

# Rapid WASH Needs Assessment Report

Cyclone FANI, Odisha 2019



## Partners



# Aquaplus

Disaster Management



Kirloskar Brothers Ltd

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Indo-Global  
Social Service Society



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This Report is dedicated to all the families & affected families of Odisha, who lost their lives and their families were strong through their sorrows, offered us warm hospitality and taught us to believe that there is always a new path.

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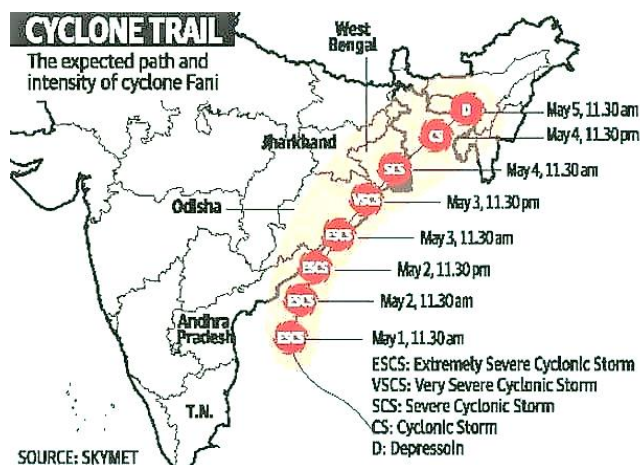
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## Background

A low-pressure area was formed over east equatorial Indian Ocean and adjoining southeast of Bay of Bengal on 25.04.2019 intensifying into a Severe Cyclonic Storm over southeast & adjoining southwest. It further intensified into Extremely Severe Cyclonic Storm 'FANI' over west central & adjoining southwest of Bay of Bengal on 01.05.2019 hitting one of the poorest coastal states of India - Odisha. The Extremely Severe Cyclonic Storm 'FANI' made landfall on the Odisha Coast south of Puri on 3 May, 2019 and the eye of the system was completely moved into land by 1000 hrs at the wind speed of 175-185, gusting up to 205 kmph thereby making it a Tropical Cyclone (Category 4).

### Details as on 9<sup>th</sup> May 2019

Total deaths – 41  
Total districts affected – 14 districts<sup>1</sup>  
Severely affected district – Puri  
Total Blocks affected - 159 blocks,  
Total Urban Local Bodies affected – 51 ULBs  
Total Villages affected – 16659  
Total People affected – 15.09 million  
Total houses destroyed – 5.08 lakhs



### Essential Services Disrupted:<sup>2</sup>

1	Electricity	<ul style="list-style-type: none"> <li>Power supply snapped due to uprooting of electricity poles, damage to substations and transmission lines.</li> <li>5030 Kms. of 33 KV lines, 38613 Kms. of 11 KV lines, 11077 nos. of distribution transformers, and 79485 Kms. of LT lines damaged.</li> </ul>
2	Governance infrastructures	<ul style="list-style-type: none"> <li>Special Circuit House Puri, Office and Residence of SP and Collector have been badly damaged like many other buildings.</li> </ul>
3	Communications	<ul style="list-style-type: none"> <li>Huge numbers of trees have been uprooted resulting in disruption of road communication. Khordha and Bhubaneswar city have been severely affected.</li> <li>Telecom towers have been affected resulting in cellular and telephone network down in wide area. All telephone and cell phones are down in Puri district. Telephone and mobile connectivity have also been severely affected in Khordha including Bhubaneswar city.</li> </ul>
4	Accessibility	<ul style="list-style-type: none"> <li>Traffic was disrupted in all the PWD roads of Cuttack, Jagatsinghpur, Kendrapada due to up-rooted trees, debris and electric poles.</li> <li>227 no. of breaches, 5596 kms length of road, have been damaged in PWD roads. 556 no. of roads blocked due to uprooted trees, electric poles &amp; wires, cyclone debris.</li> <li>9693.25 kms. of RD roads and 4610 buildings have been affected.</li> <li>BBSR airport and the railway station has been damaged and</li> </ul>

<sup>1</sup> Angul, Balasore, Bhadrak, Cuttack, Dhenkanal, Ganjam, Jagatsinghpur, Jajpur, Kendrapara, Keonjhar, Khordha, Mayurbhanj, Nayagarh and Puri.

<sup>2</sup> Cyclone FANI Joint Rapid Needs Assessment Report in the aftermath of the cyclone in Odisha in May 2019

		closed for a few days. Most bus stand had been fully or partially damaged.
5	Health facilities	<ul style="list-style-type: none"> <li>• 1031 public health facilities (MC &amp; H/ DHH/ SDH/ CHCs/ PHCs/ Sub Centers) damaged.</li> </ul>
6	Educational Institutions	<ul style="list-style-type: none"> <li>• Schools 5244 number of Primary School Buildings and 547 number of secondary school buildings damaged.</li> <li>• 180 number of Higher Education Institutions severely &amp; 90 numbers of HEIs partially damaged.</li> </ul>



*Irreparable damage on the eco-system. Coconut farms destroyed by cyclone Fani, Puri, Odisha 2019*

## Government Response:

Odisha government was very proactive on evacuating about 14,18,082 people from coastal villages and accommodating them in the cyclone shelter. District authorities providing food and water in relief camps and organized health facilities. 2398 number of polythene rolls from Gajapati district and 3200 rolls from Ganjam district sent to Puri. 600 rolls of polythene from Balangir and 200 rolls from Baragarh sent to Cuttack district. 500 rolls of polythene from Mayurbhanj, 350 rolls from Keonjhar, 300 rolls from Jharsuguda, 530 rolls from Nuapada and 800 rolls from Koraput sent Khordha district.

### Hon'ble Chief Minister's Package:

- For the district of Puri and Khurdha, for all families covered under Food Security, 50 KG of rice plus Rs. 2000/- and polythene will be provided. Cuttack, Kendrapada and Jagatsinghpur districts are moderately affected. Rs. 500/- plus additional one-month quota of rice will be provided in these districts.
- In all the affected districts one-month additional pension and house building assistance as per relief code has been announced i.e.
  - Rs. 95,100/- for fully damaged structures,
  - Rs. 5,200/- for partially damaged structures and
  - Rs. 3,200/- for minor damages will be provided.

For all other affected districts, relief to be distributed as per NDRF/ SDRF norms. The houses completely damaged will be reconstructed under housing schemes expeditiously. Loss of Agriculture and horticultural crops and animal resources, fisheries will be assessed and compensated accordingly. Tree plantations will be taken up in mission mode soon after relief and restoration.

- Ex-gratia Declared from PMDRF: Hon'ble Prime Minister has announced ex-gratia from Prime Minister's National Relief Fund @ Rs. 2 lakh each for the next of kin of the deceased and Rs. 50,000/- each for the persons, who got seriously injured due to FANI cyclone in the State in 2019.

### Forces deployed

- 20 Odisha Disaster Rapid Action Force (ODRAF) teams have been deployed for SAR and road clearance in the affected areas.
- 44 National Disaster Response Force (NDRF) teams have been deployed for SAR and road clearance in the affected areas.
- 525 Fire Teams have been deployed for SAR and road clearance in the affected areas.
- 08 teams of Odisha Forest Development Corporation (OFDC) engaged for road clearance and tree cutting in Bhubaneswar.

## WASH Finding and Recommendations

### Immediate Needs

Cyclone FANI did not bring very serious rainfall. There were no major reports of damages to WASH facilities and systems due to absence of flooding, inundation and water stagnation. However, there were apprehensions of contamination of water sources. Drinking water sources in the urban slums and villages visited by the assessment teams were observed that the source has risk of contamination. Communities largely used hand pump water for drinking and cooking purposes. However, the people complained on physical and chemical properties of water. It was also observed that there is a demand for institutional WASH needs, particularly in Government hospitals, CHCs and U/PHCs. It was observed that large piles of filth viz. garbage and waste due to tree felling are shattered in both urban and rural areas.

### Water Supply

1. Ensure provision of safe drinking water at household level through **household water treatment and/ or disinfection**.
2. Ensure to provide **manually easy to operate water treatment systems** to avoid electricity hassles and fuel shortages at areas with large footfalls viz., hospitals, schools, cyclone shelters, etc.
3. With the onset of monsoon between June to September the cyclone season, there is a likelihood of heavy wind with huge precipitation that could lead to water logging, inundation thereby leading to water contamination and turbidity. Mere chlorination will not be sufficient for safe drinking water. Hence, water filtration followed with chlorination will be required.
4. There are 20 CHCs and UPHCs in Puri district which the worst affected where the nearby affected communities and patients fetch water and currently treated water supply is absent. All these locations urgently require water filtration system to mitigate further outbreak of diarrhea, jaundice and other water borne diseases. As the affected areas are cyclone and flood prone, this intervention would also mitigate spread of water borne diseases especially among the vulnerable population and patients in the future.
5. As the access to most of the affected areas are now open, it is identified that people largely fetch drinking water from the handpumps (shallow tube wells and Mark III) which is untreated at point-of-use. Therefore, focus on **point of use chlorine tablets** is advised.
6. Though there are trained manpower available for water quality monitoring, they lack the hardware for testing. There are 20 CHCs/ UPHCs in Puri and hence one **water quality monitoring and testing kit** to analyze turbidity, residue chlorine and PH per hospital is recommended. Chlorine test at village levels are monitored by Health department essentially by sending water samples to the nearest laboratory which is mostly time consuming, therefore the water quality testing kits will enable the department to monitor and test sample on the spot.
7. In order to cover large number of people living with risks and/ or affected communities, institutions such as NDRF are potential first responders who have the capacity and capabilities like CSOs to provide safe drinking water to communities; especially to communities whose villages are marooned in flood water. The 3<sup>rd</sup> Battalion NDRF located at Mundali, Cuttack, Odisha has various companies working where 5 – 10 relief trucks are on movement to various locations as per the need. Therefore, provision of one manually easy to operate mobile water treatment systems along with 2 each of emergency sanitation squatting slabs per truck is recommend. As per discussion with higher officials of NDRF, currently these systems are not available with the NDRF and they have felt these equipment's are of utmost importance.



### Sanitation

1. Provide immediate **safe excreta disposal facilities** especially for women with handwashing facilities to areas where the latrine facilities are damaged due to heavy winds.
2. Construct appropriate bathing and washing places for women in the self-settled camps.
3. Adequate provision of **bleaching powder** for areas where garbage, excreta & inundation is seen.
4. Environmental health measures and community action for **clearance of debris and decaying waste** left by the cyclone.

### Disease Control and Hygiene Promotion

1. Ensure stock and use of **ORS** in cases of diarrhea.
2. Special **community awareness program** on diarrheal diseases/ vector borne diseases – malaria need to be carried out for all communities (host families, locally affected villages).
3. Provide **WASH nonfood items** (hygiene kit, cloths, buckets, water disinfectant tablets, sanitary pads/ napkins, nail cutters, basic hygiene items like tooth brush, soaps, etc.) as support to help families whose houses are completely damaged to get back to normal ways of living and practice hygienic ways of handling drinking water and personal hygiene.

### Other likely Interventions Recommended

1. There is a dire need to provide shelter to the people who have either lost their homes or their homes have not completely collapsed but are rendered uninhabitable. Ensure adequate protection from heat and rain by provision of tarpaulin sheets for emergency shelter would be a first step.
2. Provide household NFIs (utensils, mosquito nets, torch lights) as emergency support to help families to get back to normal ways of living and practice hygienic ways of handling food storage and handling.
3. Provide alternative power supply equipment as most of the villages will not have electricity restored for another 1 – 1.5 months. Alternative power supply such as battery-operated torch light, solar lanterns is recommended for household level and solar charge stations, solar power pack equipment's at hospitals, camps and at community level.

### Mid term

The cyclone Fani has left trail of destruction by uprooting many trees in the villages. During the visit to the villages, we could see many trees uprooted and strewn over the house and inner roads. Broken branches and pile of dry leaves lie everywhere, in addition to this the cyclone has also left garbage everywhere and with water clogging in many areas visited, which may lead to breeding of mosquitoes. The community is not in a position to hire or bring the JCB or tractor to clean the garbage, as uprooted poles and with dangling electric wires block the roads. Sanitation facilities are observed to be very poor especially at the shelters. Village visited in Puri district water is available at nearby tube well and maximum tube wells are functional. Whereas latrines built are completely damaged in the rural areas and open defecation is rampantly seen. Women have urged for the sanitary napkins in some of the assessed villages<sup>3</sup>.

### Water Supply

1. Ensure continued stock of water disinfectants at household level
2. Water quality surveillance from source level to point of use.

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<sup>3</sup> Initial Joint Rapid Needs Assessment done by CAID, Caritas and ADRA on FANI Cyclone dated: 08.05.2019

### Sanitation

1. Repair of the toilets or construction of temporary toilets.
2. Provide communal hygiene items; tools and equipment for digging and/ or cleaning latrines or digging drainage such as shovels, pics, axe, saw, wheel barrows, buckets, etc.
3. Cleaning and sanitization of affected ponds, wells and water bodies.
4. Restoration and augmentation of toilets at shelter and public places; and awareness.

### Disease control and Hygiene Promotion/ improvement

1. Special awareness on hygiene and safe sanitation, especially with children, adolescent girls and women.
2. Targeting women and children (through information education and communication (IEC) on water purification methodology and promotion of safe handling of treated water.
3. Ensure capacity building on water treatment and quality in emergencies and hygiene promotion for all frontline government staff and workers.

As 15.09 million individual are affected and 5.08 lakhs are displaced as their dwellings have been permanently damaged. It is assumed that these people will be staying in government and partner organized temporary shelters and/ or with host families for minimum period of 4 to 6 months.



*Assessment team interacting with community members*

## Interventions done by Aquaplus Disaster Management & DevRes

On the landfall of “Fani” Cyclone in Odisha on 3<sup>rd</sup> May 2019, Aqua Plus Disaster Management, Hind Pharma, Kirloskar Brothers Limited and KK Nag Limited through their CSR funds pledged 4 number of AP 700 CL Water Treatment Kits, 55000 Chlorine Tablets, 4 Nag Magic Emergency Latrine Squatting Slabs to immediately respond to the cyclone. The same were air lifted from Pune to Odisha on May 8<sup>th</sup> 2019. The team cleared the goods at speed and the same were transported in a dedicated vehicle to the affected sites along with the assessment team. The following were the sites assessed by the team –

Site No.	Date of Assessment	Site Name	Conditions	Inference
1	08.05.2019	Tapovan Basti, Bubhaneshwar	The basti has access to government treated water supply as well as private tube wells. Water turbidity was < 5 NTU and Chlorinated. People have access to sufficient quantity and quality of water	Immediate water supply interventions not required.
2	08.05.2019	Kharabelanagar Basti, Bubhaneshwar	The basti has access to government treated water supply as well as private tube wells. Water turbidity was < 5 NTU and Chlorinated. People have access to sufficient quantity and quality of water	Immediate water supply intervention was not required.
3	09.05.2019	Kargil Basti, Bubhaneshwar	The basti has access to government treated water supply as well as private tube wells. Water turbidity was < 5 NTU and Chlorinated. People have access to sufficient quantity and quality of water	Immediate water supply intervention was not required.



*Water source inspection by the assessment team in at Kargil Basti, Bubhaneshwar*

Site No.	Date of Assessment	Site Name	Conditions	Inference
4	08.05.2019	Tulsipur Baurisahi Basti, Ward No. 8, CMC, Cuttack	Total Families: 200 Average Population: 900 The basti has government piped water supply system but people do not use as there has been history of diseases viz., fever, diarrhea, dysentery and Jaundice. Therefore, people are dependent on shallow tube wells which are vulnerable for high contamination in case of inundation.	Immediate water supply intervention was required.



*Installed the AP 700 Water Treatment Plant with Kirloskar pump*

Site No.	Date of Assessment	Site Name	Conditions	Inference
5	09.05.2019	CMDO Headquarter Hospital, Puri	This hospital has 300 bed capacity and was completely occupied. On an average 1500 out patients visit the hospital daily. The hospital has RO systems which were currently nonfunctional due to lack of electricity. People fetched water from tanker which was deployed in hospital premises. It was observed that there was an acute shortage of treated water.	Immediate water supply intervention was required.



Site No.	Date of Assessment	Site Name	Conditions	Inference
6	09.05.2019	CHC Sakhigopal, Puri	This hospital has 80 bed capacity and was partially occupied. On an average 100 out patients visit the hospital daily. The hospital has RO/ UV water filtration systems which were currently nonfunctional due to lack of electricity and mal function. It was observed that the source of water was highly turbid. It was also observed that people from nearby areas also depend on the hospital water source for drinking.	Immediate water supply intervention was required.



Team cleaning the tank before connecting to the AP 700 water treatment plant



AP 700 Water Treatment Plant installed along water cooler

## Meeting with NDRF



A special permission was allotted by 3<sup>rd</sup> Battalion NDRF, Odisha to demonstrate the Water Supply Treatment plant. The entire material was assembled and explained to the NDRF officials. Similarly, the Nag Magic Emergency Squatting Slabs were also shown and explained. Based on the request, our team had handed over 1 number of Aqua Plus AP 700 Water Treatment plant, 4 Nag Magic Emergency Squatting Slabs and 1002 efChlor chlorine tablets (67 mg) manufactured by Hind Pharma Bhopal.

### Conclusion

Looking at the scenario, the situation currently is critical and needs support in WASH interventions like Solid Waste Management, Drainage Cleaning, House hold/ institutional and community-based water treatment systems and water quality surveillances to mitigate outbreak of diseases. Moreover, there are possibilities and likelihood of floods and cyclones in the upcoming monsoon season making WASH interventions further critical.

END OF REPORT

14.05.2019