources. A large part of this spending is caused by excessive redundancy in employment: some departments employ 50 per cent more staff than they need. In addition, the Government spends as much as Rs.650 crore as loans and investments in 39 public enterprises mainly to subsidise their losses.

Exhibit 28.1

**SHIFT IN THE GOVERNMENT’S ROLE**

From	To
<ul style="list-style-type: none"> <li>• A major operator in many sectors of the economy</li> </ul>	<ul style="list-style-type: none"> <li>• A prudent facilitator of private sector activity in sectors best operated by the private sector, and provider of services in others</li> </ul>
<ul style="list-style-type: none"> <li>• A regulator and controller of most economic decisions in many sectors (eg., pricing policies)</li> </ul>	<ul style="list-style-type: none"> <li>• An enabler of market-based development through conducive, deregulated policy environment</li> </ul>
<ul style="list-style-type: none"> <li>• Direct top-down administration and centralised decision-making</li> </ul>	<ul style="list-style-type: none"> <li>• Enabling, empowering and ensuring participation from local administration and decentralising decision-making</li> </ul>

To achieve Vision 2020 for Andhra Pradesh, the Government will therefore need to refocus its priorities and spending. To do this, the Government will need to withdraw from sectors best operated by the private sector, while retaining its responsibility as a prudent regulator to ensure social equity and fair competition in the new circumstances; refocus public spending towards achieving developmental goals; and undertake focused communication to address all concerns arising from the dramatic changes involved.

- **Withdraw from sectors best operated by private players:** Reflecting the emerging environment worldwide, the Government will rationalise its investments in

public enterprises and restrict itself to areas in which its intervention is needed. Other areas are best served by market forces and the Government will allow private investment in these. However, the Government will continue to be sensitive to any hardship caused by privatisation and address such issues through the safety net or similar programmes. In addition, the Government will reinvest the savings it will achieve from withdrawing from public enterprise and other areas in the development of backward areas and disadvantaged groups.

In areas the Government needs to continue managing, it will ensure that its agencies and public sector undertakings work more efficiently.

Some developmental goals, such as the provision of infrastructure, vocational and higher education or of specialised healthcare can also be better achieved by the private sector. The Government would enable and support private sector efforts to do so. In addition, state-owned institutions continuing to provide such services, such as government colleges and hospitals, would be exposed to 'managed' competition (e.g., for Government funding). They would also be required to achieve greater financial self-sufficiency.

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*The Government will ensure that everyone has access to services and that competition between players remains healthy and productive.*

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Since private investment will increasingly drive economic development, the Government will need to establish a conducive policy environment by removing or modifying regulatory restrictions and price distortions. It will also need to make approval processes (e.g., environment clearances) faster and easier.

- **Ensure social equity and fair competition:** In this new milieu, the Government will need to ensure that everyone has access to services and that competition between players remains healthy and productive. Therefore, regulation will be designed to protect the public interest; maintain equity; and ensure sustainable economic growth and use of environmental resources. For instance, infrastructure regulation will be designed to protect the public from monopoly pricing; regulation on quality standards and accreditation procedures will be provided to protect consumers; and environmental regulation will be based on rigorous but pragmatic policy.
- **Refocus spending:** Having freed itself from responsibilities it need not undertake, the Government would then focus its attention and resources on the effective provision of services such as basic health and education. The primary focus would be on making public spending in these areas effective. This would be achieved by:

1. Reducing administrative and other non-developmental expenditure such as support to public sector undertakings from the current 40 per cent of the budget to 20-25 per cent by 2010.
  2. Raising spending in areas such as basic education, primary healthcare, food security, and rural development from the current 17 per cent to 30-35 per cent of the budget. Keeping in mind its commitment to weaker sections of the population, the Government will maintain a harmonious balance between social welfare and development.
  3. Increasing investment in infrastructure from 6 per cent of the budget today to 15-20 per cent.
- **Undertake focused communication:** All these are dramatic changes and will therefore be carefully communicated so that the people understand that the changes are in their interest. In addition, the Government will develop a time-bound programme for change and ensure that it unfolds at an appropriate pace, without undue impact on any specific group.

## DECENTRALISE GOVERNANCE AND INVOLVE THE PEOPLE

Decentralisation is an essential part of the programme to make Government institutions more efficient and responsive. The State is therefore determined to strengthen its administration through responsible management by Panchayati Raj Institutions (PRIs) and community organisations. To this end, it will enable local management by devolving administrative and economic powers and responsibilities. To successfully implement this framework, change in administrative systems will be carefully managed.

- **Introduce administrative decentralisation:** Local empowerment is already emphasised in the 73rd and 74th Constitutional Amendments. Accordingly, the State will devolve the administration of Government services listed in the 73rd and 74th Amendments to the appropriate Panchayati Raj Institutions. It will also provide Gram Panchayats control over 'local' services, such as sanitation and primary schools, and mandals and Zilla Parishads control over 'shared' services, such as secondary schools and colleges.

Directly involving people in the management of the services they use is another important initiative required. The people can play a major role in managing

education, health and infrastructure services through community organisations such as School Committees, or Development of Women and Children in Rural Areas. The Government will provide such groups any help they may need in planning and operating devolved services. This could take several forms: installing key systems (e.g., accounting); inducting qualified personnel (e.g., professional managers in municipalities); and providing training (e.g., for planning, in specific sectors).

At the same time as it hands over responsibility, the State Government will continue to play an active role in decentralised services by providing resources and technical and policy support. A good way to involve people in the management of local services is to provide them with the means to turn their views into action. In the US and many European countries, local referendums are held to decide specific local issues such as the creation of public goods like roads. Andhra Pradesh will use a similar mechanism to give the people a larger say in the management of public services, in addition to various other means available to enlist people's participation.

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*The people can play a major role in managing education, health and infrastructure services.*

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- **Carefully manage change:** All bold reform meets with resistance, particularly from parties with an interest in maintaining the status quo. Already, there has been strong resistance to even limited efforts by the Government to decentralise health and education. To succeed, therefore, the Government will need to ensure that its decentralisation programme addresses the concerns of multiple constituencies like the Central Government, State bureaucracy, Government employees, local bodies, and public representatives. Furthermore, it must carefully design key systems (e.g., for inter-government transfers/relations) and properly sequence steps towards decentralisation (e.g., matching capability with responsibility). Experience (for instance, in Latin America) demonstrates that decentralisation takes time, as much as 10-15 years, but is crucial for improving the responsiveness of Government.

## INTRODUCE ELECTRONIC GOVERNMENT

Today, access to the Government is generally slow, cumbersome, uncoordinated and confusing. Procedures are mystifying and obscure, giving the bureaucracy immense discretion and, therefore, power. As a result, most transactions with the Government are time-consuming and frustrating.



The Andhra Pradesh Government is committed to correcting this situation by introducing the 'Electronic Government', a process of administrative reform integrated with the use of Information Technology. Through this initiative, IT will be used to automate services the Government provides and to radically improve their efficiency and quality.

The Internet, Web and groupware technologies will be used to create electronic networks at all points of contact between the people and the Government. Citizens will be able to obtain and submit electronically all forms for any service or clearance from the Government. Their information needs will be met through a system of 'one-stop, non-stop' electronic networks. Thus, an individual will be able to apply for a ration card from any conveniently located, networked computer, at any time of the day or night. He or she would then be able to find out the status of the application by accessing the Civil Supplies server, which the department will maintain and regularly update. Similarly, a potential investor will be able to obtain all forms required for clearances for setting up an industry from the Industries Department server. He or she will be able to provide the information required electronically and follow up on the status of the application by logging on from any conveniently located, networked computer.

All billing and tax information will be made available to citizens with electronic access. Other services provided will include reservations for public services, such as seats on Andhra Pradesh State Road Transport Corporation buses, or accommodation at the Tirumala Tirupathi Devasthanams.

IT-based services will also boost education and health services. Hospitals and educational institutions will be provided with Internet connections in phases. Providing Internet connections to libraries will be duly emphasised, given the role of libraries in a knowledge society.

To ensure that IT-based services are available to all Andhra Pradesh's people, the Government proposes to provide free network access through electronic kiosks at convenient locations. These kiosks will facilitate one-stop 'shopping' for information and services. Depending on the service or information required, charges could be applied at differential rates.

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*IT will be used to automate services the Government provides and to radically improve their efficiency and quality.*

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## BECOME A 'SMART' GOVERNMENT

The Government of Andhra Pradesh is committed to becoming a simple, moral, accountable, responsive and transparent government. To achieve this objective, the Government will have to act decisively on several fronts. One of its primary tasks will be ensuring efficient and responsive services. Another will be making it easy for the people to gain essential information from the Government. A third task will be to ensure that they have recourse to mechanisms that punish wrongdoing. The Electronic Government initiative will go a long way towards improving transparency and ensuring efficient services. In addition, the Government will provide other mechanisms to ensure transparency, responsiveness and accountability.

### Ensuring efficient and responsive services

Countries like Canada have effectively used 'Citizen Charters' to improve the quality and effectiveness of public services (**Exhibit 28.2**). The Government will need to draft a clear citizen charter for routine services citizens need on a regular basis like the provision of industrial approvals, birth certificates, or driving licences. Citizens' rights, departmental responsibilities, and the quality and timeframe for providing the service will need to be clearly specified. Government employees will need to be trained to provide quality service. In addition, robust mechanisms for monitoring quality (e.g., through citizen surveys or social audits) and redressing grievances will need to be created.

In addition, the Government will need to enact a law for citizens' 'right to information' on all government activities except sensitive areas. This law would cover all areas for which an individual or a corporate has to directly approach the Government or is indirectly affected by it, e.g., resource allocation and infrastructure development plans in a village; public policy on backward class reservation; or privatisation of infrastructure. State residents would have the right to seek information from the Government within prescribed time limits, with a provision for legal appeal in case of failure to provide the information sought. This will ensure that the public can demand information about the Government's plans and policies by law and demand performance against those plans and policies.

### Providing mechanisms to ensure integrity in public life and redress grievances

In addition to gaining the information they need, people would feel more empowered if they believed their grievances would be heard and acted upon. The

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*The Government of Andhra Pradesh is committed to becoming a simple, moral, accountable, responsive and transparent government.*

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Exhibit 28.2

**CITIZEN'S CHARTER FOR A UK ELECTRICITY UTILITY**

EXAMPLE

Service	Guaranteed standard performance level	Penalty payment (£)
• Supplier's fuse failures	• Within 4 hours of any notification during working hours	10
• Restoring electricity supplies after faults	• 24 hours	20 (domestic customers) 50 (non-domestic customers)
• Estimating charges	• Within 10 working days for simple jobs or 20 working days for most others	20
• Notice of supply interruption	• 2 days	10 (domestic customers) 20 (non-domestic customers)
• Voltage complaints	• Visit or reply within 10 working days	10
• Meter problems	• Visit or reply within 10 working days	10
• Charges and payment queries	• A substantive reply within 10 days	10
• Appointments	• All appointments to visitors on a day must be kept	10

Source: 'Report on Customer Services'; 1992-93

Government will thus need to undertake a number of measures, first, to ensure integrity in public service and, second, to protect the State's people against wrongdoing. The public would be encouraged to report cases of corruption by being rewarded for doing so, just as they are currently rewarded for bringing to light cases of income tax evasion. To ensure their effectiveness, the activities of anti-corruption bodies would be publicised: details of cases, persons investigated, and action taken would be made available. Hong Kong has taken a similar approach through its Independent Commission Against Corruption (ICAC) with effective results.

### **Enforcing legislation and maintaining law and order**

The State will continue to take a proactive role in social and economic legislation with a view to protecting the interests of the impoverished and deprived and reversing historical distortions that have hindered social progress. It will continue its policy of affirmative action for disadvantaged groups and enforce the law to reduce crimes and maintain peace and order. These efforts will be tirelessly pursued until the war against poverty, hunger and social disability is won.

### **STRENGTHEN POLICY MAKING AND IMPROVE PERFORMANCE**

A capable, performance oriented administration is the foundation for improved governance. The tasks before the Government are therefore to strengthen policy making and introduce mechanisms to create and sustain a performance orientation in its bureaucracy.

#### **Strengthening policy making and execution**

To facilitate policy execution and enforce rules of conduct, the Government will need to create empowered bodies and independent regulatory authorities. In addition, to facilitate policy making, it will need to introduce accurate information gathering systems.

The Government will create information systems to track results, and support fact-based and rigorous policy making. Information seeking would focus on results. The State will use Information Technology services to collect, store and retrieve information about key areas, enhance the ability of its Planning and Statistics departments to monitor and provide analytical support, and create systems to ensure the use of information, for instance, by requiring a feasibility analysis for each programme.

#### **Introducing a stronger performance orientation**

To make its administration capable and performance oriented, the Government will build the capabilities of its officials. Recognising this as a high priority to achieve the vision, the Government has already created a special institution for human resource development. In addition, it will institute reward and appraisal systems that create and reinforce a performance orientation.

- **A special HRD institution:** The State Government has initiated a training initiative on an unprecedented scale to train its personnel, from the Chief Minister down to the lowest level of staff, by setting up the Dr. M. Channa Reddy Human Resources Development Institute of Andhra Pradesh (HRDIAP) as a premier, national level institute. The objective of this institute will be to create a team of motivated and dynamic administrators at all levels.

Human Resource Development will take place at four broad levels: policy, administrative, executive and support staff. The Institute will evolve appropriate training strategies and design comprehensive training modules for each of these levels. It will also continuously assess training needs and design training methodologies to build the capabilities of State Government officials.

To this end, the HRDIAP is developing a comprehensive database on every government employee in the State, to catalogue his or her personal profile, job description, training status and requirements, etc. Apart from providing key information to help decide professional development needs, this database will prove to be a key resource in several other endeavours. The HRDIAP will also establish a world class Resource Centre, equipped with Internet and electronic facilities, such as the Online Resource and Database Management System, etc., to stimulate research in various fields of academics, management, and information technology.

The HRDIAP will develop special relationships with some of the world's foremost centres of learning and knowledge in order to expose Government employees to state-of-the-art thinking and research.

In conjunction with the HRDIAP, the State Government will undertake other path-breaking initiatives. These include an Institute for Electronic Government to showcase leading technologies and best practices in the field of information technology within government; a Centre for Excellence in Information & Communication Technologies; and a Centre for Enterprise Resource Planning (ERP) which will enable Government officials to create the SMART Government described earlier.

- **Better reward and appraisal systems:** Effective reward and appraisal systems are the best way to introduce a performance orientation. Critical elements of such a system would include up-front statement of objective performance criteria;

a focus on outcomes; and definition of results expected. These elements would be formalised into explicit documents (e.g., as in New Zealand's annual 'performance agreements' between department heads and ministers). Appraisal systems would track actual performance. For example, an initial report would be discussed with the official being appraised and then syndicated with a number of people connected to his work. Good performers would be identified and adequately rewarded through both monetary ('fast track promotions'; bonuses) and non-monetary (public recognition) incentives. To enable better performance, giving officials stable tenures, that is, allowing them to remain in a position for at least 3-5 years, will also be considered. Appropriate department-specific transfer and counselling policies will have to be developed in a participatory and transparent manner.

The Government will also focus on such mechanisms as counselling to decide key bureaucratic placements. Already implemented successfully in the education sector, the counselling mechanism seeks the individual's choice of placement and combines this with his or her performance to reach a final decision on placement. This ensures that people are rewarded with positions in line with their performance and calibre.

### **TAKE A LEADERSHIP ROLE IN REGULATORY AND OTHER REFORM**

As stated earlier, the development of the growth engines will require major reform in regulation and procedure. For much of this reform, the State Government will need the co-operation of the Centre, either because the reform sought falls in areas completely controlled by the Central Government or in areas jointly controlled by the Centre and State Governments. For instance, the Centre controls telecommunications, banking, and insurance, while the Centre and State jointly control highways. In addition, the Centre also decides most regulation on industry, such as the reservation of some industries for the small-scale sector. Thus, only the Centre can grant a relaxation in regulation, such as de-reserving apparel and leather products.

Furthermore, some of the initiatives to achieve the vision for individual sectors will require changes in the funding or design of programmes that are sponsored by the Centre. For example, the Centre decides the funding and design of public employment schemes like the Jawahar Rojgar Yojana and the Employment

Assurance Scheme. The State Government would need to have the freedom to at least change the design of such programmes.

The Andhra Pradesh Government will, therefore, take the lead in bringing about reforms needed in many sectors in India by highlighting the need for action and serving as a role model for other states. Since much of this reform could be fairly radical, it will need to find different and innovative ways to do this. One way would be to bring issues to the Central Government's notice and then press for action as has been done for amendments to the Pesticides Act. A second way would be to proactively work with the Centre on drafting national policy on key issues, as has been done in the IT sector. A third way would be to request that Andhra Pradesh be made a test bed for such reform as has been done with the Electronic Government initiative. Obviously, Andhra Pradesh will not want to divorce itself from the rest of India in pursuing its route to progress. But, given the trend towards increasing federalism, Andhra Pradesh should seize opportunities to influence the Centre and lead other states in such reform, becoming, in the process, the benchmark state on all indices of development.

## CHAPTER 29

# Raising the Resources

Achieving the goals enunciated in the vision will require large investments in all sectors of the economy, mainly to provide capital and fund infrastructure development. The total investment required till 2020 amounts to about Rs.30,00,000 crore (about \$ 750 billion). This represents roughly 44 per cent of Andhra Pradesh's GSDP till 2020.

Building infrastructure will account for a large chunk of this investment, almost Rs.16,00,000 crore till 2020. Till 2010 alone, investments of about Rs.4,00,000 crore will be needed in basic infrastructure, such as irrigation, power, roads, telecommunications, airports and ports, and specialised infrastructure, such as cold storage facilities.

The State Government will endeavour to step up its share of the investment required in infrastructure creation and other sectors. However, given the scale of investment required for the growth agenda, public investment will need to be supplemented by significant private investment (both foreign and domestic).

## INVESTMENT BY THE STATE GOVERNMENT

To step up its share of the investment needed for growth, the State Government will need to prioritise its spending and consolidate its fiscal position.

Over the years, the Government's expenditure structure has evolved in such a way as to allocate increasingly larger funds for salaries and towards welfare



programmes. This has diverted scarce public resources away from economic and social infrastructure. Inadequate investments in key sectors like education and health, not to speak of infrastructure, have caused the State to lag behind many Indian states on key human development and economic indicators. This has made the State a less attractive prospect for investment, leading to low private investment.

To initiate a public debate on fiscal reform, the State Government published a white paper on State finances in June 1996. Based on the feedback received, the Government embarked on a fiscal reform programme. This included levying a luxury tax on cigarettes at the point of first supply; enhancing water rates for irrigation; raising the price of subsidised rice and reducing the maximum monthly entitlement per family from 25 kg to 20 kg; raising fares on the State-owned Road Transport Corporation buses; and raising the power tariff of the State Electricity Board.

However, the Government recognises that this will not be adequate to improve the State's financial position. Much more needs to be done to restore State finances to robust health and garner the large capital required for achieving the vision. To this end, the Government will pursue a fiscal adjustment programme with the following components:

- Restructuring expenditure
- Improving expenditure management
- Augmenting revenue
- Framing growth enhancing policies.

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*Government spending will enhance growth and provide an impetus to capital formation and developing human resources.*

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### Restructuring expenditure

The Government will endeavour to change the composition of its expenditure in favour of developmental spending. Rather than being consumption-oriented, this spending would enhance growth and provide an impetus to capital formation and developing human resources. To achieve this objective, the Government will focus its expenditure on the following areas:

- **Operations and maintenance (O&M) works:** This is necessary to improve the efficiency and effectiveness of the State's assets. Low expenditure on O&M has,

for example, led to poor maintenance of the State's canal network, which has reduced the overall efficiency of the State's irrigation system. To correct this situation, the Government will focus on O&M works and will increase the budget allocation for this purpose.

- **Education and health:** Budgetary allocations for education and health are below desired norms: spending on education has declined over the past 10 years from 15.3 per cent to 14.7 per cent, while spending on health has remained more or less at the same low level. The fiscal reform programme will include substantial increases in the allocations for education and health, with special emphasis on achieving universal primary education and strengthening primary healthcare. This will be supported by policy reforms in both sectors aimed at increasing the quality, reach and effectiveness of services.
- **Capital investment:** The share of capital expenditure in total expenditure has declined over the last 10 years from 17 per cent to 13 per cent, creating a large infrastructure gap in the State. The State's capital budget will be raised substantially to reduce this gap. However, public funds alone will not be sufficient to meet the investment required in infrastructure. Therefore, policies governing the infrastructure sector will be reformed to encourage substantial private investments
- **Public enterprise reform:** According to estimates, budgetary subsidies (explicit and implicit) to the State's 39 public enterprises amount to more than Rs.650 crore a year. To reduce this cost to the economy, the Government will frame effective policies to reform and, if necessary, restructure these public enterprises.
- **Poverty eradication:** The Government's current poverty eradication strategy needs substantial modification since it is based primarily on implementing a large number of subsidies and welfare programmes. The strategy will, therefore, be revised to achieve the following objectives: (1) Promote rapid, sustained growth in sectors of the economy that generate employment opportunities so as to provide employment and income to a large part of the population below the poverty line. (2) Effectively provide basic services such as universal primary education and basic healthcare to all. (3) Implement more sharply focused anti-poverty programmes for the genuinely needy.

## Improving expenditure management

To improve the management of its expenditure, the Government will act in the following ways:

- Emphasise the better maintenance of existing assets in preference to starting new projects.
- Complete ongoing projects through critical balancing investments.
- Select new projects and schemes on strict cost-benefit criteria while taking into account both positive and negative externalities.
- Perform a zero-based evaluation of every scheme and phase out ineffective and infructuous ones.
- Base budgeting on a realistic estimate of resources to avoid overstretched commitments.
- Emphasise quality of expenditure—evaluate programmes on physical performance indicators in addition to financial ones.

## Augmenting revenue

A pressing problem for the Government is the declining revenue to GSDP ratio. This ratio dropped from 11.1 per cent in 1986-87 to 7.8 per cent in 1996-97, though it has improved to 8.8 per cent in 1997-98. The Government will aim to further increase this ratio in the next 5 years. One way to achieve this objective is to undertake tax reform.

The tax reform strategy will concentrate on systemic changes as opposed to rate increases: for example, it will focus on simplifying and rationalising the tax structure which today comprises several kinds of taxes; broadening the tax base; and using information technology for more effective tax administration.

## Frame growth enhancing policies

The Government will initiate reforms in various sectors with a view to enhancing the growth of these sectors. These policies would induce growth by (1) ensuring the optimal utilisation of natural resources; (2) enabling effective use of physical

assets already created; and (3) encouraging significant participation by the private sector by way of increased private investment.

### PRIVATE SECTOR INVESTMENTS

Private investment will be key to achieving the targets envisaged in Andhra Pradesh's growth agenda; at least 70-80 per cent of the total investments required will have to be met through private sources. Therefore, a mindset of partnership with the private sector will be at the core of the Government's policies and procedures.

Andhra Pradesh has garnered foreign direct investment of Rs.2,000 crore since 1991. While this is high by historical standards, it is still only 2 per cent of the total foreign direct investment in India since 1991. This is too small when compared to the investments required to achieve the vision. The State will, therefore, make every effort to make Andhra Pradesh an attractive destination for these investments. As described in the preceding chapters, the State will follow a four-pronged strategy to attract private investment. First, it will provide basic infrastructure to remove infrastructure bottlenecks to growth and, thereby, stimulate the expansion of economic activity. Second, it will reform policies and simplify procedures to unleash market forces, remove policy bottlenecks to growth, and improve the operating environment. Third, the State will focus on creating a labour force with a wide variety of skills relevant to today's economic environment, and on improving productivity. Finally, the State will launch aggressive promotion campaigns aimed at both foreign and domestic investors to promote Andhra Pradesh as an attractive destination for investment. (For details of these initiatives, see Section 2, 'The Development Thrust: Andhra Pradesh's Growth Engines'.)

By consolidating its fiscal position, and exploring every avenue for increasing revenue and encouraging private investment, the Government of Andhra Pradesh will ensure that Andhra Pradesh achieves its vision for 2020 in full measure.

Achieving Vision 2020 is a massive and very challenging task. But Andhra Pradesh will turn all challenges into opportunities and bring about a glorious future for the State. Andhra Pradesh will move into the new millennium inspired by this vision and fortified by the knowledge that, implemented successfully, it will bring happiness, prosperity and fulfillment to its people.

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# Glossary

<b>Anganwadi</b>	Child care centre
<b>ANM</b>	Auxiliary Nurse Midwife
<b>APERP</b>	Andhra Pradesh Economic Restructuring Programme
<b>APPCB</b>	Andhra Pradesh Pollution Control Board
<b>Ayacut</b>	Area covered under an irrigation scheme
<b>Balwadi</b>	Child care centre
<b>Beedi</b>	Indian leaf-wrapped cigarette
<b>Bund</b>	Embankment to hold back water and create an artificial lake or pond
<b>Cheyutha</b>	Helping hand
<b>Chullah</b>	Stove
<b>CHW</b>	Community Health Worker
<b>Crore</b>	Ten million
<b>DoT</b>	Department of Telecommunications
<b>EPZ</b>	Exports Promotion Zones

<b>GATT</b>	General Agreement on Trade and Tariffs
<b>Gram Panchayat</b>	Elected, village level, local government body
<b>Gram Sabha</b>	Village Assembly
<b>GSDP</b>	Gross State Domestic Product
<b>HRDIAP</b>	Human Resources Development Institute of Andhra Pradesh
<b>ICDS</b>	Integrated Child Development Scheme
<b>IIIT</b>	Indian Institute of Information Technology
<b>IMR</b>	Infant Mortality Rate
<b>IPP</b>	Independent Power Producer
<b>ITI</b>	Industrial Training Institute
<b>Janmabhoomi</b>	A people-centred development process (literally, land of birth)
<b>Jawahar Rozgar Yojna</b>	Employment Scheme
<b>Lakh</b>	One hundred thousand
<b>MLA</b>	Member of the Legislative Assembly
<b>Mahila Banks</b>	Women's banks
<b>Mahila Swasthya Sanghs</b>	Women's Health Groups
<b>Mandal</b>	Administrative unit comprising a group of villages
<b>MSP</b>	Minimum Support Price
<b>NAC</b>	National Academy of Construction
<b>NGOs</b>	Non-Governmental Organisations



<b>Nirmithi Kendras</b>	Construction centres
<b>Panchayati Raj</b>	Local Government
<b>PDS</b>	Public Distribution Scheme
<b>PHC</b>	Primary Health Centre
<b>RCH</b>	Reproductive and Child Health
<b>Sarpanch</b>	Head of the Village or Gram Panchayat
<b>SC</b>	Scheduled Caste
<b>ST</b>	Scheduled Tribe
<b>Taluk</b>	Administrative unit
<b>TMC</b>	Trillion million cubic feet
<b>Vana Samrakshana Samiti</b>	Joint Forest Management Group
<b>VSNL</b>	Videsh Sanchar Nigam Limited (Government-owned international telecommunications provider)
<b>WTO</b>	World Trade Organisation
<b>WUA</b>	Water User's Association
<b>Zilla Parishad</b>	District level, local government body

