

WELCOME TO
PARTICIPANTS OF 117TH
ITP FOR IAS OFFICERS



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HANDLING HUDHUD
CYCLONE

District Collector, Visakhapatnam
6.8.2015 LBSNAA Mussoorie

ANDHRA PRADESH



AP & CYCLONES

- ◉ AP Second largest coastline in Country - next to Gujarat - 974 KMs
- ◉ 9 coastal districts with 69% population and 4 non coastal districts with 30.8% population
- ◉ Since 1891, Hudhud is 77th cyclone crossing AP coast and 8th cyclone crossing Visakhapatnam (Nellore district with highest - 32 storms)
- ◉ Out of 77, october (32), november (21) and December (9) months carried 62 cyclones - 80.5%

HUDHUD CYCLONE

- ◉ In the living memory of Visakhapatnam, a VERY SEVERE CYCLONIC STORM WITH CORE OF HURRICANE WINDS 'HUDHUD' crossed at Visakhapatnam on 12.10.2014 by 1300 hrs
- ◉ Max sustained wind based on Satellite Cloud imageries - 167-185 kmph
- ◉ Peak wind in gust - 260 kmph at 1012 hrs from N-NW direction.
- ◉ In a period of 144 years (since the start of observatory at Maharanipect), a record rainfall in 24 hrs - 400.6 mm was recorded at Visakhapatnam airport by 13.10.2014 morning as against the previous recorded high on 20.10.1958
- ◉ Yelamanchili recorded the highest rainfall of 47 cms in association with storm

VISAKHAPATNAM DISTRICT



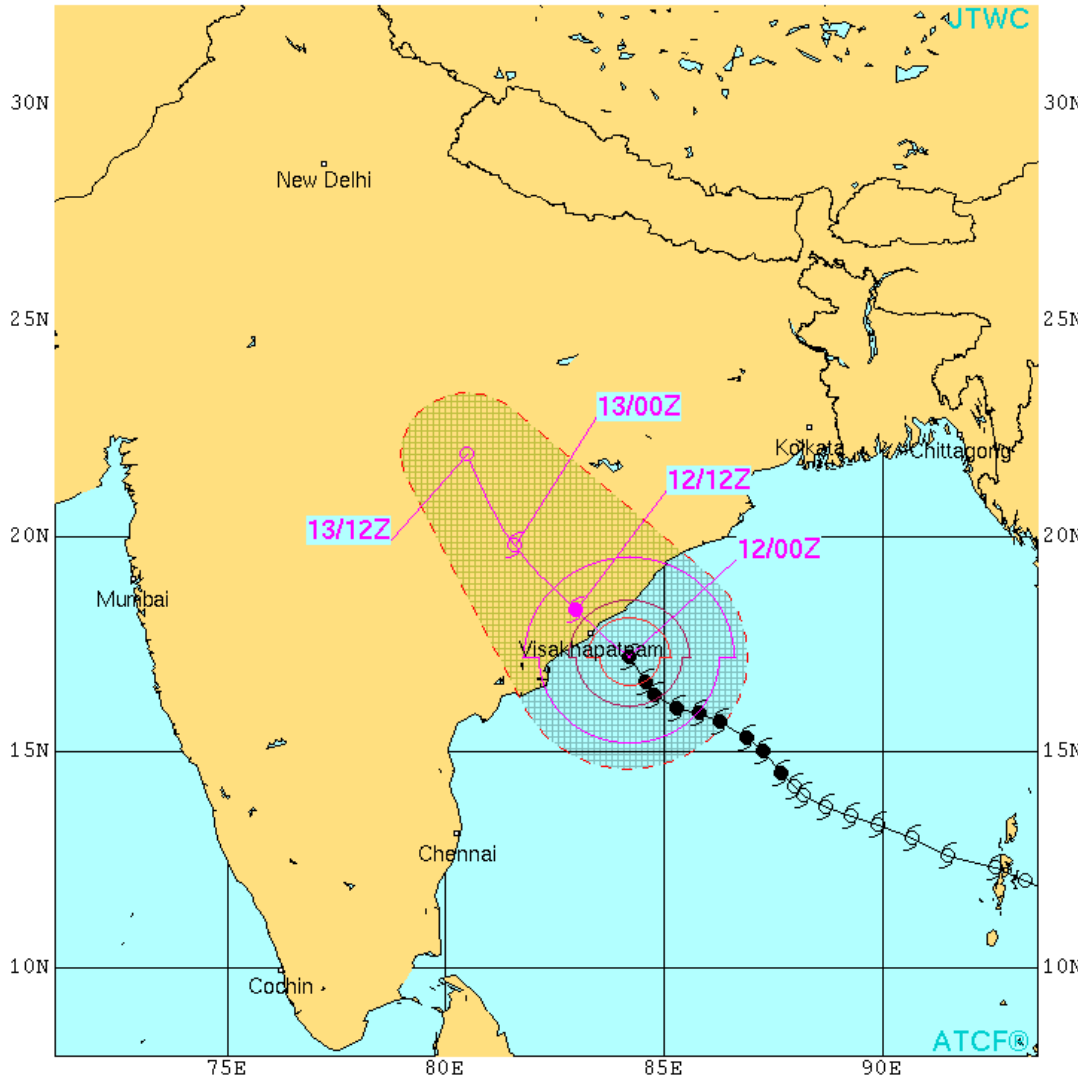
HUDHUD CYCLONE.....

- Tidal Wave or Storm Surge did not affect Vizag
 - Off shore bathymetry / bottom topography or slope of coast is steep at Vizag
 - Max Storm surge of 1.4 m above astronomical tide has been reported at Tide Gauge at Visakhapatnam
 - But Sea Waves can erode beaches
- Visakhapatnam coast is practically STORM RESISTANT COAST
- Even a SUPER CYCLONE INTENSITY STORM cannot create a storm surge of 2 metres above MSL
- Three districts are located on north of the Storm Centre
- Effect on southern Half of the system is practically nil except EG district
- This is the usual phenomena of October Storms in this area

HUDHUD CYCLONE.....

- The Hudhud storm dissipated over East UP on 14.10.2014
- It travelled 2600 km - 7.10.14 to 14.10.14 - 8 days.
 - 1450 km over sea - 6 days
 - 1150 km over land - 2 days
- Wrong belief that hills of Visakhapatnam can protect it from Cyclones
 - Cyclones normally extends to a height of 6 km and violent winds prevail upto a height of 3 km
 - Hills cannot protect from cyclones
 - But act as a barrier
 - Can reduce its strength to some extent after crossing

Cyclone on the day of crossing the coast



TROPICAL CYCLONE 03B (HUDDUD) WARNING #17
 WTIO31 PGTW 120300
 120000Z POSIT: NEAR 17.2N 84.2E
 MOVING 330 DEGREES TRUE AT 07 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 28 FEET
 12/00Z, WINDS 110 KTS, GUSTS TO 135 KTS
 12/12Z, WINDS 095 KTS, GUSTS TO 115 KTS
 13/00Z, WINDS 060 KTS, GUSTS TO 075 KTS
 13/12Z, WINDS 030 KTS, GUSTS TO 040 KTS

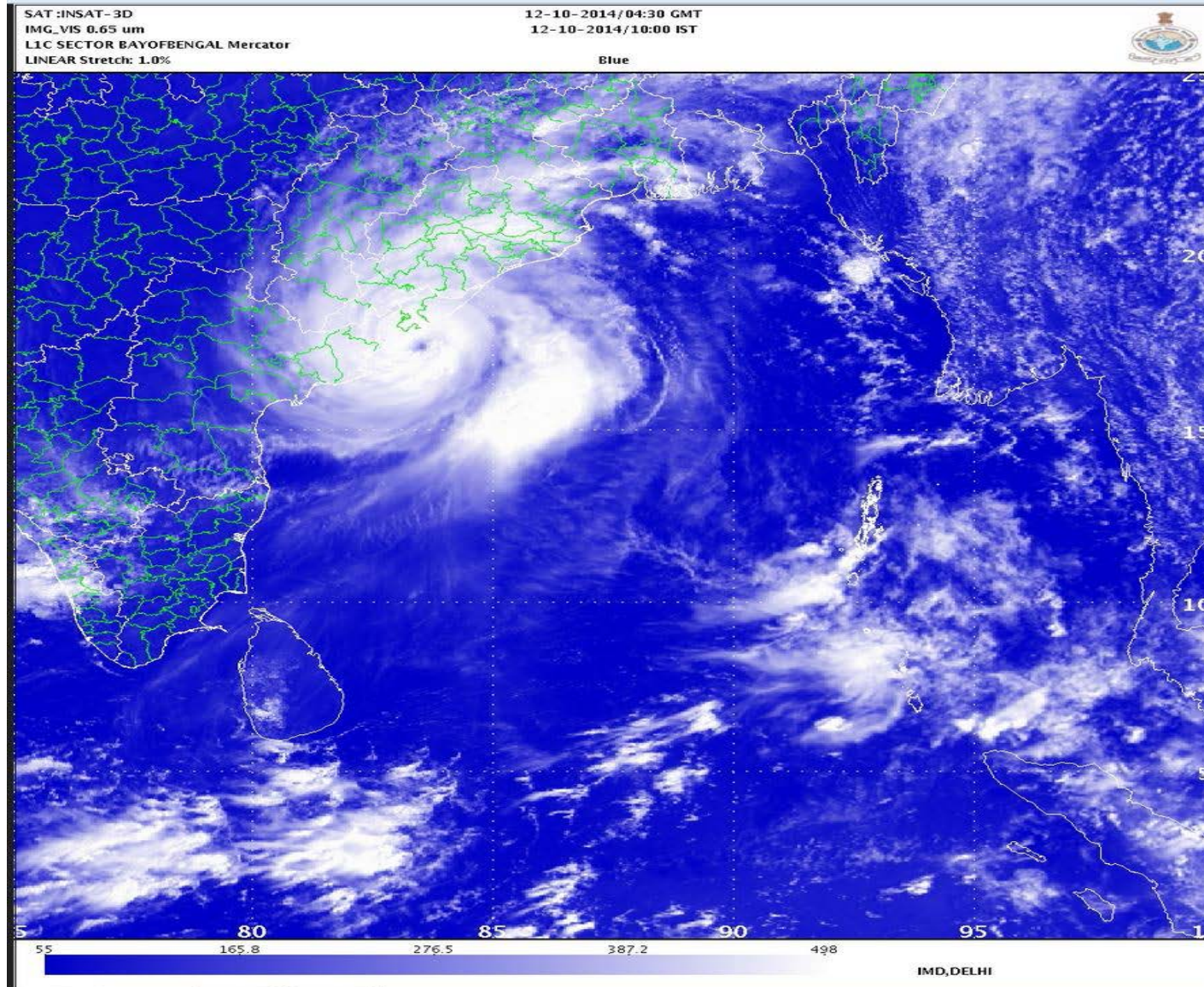
CPA TO:	NM	DTG
KOLKATA	396	12/06Z
VISAKHAPATNAM	9	12/08Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
VISAKHAPATNAM	321	154	24

○ LESS THAN 34 KNOTS
 ◐ 34-63 KNOTS
 ◑ MORE THAN 63 KNOTS
 ● PAST 6 HOURLY CYCLONE POSITS IN BLACK
 ○ FORECAST CYCLONE POSITS IN COLOR



Cyclone on the day of crossing the coast



AREAL VIEW



HUDHUD CYCLONE.....

◉ Past Two Major Storms of Vizag

- 4.10.1983 - crossed near Bheemunipatnam and caused heavy rains from Srikakulam to Guntur District
- 16.6.1996 - Cyclonic storm with gale wind of 85 kmph speed due to which Koida in Khammam district recorded a record rainfall of 675 mm on 17.6.1996 with average rainfall ofn 20 cm between Vizag to Krishna districts

Comparision with two storms of Hudhud

- Those are associated with more rain
- Hudhud cyclone affected with Hurricane winds

- ◉ In the past, Vizag Airport recorded a max wind of 146 kmph in gust at 1842 hrs on 1.6.1967

PROTECTED BY HILLS AROUND



FACTS OF THE AREA

- Srikakulam - 5835.6 sq.km
- Vizianagaram - 6125 sq.km
- Visakhapatnam - 11579.3 sq.km -
- East Godavari - 10943.8 sq.km
- Srikakulam is highest rural populated district - 83.8% with 27.03 lakh population (22.66 lakhs rural)
- Visakhapatnam is highly urbanized district - 47.5% with 42.9 lakh population (20.35 lakhs urban population)
- Visakhapatnam is largest city of the State with 20 lakhs population and managed by GVMC - the ULB
- Visakhapatnam is
 - Port City - Two ports - VPT and Gangavaram Port
 - ENC HQ - NAVY
 - PSUs - HPCL / VSP / Ship Building Centre /
 - Industrial Hub - Pharmacity / VSEZ / APSEZ
 - MSMEs
 - Discom HQ
 - NTPC - 2000 MW / HNPCL in making
 - IT HUB - IT SEZs
 - Tourism HUB
 - Educational HUB - Andhra Univ / Law Univ / Gitam Univ /
 - Health Hub - 7 State Level Hospitals and private hospitals

MANAGEMENT OF NATURAL DISASTERS

- Simply putting, management of
 - MEN
 - MATERIALS
 - FACILITIES
- By way of
 - CREATION
 - UTILIZATION
 - IMPROVEMENT

INPUTS ON CYCLONE PROGRESS

- ◉ IMD BULLETINS
- ◉ RADAR CENTRE MAPS
 - RADAR STATION AT VIZAG
 - REAL TIME PROGRESS
- ◉ WEBSITES FROM OTHER COUNTRIES
- ◉ EXPERTS ON THE FIELD
 - TWITTER EXPERTS
- ◉ KNOWLEDGEABLE OFFICERS
 - ACUT HIMANSHU SHUKLA

PREPARATORY ACTIONS BY STATE AND DISTRICTS

- ◉ 24X7 Control Room
- ◉ Evacuation of fishermen and vulnerable villages to Relief Centres - 310
 - Srikakulam - 120 RCs - 68575
 - Vizianagaram - 17 RCs - 16832
 - Vizag - 94 RCs - 102427
 - East Godavari - 79 Rcs - 34626
- ◉ Senior IAS officers to Districts
- ◉ Senior District Level Officers to Mandals
- ◉ Suspension of rail / road / air transport - one day before the crossing of cyclone
- ◉ Periodical dissemination of information to public through FM Radio, TV and other media including social medias
- ◉ Positioning of NAVY / NDRF / ARMY / POLICE / COAST GUARDS / FIRE PERSONNEL in required places
- ◉ Review through VC by Cab-Sec and Chief Secretary on regular intervals till 11.10.2014 evening for necessary assistance
- ◉ Stocking of ECS
- ◉ Running the Water Schemes through Generators
- ◉ Alerting of Telecom Service Providers and Tower operators for having enough fuel
- ◉ All District Heads are given proper instructions to remain at Mandal / Village HQ and take necessary actions

PREPARATORY ACTIONS



FEW ISSUES IN PREPARATION

- PEOPLE'S BELIEF ON THE SYSTEM
- BRINGING FISHERMEN TO RELIEF CENTRES
- SENSITIZATION OF OFFICERS AND ORGANIZATIONS
 - BSNL
 - TELECOM OPERATORS
- LIASION WITH GOI ORGANIZATIONS LIKE RAILWAYS, NHAI, ETC
- PROPER ASSESSMENT OF THE REQUIREMENT OF MATERIALS

DAY OFFINAL HUDHUD.WMV STORM

- Trees started falling since early morning of 12.10.2014 Sunday
- Traffic is affected
- Collectorate - Control Room is affected and leaking
- Power is suspended since 11.10.2014 late evening and is the major Casualty of the cyclone
- Connectivity is affected and hence, could not talk to those in RCs
 - Satellite phones function only when you come out and speak and we cannot come out in stormy winds
 - Except land line phone at one place at Collectorate Control room, there was no contact with State HQ
- Repeater Stations for Wireless sets have also blown
- Radar Station at Vizag becomes dysfunctional since noon
 - Hence, no chance of real time monitoring of movement

MAIN ISSUES

- ◉ IMD changed the speed of the wind from 150-180 kmph to above 200 kmph few hours before the storm hit
 - Damage assessment changes according to the speed of the wind
 - Preparations cannot change at last moment
- ◉ Timing of crossing could not be assessed correctly
 - LUCKILY, IT WAS SUNDAY AND DAY TIME
- ◉ Chances of multiple-command centres
 - Averted due to the presence of CM

AT THE END OF STORM...

TASKS AHEAD.....

- ◉ MAIN CASUALTIES ARE
 - POWER
 - TELE CONNECTIVITY
- ◉ AT THE SAME TIME, ARRANGING EXTRA FACILITIES REQUIRED LIKE
 - SAW CUTTERS
 - JCBs
 - TIPPERS / DUMPERS / TRUCKS
- ◉ REGULAR FACILITIES
 - DRINKING WATER
 - MILK
 - POWER TO HOSPITALS

FEW ISSUES ON THE DAY OF STORM

- CONTROL ROOM IS LEAKING; ALTERNATIVE CONTROL ROOM??
- UNAWARE OF WHAT IS THE SITUATION ELSEWHERE AS CONNECTIVITY IS GONE
 - AGENCY AREA - CAME TO KNOW THE STATUS AFTER 36 HOURS
- FLOODING OF VVIPS / OFFICIALS
- ALL HOSPITALITY FACILITIES AFFECTED
- EXPLOITATION BY PEOPLE THEMSELVES
 - Was aware

POST STORM - RELIEF, REHABILITATION AND RESTORATION

- Honourable CM camped since 13.10.2014 and monitored the operations
- Honourable PM reached and reviewed on 14.10.2014 and announced release of immediate package
- Important Principal Secretaries, HoDs and other field officers are present since 13.10.2014 morning
- All Ministers of the State, District and public representatives have worked for the work along with the officials in the early restoration works

DAY OF STORM



DAY OF STORM



RELIEF WORKS

- ◉ Clearance of the Road for Making the men and public move around
 - Started the moment cyclone stopped by 8.30 pm on 12.10.2014 itself
 - Deployment of JCBs, Trucks and men
 - Tree Cutters / Power Saws -
- ◉ Assessment of needs for men and material at locations
 - Difficult task as the damage is extensive
 - Moved in large numbers from other districts
- ◉ Making the Essential Commodities available
 - Milk
 - Sold at higher rate in first day - controlled in the next day by flooding the market with more milk
 - Tankers from Orissa and lesser rate supply from local players

RELIEF CAMPS



FOOD PACKETS



WATER RESTORATION



- Drinking Water
 - More tankers are mobilized from neighbouring districts
- Food - in larger quantity were moved from other districts
 - Air lifted from other District HQs
 - Moved through roads
 - Both rural and urban areas are covered
 - Directly served by NGOs and various associations
- Making Essential Services readily put into service
 - Hospitals
 - Made to run immediately
 - Buses and Autos
 - Put on road at the earliest

HOSPITALS



RELIEF MEASURES

- Supply of free essential commodities to all affected families
 - BPL and APL
 - Cardless families also enumerated and covered
 - 9 commodities are given
 - Mobilized in record time and distributed
 - Huge exercise in the history of the State
- Ex Gratia to all the deceased cases @ 5 lakhs from available funds
- Similarly, Ex gratia to all the injured cases based on the degree of injury and duration of hospitalization

ESSENTIAL COMMODITIES



ENUMERATION OF DAMAGES

- Team from other districts deployed to enumerate
 - Housing Damages
 - Damages to Cattlesheds
 - Damages to petty shops / street vendors / rickshaws / push carts
 - Agricultural
 - Horticultural
 - Coffee
 - Animal Husbandry including poultry
 - Fisheries

DAMAGES





POST ENUMERATION CHECKS

- All collected data are ported in website specially designed for this purpose
 - With photo of the individual damages
 - Aadhaar numbers
 - Bank accounts numbers
- Aadhaar validation is must
- The compensation is being released to the bank accounts of the individual directly on the cases where Aadhaar validation is done
- In case of no-aadhaar cases and no-bank account cases, the same are collected and then the amounts are released

HUDHUD PORTAL

The screenshot displays the HUDHUD portal interface. At the top, the browser address bar shows the URL <http://hudhud.ap.gov.in/HDRMS/UserInterface/Login>. The page header features the Government of Andhra Pradesh logo and the title "HUDHUD DAMAGE ASSESSMENT & RELIEF MONITORING SYSTEM". A navigation menu includes links for Home, Circulars & Go's, Gallery, Downloads, Media Releases, Skilled Worker Tracking, Telecom Status, Power Status, and Helpline Numbers. A large photograph of a crowd is positioned on the left side of the page. On the right, there is a "Department Login" section with fields for Username and Password, and a LOGIN button. Below the login section, an "Updates" section lists several news items: "an initial central assistance of 1000 Cr.", "Train services are partially restored in the affected districts and the road blockages are being removed on top priority", and "Full pledged power supply is expected in 36 hours in the affected districts." A section titled "ABOUT HUDHUD CYCLONE" provides details about the cyclone's impact on coastal districts of Andhra Pradesh and Odisha, mentioning heavy rain and winds of 200 kmph. It also notes that lakhs of people have been evacuated and that the cyclone is similar to last year's Phailin. On the left side of the page, there are three green buttons labeled "Citizen Inputs", "Maps (Bhuvan)", and "CM Relief Funds". A portrait of Sri N. Chandrababu Naidu, Hon'ble Chief Minister of Andhra Pradesh, is shown with his name and title. The Windows taskbar at the bottom indicates the time as 5:03 PM on 25/11/2014.

For any 1

HUDHUD DAMAGE ASSESSMENT & RELIEF MONITORING SYSTEM

Government of Andhra Pradesh

Home Circulars & Go's Gallery Downloads Media Releases Skilled Worker Tracking Telecom Status Power Status Helpline Numbers

Department Login

Username Password LOGIN

Updates

an initial central assistance of 1000 Cr.

Train services are partially restored in the affected districts and the road blockages are being removed on top priority

Full pledged power supply is expected in 36 hours in the affected districts.

ABOUT HUDHUD CYCLONE

Cyclone Hudhud pounded the coastal districts of Andhra Pradesh and Odisha with heavy rain and winds of almost 200 kmph on Sunday leaving a trail of devastation with Visakhapatnam where the very severe storm made landfall bearing the brunt.

Lakhs of people have being evacuated from towns and villages through which the cyclone has passed amid massive rain and wind. The cyclone is similar to last year's Phailin that crossed the Odisha coast leaving behind a trail of destruction.

Citizen Inputs

Maps (Bhuvan)

CM Relief Funds

Sri N. Chandrababu Naidu
Hon'ble Chief Minister
Government of Andhra Pradesh

EN 100% 5:03 PM 25/11/2014

UNIQUE ACTIONS

- ◉ Huge quantity of vegetables are supplied from other districts to contain inflation
- ◉ Under AP State Skills Upgradation Mission, skilled manpower like electricians, plumbers, carpentors, etc are supplied to necessary households for repairing free of cost duly maintaining a call centre
- ◉ Power saws are supplied to villages to help them to cut the fallen trees and put the field for next crops
- ◉ Under NREGA, per tree amount is calculated at district level and paid for the fallen trees to clear the field and under convergence, next horticultural crops are given
- ◉ Under 75% subsidy, the seeds are supplied
- ◉ The Insurance companies are regularly reviewed on the claim settlement
- ◉ The industry department has released the pending incentives and reimbursement amounts immediately

AVAILABILITY VEGETABLES AT RYTU BAZAARS



UNEXPECTED DELAYS...

- Telecom companies took lot of time to respond to the situation
 - They did not store enough fuel despite instructions from Cab Sec / CS / Collectors
- Bank - ATMs took some time to restore to normalcy due to affect of the online service cables

HON'BLE CM'S PRESENCE IN RELIEF OPERATIONS



HON'BLE PM'S VISIT



ROAD BREACH NEAR SEA COAST AT
KARKUDA

HEAVY TREE FALLEN ON
VIZIANAGARA

EVACUATING PUBLIC FROM SUBMERGED
AREA IN BRUNAGULAM

ELECTRICAL LINES FA
TOW

PROPERTIES DAMAGED DUE TO
FALLEN TREES

ROAD BREACH
SH

STRENGTH

- People of North Coastal AP
 - Too Good
 - Mentioned by Honourable PM as well
- CM's presence and the continuous monitoring and coordination among departments and getting resources from various states
- Govt's help in ERS for power
- People across the State and Country - ready to contribute

THANK YOU

