

Flood Assessment Report of Mahabubnagar District – II



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Acknowledgement

The plight of people who are returning back to their villages, finding it difficult to absorb the reality and still able to share their concerns, have responded to our queries positively and gave suggestions to the team members in all the villages we have visited during the last two weeks. We are grateful to all of them for courageously facing the reality of floods in this drought prone district which shattered their lives and livelihoods. We thank friends in NGO sector in Mahabubnagar especially to Poor People's Development Society, Commitments, Social Discrimination Elimination Project, Shramika Vikasa Kendram, Sahajeevan and many volunteers working in the district for their support and contribution made. We also thank Mr. Venket Reddy, Sahajeevan and Vijay Kumar for their contributions and support.

We thank many noble hearts who responded overwhelmingly and provided whatever best they could help the victims. This humanistic response from fellow citizens inspired many including the team. We thank K.S. Gopal of Centre for Environment Concerns for extending support to our work in the field and also able to get connected to various philanthropic organisations for support flood affected people. We also thank P. Raghu, Action Aid and Sarabjit Singh Sahota, Red R India for their spontaneous support and help throughout.

We thank Smt. Damayanthi, District Collector Mahabubnagar who is eager to support and provide help for the team and ready to listen to our thoughts. We thank Mr. A. Murali Director Employment Guarantee Scheme for his support all through. We thank B. Rajsekhar for his tireless work and support as and when we had requested him to provide. We thank T. Vijay Kumar, CEO SERP for his support in our study in livelihood sector in the flood affected villages of Mahabubnagar district, especially Rajoli, which we are planning to bring out as a separate report.

In spite of our intention to bring this second flood report much earlier, we couldn't because two of our colleagues got bedridden with Chickun Guinea. We hope that this report though slightly delayed, will still be of some help.

What's there in the report?

In this report, we thought it should be useful for different players who are interested in rendering support to the flood affected victims in the district. During our interaction with different funding agencies, it was reflected that, both Andhra Pradesh and Karnataka are among the most progressive states in the country and hence, raising funds for these two states will be a herculean task for these INGOs. If one looks at the flood affected districts in both these states, it is the most back ward regions which were affected. The flood-affected region is located in Southern Deccan Region which is the one of the most backward regions in the country. Thus, in this report, we included a section on backwardness of Mahabubnagar district in all fronts. We have benefited from the first Human Development Report of Andhra Pradesh (2007) for drawing inferences for backwardness of the district.

This report focuses on three core areas - Shelter, Water and Sanitation, and Livelihoods. In Shelter section, the focus is on the impact of floods on shelter, existing strategies of the affected communities, issues and concerns emerging from the field, government's efforts for emergency shelters, transitional shelters and permanent shelters, suggestions for shelter sector.

In livelihood section, the focus is on livelihoods of the affected communities include, weaving, agriculture and livestock, labour and traditional backwater fishing.

We have included one section on our observations related to how the first phase of relief was managed by all players which includes planning, coordination and implementation.

1. Backwardness of Mahabubnagar District

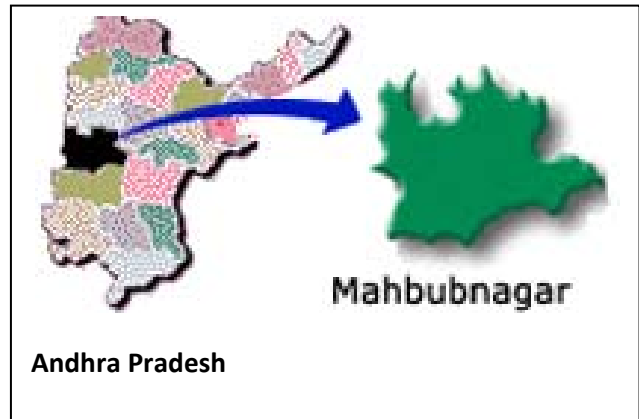
Mahabubnagar is one of the ten most backward districts in India. The district forms part of Telangana region of Andhra Pradesh, which is a land-locked area with semi-arid climatic conditions having hot summers, warm winters and sporadic rainfall. The maximum temperature variation is of 43° C and 28° C and the average rainfall is 65.5 cms. The distinctive feature of this region is an undulating topography dotted with monad rocks. The district may be divided into more or less two distinct regions, the plains region with low lying scattered hills and the extensive Amarabad-Farhabad plateau, a continuous range of hills, of an average elevation of about 800 meters, extending roughly east-west along the Krishna River on the southern boundary of the district.

The Mahabubnagar District is located in the Central Part of Peninsular India and northern part of Southern Deccan region. In the flood-affected parts of the district, the agriculture activity is intensive but the groundwater resources are meager. The southern part of the district is relatively plain and has irrigation facilities from the projects on Tungabhadra and Krishna Rivers.

The Eastern part receives relatively more rainfall and greener and the agricultural activity is intensive. The western part is backward and agriculture is also poor. Most of the district is drought prone and gets substantially low rain fall. The people's adaptive and coping strategies have become a way of life. Seasonal migration for alternative livelihood opportunities has become a tradition for most of the people.

The geographical area of this district is 18,432 sq.kms and accounts for 6.7% of the total area of the state. It is the second largest district in the state and largest in Telangana. The district has a population of 35.13 lakhs (as per 2001 census) of which 31.42 lakhs (89.44%) is the rural population. The SC and ST population in the district is 17.7 and 7.9 percentage respectively. The sex ratio of the district is 974 females per 1000 males; it is less than the state average.

Mahabubnagar is the most backward and least developed district in the state, despite its proximity to Hyderabad, the state capital. The state's first Human Development Report of 2007 reiterates that the district is lagging behind in all aspects, as measured in the Human Poverty Index, Human Development Index, Gender Development and Empowerment Measure Index, and Economic Growth parameters. There is a decline in total cropped and irrigated area in AP and Mahabubnagar with high rate of decline in both Net sown area (17.5%) and net irrigated area (4%). With Rs. 8,996 as per capita income (the state average is Rs 11,756), Mahabubnagar is ranked third lowest after Srikakulam and Vizianagaram districts in the state.



Human Poverty Index (HPI), includes the parameters like, adult literacy rate, percentage of children (6-14 yrs) not attending school, IMR for health, percentage of households not having access to basic amenities like drinking water, housing, sanitation, cooking fuel, electricity, and command over resources. Mahabubnagar was the most backward district with the lowest rate of change during the period of the study (2001-06) for HDR of AP (2007). With HPI of 0.592 it is ranked the lowest at 22. Adult literacy rate (44.4%, is the lowest in AP), among men is 56.6% and among women is 31.9%; among SCs 32.6%, STs 25.8%, among SC women is only 22.7% and among ST women it is 5.1% only. IMR (2001) is 24.7 per 1000 live births and Infant Survival Rate (ISR = 1000 – IMR) is 942 is second lowest in the state. In basic amenities access parameters, the population having no access to dwelling is 47.1%, Tap water 60.2%, Electricity 37.8%, Toilets 65% (in 1991 it was as high as 91%), Traditional Fuel is 73.7%.

Human Development Index, includes three basic dimensions, like long and healthy life, knowledge and decent standard of living. UNDP methodology includes parameters like literacy rate, enrollment rate, life expectancy, per capita GNP as representative indicators. Mahabubnagar with HDI score of 0.397 is the lowest in the state. Among the 23 districts in the state, it ranks 21st in Income, 23rd in education and 22nd in Health in the state.

Gender Development and Empowerment Measure Index (GEMI) uses the same variables of that of HDI do, but take into account the inequalities in achievement between women and men. The



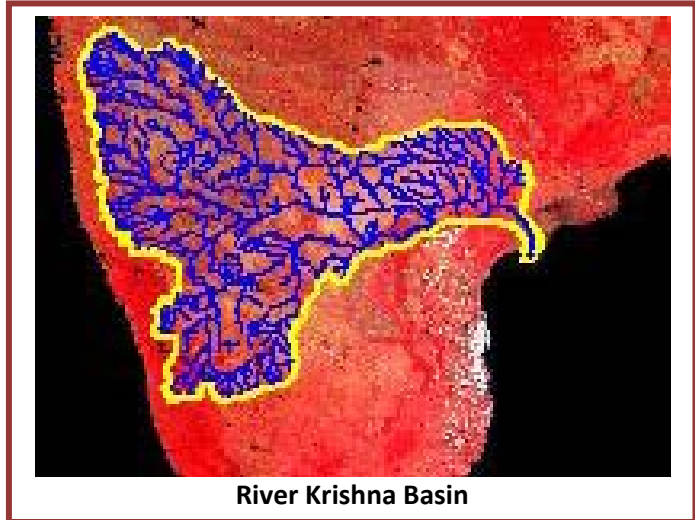
greater the gender disparity in basic human development, the lower is the Gender Development Index. The Gender empowerment Measurement indicates whether women are able to participate actively in economic, political life, uses indicators like % of women representatives elected in local body elections, rate of violence against women, sex ratio of children (CSR). Mahabubnagar district is ranked low in both Gender Development Index (at 0.493) and Gender Empowerment Measure Index (at 0.546). In

addition, all forms, both covert and overt of discriminatory practices exist; widespread superstitions; practice of Jogini system could still be seen in many parts of the district.

Migration is a pattern of life for people of Mahabubnagar district, who are popularly known as Palamur labour. Palamur labourers have a reputation for the most physically arduous work, and are believed to be docile and compliant, an even greater virtue as far as labour contractors are concerned. This year migration has taken place earlier and in much larger numbers than usual due to severe drought.

2. Role of river Krishna in the development of the district

Two important rivers, viz. Krishna and Tungabhadra flow through the district. The Krishna River enters Andhra Pradesh in Makthal Mandal of this district and covers Gadwal, Wanaparthy, and Nagarkurnool divisions of Mahabubnagar. The Tungabhadra flows through parts of the Wanaparthy division. The Dindi River, which is a tributary of the Krishna flows through parts of Nagarkurnool division before joining the Krishna River. Dhundibhi (rediscovered after over a 100 years during the current floods), Pedavagu and Chinavagu are the other tributaries of the Krishna in the district. River Krishna flows to the south of the district to a stretch of 160 kms and River Tungabhadra enters the district at Rajoli and joins River Krishna at Alampur. The entire district is covered under Krishna River Basin. However, the percentage of irrigation potential to cultivable area is 11.4% only and to the geographical area it is less than 5%.



In spite of having a number of irrigation projects (Joorala, Srisailam and Dindi) within the district and in the neighbourhood, and new irrigation works in Nettampadu, Bhima and Kalwakurthy the irrigation potential have not yet improved. The net sown area in the district has been on decline. The district is located in the semi-arid region of India with recurring meteorological drought (because of erratic and scanty rainfall) and worsened by overexploitation of meager groundwater resources.

At present a combination of factors such as failed rainfall in alternate years and over tapping of ground water, resulted in ground water levels falling from 3 to 25 metres in 97% of the area. With a string of under-utilised minor irrigation structures, this district suffered from official apathy, leading to decline of its resources. Further irrigation investments have not been commensurate with its area, potential and contribution to the Krishna River. The rights of the people of this district over the Krishna waters have not been recognized widely. It is high time that Mahabubnagar perennially in the grip of desertification and continuous drought, becomes the destination for priority Irrigation investments.

Agriculture is the mainstay of rural economy. Consistent drought is a common phenomenon. Added to it are undulating lands, low fertility of land, seasonal wage employment and consequential large-scale migration. These indicate the economic backwardness of the district.

3. Floods and its impact

Unprecedented heavy rain between 29th September and 1st October, 2009 occurred in Northern Karnataka and Mahabubnagar and Kurnool districts of Andhra Pradesh resulted in release of lakhs of cusecs of water in to the dams of Joorala and Srisailam and led to flooding in 15 mandals of Mahabubnagar district. The floods occurred within a radius of 100 km with the epicenter being the southern part of Mahabubnagar district. The Srisailam reservoir which collects flood waters from the Krishna, Tungabhadra and Hundri and few other streams from Nallamala forest is poised to handle 10 lakh cusecs which is the highest flood discharge in the last decade. The breach in Tungabhadra Reservoir at Sunkesula and Rajoli caused submergence of the nearly 41 villages in Alampur, Waddepally, Ieeja and Manopad mandals of Mahabubnagar district and Kurnool town. The flood created havoc among people in the district and caused very heavy damage to human lives and properties. Thousands of people were displaced as their houses were razed, crops submerged, agriculture land is sand casted and in few areas caused severe soil erosion, communication paralysed and brought misery to the affected communities.



Dam breach at Sunkesula

3.1 General Observations

Debris of collapsed houses, damaged roads and agriculture fields covered with sand are the common sight seen in all the worst affected villages visited in the district. The unprecedented floods and the incessant rains for three days during 29th September to 1st October 2009 in the district have thrown the people to miserable conditions in 96 villages covering 16 mandals. The floods have caused irreparable loss in some villages and claimed 31 lives. Due to incessant rains, many roads, bridges and culverts were damaged and to take up temporary and alternate routes to restore communications, the administration sought Rs.1,349 core. Several roads, including Hyderabad–Raichur State highway, Kollapur and Nagarkurnool got breached. A length of more than 2,000 km long road was damaged badly.

The district administration has provided Rs. 5,000 to the households of fully damaged houses and Rs. 4,000 to those houses got partially damaged. In addition, both the categories of people got assistance of clothes and utensils worth of Rs. 3000 per family. The district administration so far reached out these assistance to 16,888 (fully damaged houses) and 2765 (partially damaged houses). The district administration also gave ex-gratia of Rs. 2 lakhs to next to the kin of the diseased in floods.

The district administration has estimated the loss to over Rs.3,067 crore and presented the flood damage report to the visiting Central Flood Assessment team . The district authorities have requested

the government to provide central assistance of Rs. 2112.63 Crores for flood relief and rehabilitation. This figure is almost double to that of the report submitted to the chief minister during the later's visit to the district in the mid-October.

Flood Report at a Glance, Mahabubnagar District		
Sl.No.	Description	
1	No. of Mandals affected	16
2	No. of villages affected	96
3	Details of Marooned villages	
	Fully marooned villages	41
	Partially Marooned villages	39
	Total	80
4	Details of houses damaged	
	Fully damaged houses	24258
	Partially damaged houses	35360
	Total	59618
	Estimated loss (In Crores)	384.02
5	Details of human loss	
	Death	31
	Persons missing	2
	Injured	4
6	Cattle loss	
	Large animals (buffaloes/ Cows/ Bullocks)	1381
	Small animals (goat/sheep)	10658
	Poultry(birds)	5600
7	Details of Camps as on 26.10.2009	
	No. of camps run by the government	4
	No. of households rehabilitated	6100

Source : District Collector, Mahabubnagar Dt.26.10.2009

3.2 Shelter

The unprecedented floods in Tungabhadra, Krishna and their tributaries have caused enormous damage to the lives and property of nearly 17 lakh people in Andhra Pradesh. The most visible impact of the disaster is houses of the flood affected communities. People losing homes are one of the most striking realities of any disasters. Houses of different types, thatched huts, tiled houses, pucca concrete houses were either fully damaged or partially affected. In some villages like, Rajoli, Gadda Basavapur, Nagardoddi, it looks like a Tsunami hit scenario where the entire village is uprooted by the floods. The whole village resembles a ghost village, where all the houses were reduced to crumbles. Most of the houses are built with stone walls with lime and sand mortar, and a few are thatched houses. The following are few photographs showing a glimpse of damages to shelter.



3.2.1 Analysis of the situation

About 59,618 houses have been affected in Mahabubnagar district and the total loss is estimated to be approximately Rs.385 Crores. People displaced have either moved to their relatives living in nearby towns, or to temporary camps established by the government or by themselves. These temporary shelters are without adequate facilities and no access to basic services like safe drinking water, toilets and solid waste disposal. In some cases they are in conflict with the host villagers/communities. Living in an unfamiliar environment (or in inadequate shelters) can increase people's vulnerabilities and expose them to greater risks. Women, children, elderly and disabled are facing severe hardship. There is no place to stay for many families and women have no privacy. Some people were forced to use the sarees provided by aid workers for setting up their temporary shelters. It is the single most important assistance that was sought by the people in all the



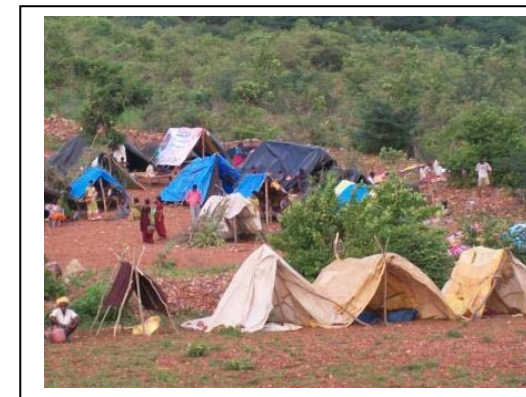
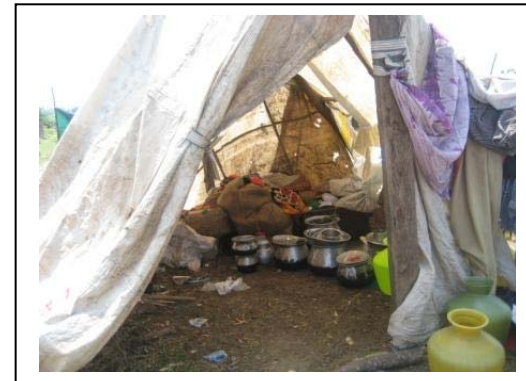
villages visited by the team. In emergency shelters of the affected communities, other community members who may not have got affected also pitched their camp to get relief and other benefits. Hence, it is very important to identify and register all displaced people and people living in temporary camps or makeshift camp sites. This enumeration process will further help in planning for both transit and permanent shelters.



The victims are expecting either the government or the NGOs/Aid agencies operating in their villages to provide assistance in rebuilding their houses. In the worst affected villages like Rajoli, Gadda Basavapur, Ayyavaripally, the villagers were demanding relocation of their villages to safer areas. People have gradually started returning to their villages and have started clearing debris and cleaning their houses with whatever compensation they received from the government. Government is paying a compensation of

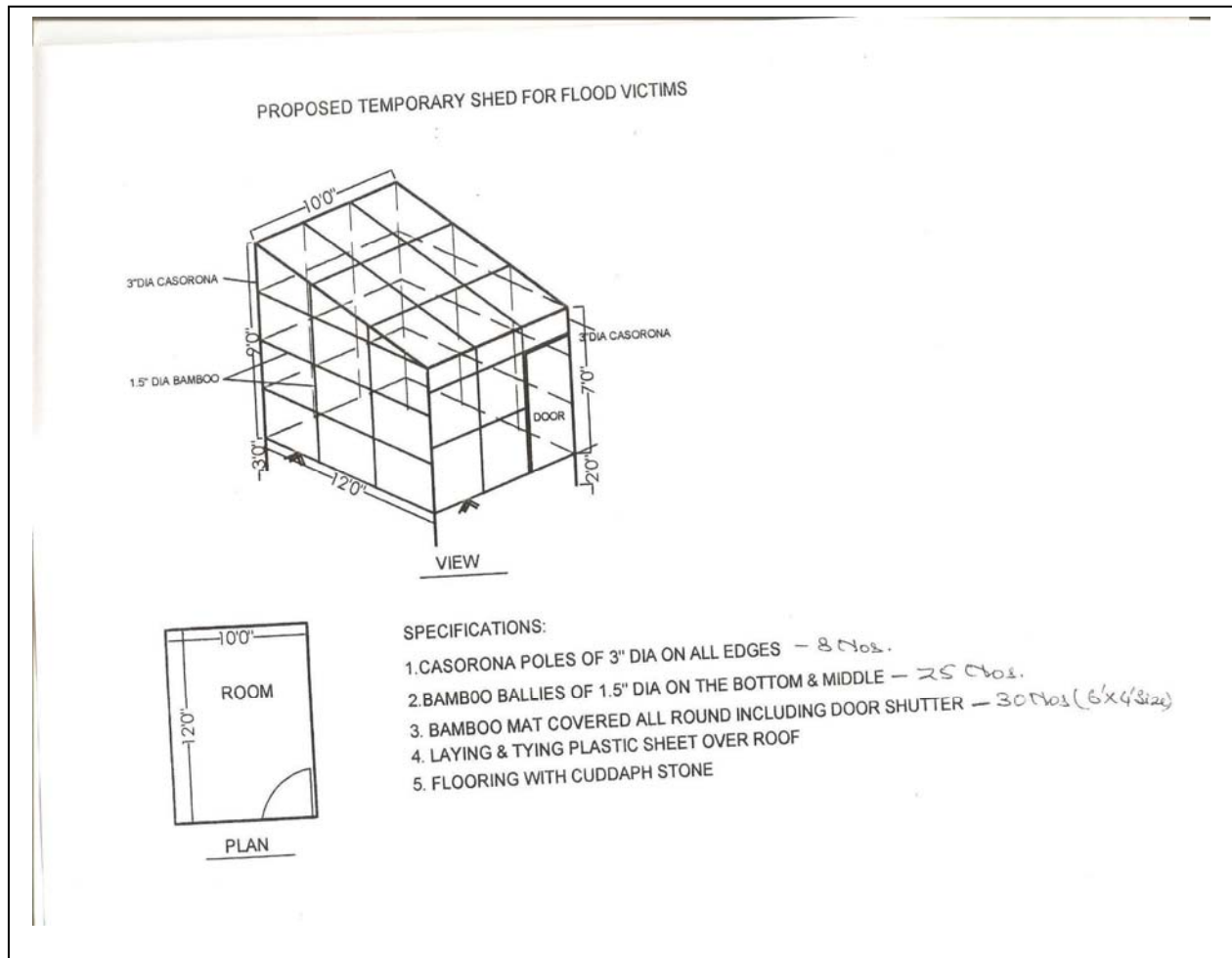
Rs. 5000 for fully damaged houses and Rs. 4000 for partially damaged houses.

Photographs of temporary and Emergency camps



3.2.2 Government's Response to Housing

Transit shelter is being planned at a cost of Rs. 4500 using building materials such as wooden/bamboo poles, Kadapa slabs for flooring, and bamboo sheets for walls and hey for roofing. In addition, Rs. 500/- is provided for each household for construction of temporary shelters for the flood victims who lost the entire house and to whom the new housing scheme is given.



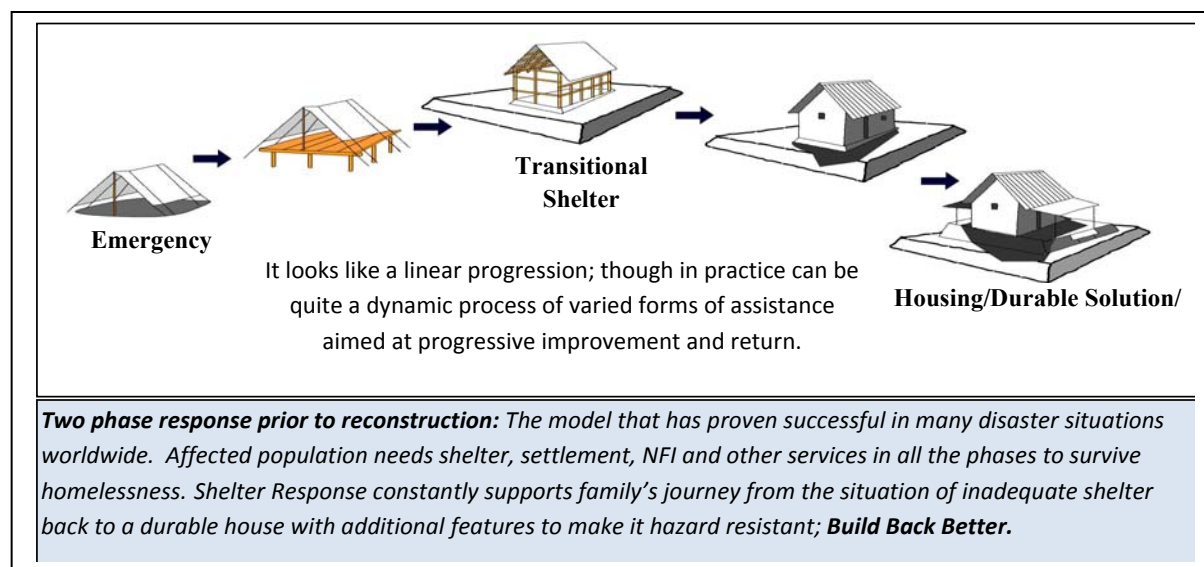
3.2.3 Permanent housing

The state government is planning to take up a massive project to reconstruct shelters in flood affected areas. It has announced a special package of Rs 68,450 per house and also issued an open call for NGOs to enter into partnership with the government for construction of permanent houses for the flood victims. The government, after representation from various NGOs and civil society groups, agreed to consider the request for inclusion of work-sheds for the houses of weaver communities. The required GO for inclusion of work-sheds is yet to be released but in principle it was agreed by Housing Board and Handlooms department, but the government has announced an

additional amount of Rs. 14,000 per each house is allotted for construction of work-sheds for weaving communities only.

3.2.4 Issues in Shelter

When people are displaced, the shelter sector covers the entire gamut of supporting and assisting families through different phases of displacement till they house themselves again. Shelter in any emergencies/ disasters have three phases – emergency shelters, transit shelter and permanent/improved shelters.



Please refer to Annexure-1 for Sphere Standards on Shelter

3.2.5 Reflections from the field

As understood by our field visits to flood affected areas in Mahabubnagar district our observations are as follows:

- All affected villages along the Tungabhadra River are more than 75-100 years old. All constructions were CRS construction with mud mortar, traditional roofing with wood rafters and mud course (Choudu).
- Major livelihoods in this area are agriculture, fishing, weaving, other artisans and manual & agriculture labour. The housing of each occupational group is different, e.g. agriculture families prefer to have a storage facility in the house and some cooking area, weaving communities prefer to have some work space in the



house accommodate at least one or two looms, fishing community have a drying space and net storage facilities.

- In addition, the communities who lost everything in the disaster are seeking to relocate their village to avoid such calamities in future. Thus relocation means relocating their entire livelihoods in new location. The permanent housing promised by the APSHBC to be completed by May 2010 is difficult to achieve, as learnt from the past experiences in Tsunami housing other rehabilitation programmes in India. Hence, people need to stay either in makeshift shelters or transit shelters for a much longer time than desired. We should be ready for such scenarios as well.
- In all three phases of shelter management, the access to safe drinking water, health, amenities like schooling for children, ICDS centres pre-school children, pregnant and lactating mother care, old age care etc are to be provisioned. Access to sanitation, environmental hygiene is also to be provided to avoid spread of diseases in relief or transit camps.



Hence, the shelter strategy of government, aid agencies, NGOs, Corporates etc should look at three key aspects a. Habitability b. Stability and c. Durability. Please refer to Annexure-2 for description of these aspects.

It would be useful for APSHBC to incorporate the above factors in their plan and process. Few observations and insights from the field are given below for their consideration.

- Location of all three phases of shelter should be identified with the community disrupting their livelihoods
- Housing design should be suitable to the social, cultural and economic practices of the respective communities.
- Use of local materials and using of existing materials (stones ,rafters, windows, door frames along with shutters and others)
- Encourage self help in reconstruction of their own houses
- Encourage local building material micro enterprises under the livelihood programmes. Train local youth in construction related trades
- Create awareness about safe construction methods includes location of the housing should be above High Flood Level (HFL), increasing plinth of the house, etc.

- Shelter programme be linked with all other programmes like Water and Sanitation, basic amenities, livelihoods etc. Shelter is not a standalone project or programme.
- Market price fluctuation affects the housing activities. Have a contingency plan for such scenarios. In case of entire habitation being re-located, explore for covering under R and R policy as did in Orissa.

3.2.6 Temporary Shelter camps

Temporary camps have been organised for the flood affected in large buildings such as schools and rice mills, or in the open fields. These people are being provided with shelter and food in these camps. Each camp accommodates a few hundred people. We have visited camps at Alampur, Ayyavaripally, Gadda Baswapur, and Rajoli.

The living conditions in these camps run by the district administration are miserable. Large numbers of families are staying in cramped shelters with hardly any sanitation facilities. The cooked food (rice with watery-dal or a vegetable curry) is being organised twice a day either by the local government officials or the inmates of the shelters are cooking the food themselves with the grains provided by the government. Interestingly, Indian Oil Corporation has set up a few cooking gas (LPG) connections (cylinders and stoves) for public use in one of the shelters.



Relief material (grains, clothes etc.) is also being distributed in these camps. The flood-affected in some of these camps have complained of local villagers (where the camps are located) unaffected by the floods siphoning off some of the donated material, and in some cases being threatened to vacate the camps and leave the village. This makes them worried about their security, though there are 1 or 2 unarmed policemen guarding these camps.



They are also worried about their future as they suspect that the camps will be closed down after a few days (especially, where they are being run in schools in nearby villages) and they have no shelter to go back to as their houses have been washed away or completely destroyed in the floods. They are eagerly awaiting provision of

transit accommodation (for the next few months) before permanent shelters are constructed for

them by the government. Some of them are worried because of rumours of being relocated to new places (a few kms away) as it would make it more difficult to rebuild their previous livelihoods. Hence, the implications of permanent relocation (to safer places at higher altitude, or away from the low lying river banks) on the livelihood of the poor needs to be considered carefully before taking a final decision on housing.

In Rajoli, the most badly affected village in the state, there are nearly 1500 households living in



temporary shelters. The government is providing temporary shelter provisions, enumeration process is taking place in these villages where people have moved to temporary shelters camps. Police outpost is established for security and maintenance of peace. Police were overloaded with relief work as well. We have seen police personnel providing coupons for all those who established temporary shelter and distributing shelter materials. Over the last two weeks, the temporary shelter location is multiplying

with many returnees (and in a few cases even from neighbouring villagers) in expectation of getting permanent shelter. Thus enumeration is becoming a very difficult task.

In such camps, population density has exceeded 1,700 people per hectare. Such congestion may lead to extremely high levels of excess morbidity and mortality, and extremely low levels of access to basic services (especially water, sanitation, health care and education). Overcrowding also reduces opportunities of work for the settlers.

In such a crowded situation, the water and sanitation is the biggest issue. Open defecation is the practice and people are going to nearby agricultural fields for defecation causing conflict with land owners. Many farmers have constructed fences to avoid inflow of people. There are no temporary latrines established in these camps. Currently drinking water is supplied through tankers and people are queuing up to collect water. People are using the collected water both for drinking and as well as for household chores include bathing. There are few water storage facilities in the affected villages to store water. Due to lack of information about the timings of water supply, many are staying in the village and camps to collect water.



People who are keeping pots are reporting that their pots were been stolen by others in the camp. Due to huge inflow of people in the camps, it is very difficult to identify who's staying where in these camps. People are using temporary structure for bathing facility, but there is no privacy for women and adolescent girls in such crowded locality. People have built some sort of soak pits but many of them are filled with drained water and may cause severe health hazard in future.

Currently, government is providing electricity using generators and we have seen some poles are being setup to supply electricity to the temporary camps. There are enough rations with all the households which may last for next two weeks.

The preliminary assessment outlined here explains why most of the population is currently unable to meet their own needs without external assistance. While living in the camps, even if they possess agriculture land they wouldn't be able to produce their own food as the land is un-workable at present. Their potential to earn additional income from labour and other means is also low. Income



from agricultural labour is also limited because of low demand. Most households have no financial reserves, and are unable to recoup major assets lost during the floods. Apart from the government departments no agency is supporting the camp management. A few volunteers are working with children but much is desired in camp management in the district.

3.3 Water and Sanitation

3.3.1 Water

“Whiskey is for drinking, water is for fighting over” (Mark Twain, 19th century).

All the villages visited were receiving drinking water provided through water tankers by the government. The main sources of drinking water are tap water supplies and supply through tankers. Very few depend on bore wells. The type of source depends upon the location of the village and the impact of floods. UNICEF and RWS department together have recruited 7 water and sanitation engineers from Red R India for taking up of water and sanitation drive in Kurnool district, whereas in Mahabubnagar the district administration is working on its own to revive water and sanitation infrastructure. Currently, water



Water collection in Alampur town

supplies to the flood affected villages and in the camps are done through tankers. People are forced to wait for longer time to collect water as there are no storage facilities in the villages.

- Due to the floods drinking water sources have been damaged in varying degrees depending on the proximity to the flooding sources.
- In a number of villages like Ayyavaripally, Chinnambavi camp site etc. women have to walk long distances to fetch water as the floods have damaged the existing sources.
- In many villages where people have returned are finding difficult to collect water as the piped water network had been damaged due to the floods and entirely depend on government's water supply through tankers.
- Apart from the damage to the infrastructure the quality of drinking water has also been impacted by the floods.
- All major drinking water sources have been contaminated. The government's supply of drinking water is chlorinated.
- The government has been advising the people to boil their drinking water before use. This however has been considered difficult by many of the villagers due to the lack of availability of fuel wood.



3.3.2 Sanitation

Government RWS department with the support of municipal administration of other major towns in the state has been able to mobilize sanitation staff and machinery for cleaning up debris and silt deposited in the houses of many villages. In Alampur town a huge sanitation drive was conducted to clean up streets and drains. In most villages, open defecation is common. After the floods, the women have had to walk up to 20 minutes to find a secluded spot for defecation. The flooding has also increased the likelihood of contamination of groundwater due to open defecation. The health infrastructure in the region is quite strong and had responded quickly soon after the floods which prevented breaking out of any major water borne or vector borne diseases in the region. However,



contagious diseases such as Chickun guinea, dengue is on rise in the state, and they could affect the flood affected villages if adequate precautions are not taken for prevention.

The drainage and sewerage systems in all villages and especially in Alampur, Wanaparathi and Gadwal towns were seen to be inadequate and were reported to be clogged up before the beginning of the floods. In the rural areas, the drainage system is quite poor. The weak drainage system could not handle excessive water due to floods and there were overflows above ground level. Many drains in small towns were seen to be damaged. The public health department of the government has distributed chlorine tablets and bleaching powder in the entire flood affected villages. Attempts were made to educate people on the need to boil water before drinking and to maintain hygiene.



3.3.3 Observations

- After the floods, the use of toilets had to be discontinued due to the overflow in the septic tanks and collapse of toilets and septic tanks in some places. This has become an issue of concern especially for the women who were interested in getting the toilets rehabilitated in village.
- Open defecation is creating huge problem in temporary camps as the farmers are in conflict with inhabitants of the camps. Women are finding it very difficult to negotiate with the farmers.

3.3.4 Interventions suggested

Water

- There is a need to introduce 'point of use' disinfection of water. But it is to be seen how long the government would supply drinking water for the flood affected communities. There is need for interventions of either short term (3-6 months) or some permanent solutions in those villages where people returned back to their villages. Simple filtration systems that can be managed by the communities themselves could be identified / designed. Training for capacity building or the building of local small enterprises in the area of water management could be also a part of sustainable livelihoods programme.
- A number of freshwater sources have been in a state of disrepair even before the floods. It has not been possible to mend these due to lack of technical support in the area. The floods have further aggravated the situation. Therefore it would be important to train the local

community in the management of tube wells and other water sources. In the short term it would be important to identify damaged piped water networks and undertake required repairs.

- It was reported that access to drinking water for some vulnerable communities is rather limited. The identification of such communities and providing necessary support to these and other lower caste groups to access drinking water sources is an important task.
- Another important area of intervention is “Public Health Promotion”. It is important to ensure basic hygiene and the promotion of sanitation in the villages. Awareness on water handling, storage, water source protection and maintenance should be initiated through civil society participation in post-flood relief and rehabilitation.



Please refer to Annexure-3 for Sphere Standards on Water and Hygiene

Sanitation

- The Public Health Promotion activities in the villages should also be used to create demand for the use of latrines. Furthermore, appropriate sanitation designs and systems should be identified with the participation of villagers. There is a need to identify damaged latrines and undertake their repair or building of new ones, depending on the needs.
- An immediate need is to create general cleanliness and the disposal of waste created since the floods. The damaged drainage systems, sanitary latrines and damaged bore and tube wells can be rehabilitated through cash for work programmes or under NREGS.
- The government under NREGS has brought of a GO for supporting households with 30 days of work per house (generating about Rs. 3000 for the family) for clearing debris and disposal of waste. We need to see how this work is carried out in the villages.



- In camps, establishment of temporary toilets and baths as per the standards is the need of the hour. Waste water management and solid waste management need to be taken up in the temporary shelters.
- Key public health message like hand wash practices, brushing of teeth, bathing, eye care, wearing of footwear, clean hair, to be taken up through civil societies.
- Similarly, as seen in some camps, a few Corporates are supplying cooking facilities for the camp inhabitants like that of Rajoli camp site, where nearly 70 households cook twice a day in morning and evening in the common facility centre. This common cooking facility centres could be explored in partnerships with different aid agencies in other camp sites as well.
- Sanitation needs more water - but even more, it needs more knowledge – especially community education, promotion, mobilisation to change behaviour. Water can be provided quickly – behaviour change is a slow process, which needs committed long-term involvement. UNICEF and other agencies could step in to provide capacity building of local front line workers and NGO’ functionaries to take up this initiative in flood affected villages.

3.4 Livelihoods

Livelihoods and food security assessments are also usually conducted on a one-off basis. In spite of increased skill on understanding the complexity of livelihoods and its inter-linkages with lives and quality of life of the flood affected victims, there is very little sense on how livelihoods adapt over the time during this crisis period. Each household with their ability to cope with the situation adapt different coping strategies to overcome this unexpected



calamity fallen on them. Very few households were able to sustain their regular consumption patterns when struck with additional shocks such as drought, floods, illness, family death or the loss of assets. Most of the families lack cash savings, food reserves or livestock to fall back on in times of need, leaving them highly vulnerable. Most of the victims were unable to access credit and remittances are almost unheard of, other than as a one-off gift from visiting relatives and aid pouring in from philanthropic agencies / civil society and individuals who responded overwhelmingly to the calamity. Our assessment is focused on how floods impacted different livelihood groups in the flood affected villages. Their existing coping strategies, exploration for immediate and long –term interventions for restoring their livelihoods needs to be explored.

3.4.1 Landless Labour

The main asset differentiating the very poor from the poor is their labour. Very poor households have limited labour resources, and a low capacity to undertake agricultural and other casual work. Mahabubnagar district is known for manual labour and most of them are dependent on seasonal wage labour in agriculture works. Due to the extensive damage to the agricultural crops ranging from 80 to 100 percent it is expected that the agricultural labour person days would fall drastically in the coming season. This is a case for alarm as most landless families are very much dependent on agriculture labour in their village and nearby. The floods impacted them severely as all avenues of



labour potential in their neighbourhood been lost with loss of agriculture crops, soil been eroded by flood waters, huge deposition of silt and sand casting prevented immediate restoration of agriculture. High supply of labour is also causing huge fall in wages in nearby towns and villages. With little or no skills, there is very little chance that they can diversify their income from different sources, thus depend on manual labour. It was noted that in Weepangandla, Kollapur, Dharoor and Ieeja, most of the male members,

especially youth have migrated to Hyderabad and nearby towns in search of work.

The floods also provided opportunities for labour in different forms. There is greater potential for labour to work in rehabilitation and reconstruction works. Immediate employment could be in clearance of debris and cleaning up of the village surroundings, laying of internal roads, land development and land reclamation works. Potential of using NREGS works in their villages could provide wage labour immediately.

Youth and adolescent girls could be identified and trained in different trades which, could be helpful to diversify work opportunities in rehabilitation and reconstruction works. This is in the context of lot of construction works about to be initiated in their villages in next few months.

We have observed use of machinery in relief work and in many cases, seen outside labour been engaged in restoration and reconstruction works. E.g. in Rajoli, reconstruction and repairs to dam site, outside labour were engaged. Government and Aid agencies including civil society should take up labour intensive works rather than use machinery in clearance and other works. Thus local labour could be utilized and provided with wages during this crisis period.

3.4.2 Fishing communities

Most of the fishing communities are dependent on back waters of Krishna River. They do fishing in back waters and in rivulets using small coracles (Gumpas and puttis) and use different nets to capture different types of fishes. Most of them spread their nets in the night and catch fish. The fish collected are shared in groups and sell them in nearby markets and locally as well. A few of them also have small pieces of land and a few others do tenancy farming. Farming and agriculture labour form their secondary source of livelihoods.

Their nets and coracles in addition to their dwellings got damaged by the floods. They shifted to nearby camps run by the government and are dependent on relief provided by government and other donors.



Suggestions

- Immediate support to restore their livelihoods is to provide them with coracles and fishing nets which would cost about Rs 15,000 per family. This would rehabilitate their livelihoods.
- In long run, the fishing communities could be organised into cooperatives or in self help groups and do collectivization of produce and sell collectively.
- Value addition to their fish products could be explored and necessary initiatives could be carried out through their cooperatives and fishing department.
- Create adequate infrastructure like drying platforms, net storage facilities, landing facilities.

3.4.3 Agriculture

Floods have a major repercussion on agriculture sector in the district. A substantial part of the population affected is dependent on agriculture for their livelihoods. More than 45,000 hectares of agricultural land have been damaged due to the floods. According to agriculture department officials, the crop loss may be over Rs. 100 Crores. Generally two crops are grown in this agriculturally rich belt in the district. In



Kharif, paddy (rice) is the major crop. Crops like maize, chillies, cotton and vegetables are grown in irrigated areas, whereas jowar and pulses are grown in dry land.

Infrastructure (such as canals, drains, ground water sources, electric lines and pumps etc) has also been damaged. With heavy rains caused breaches to irrigation tanks and 960 major tanks got breaches and so far the breaches were covered with sand bags. Some farmers have also lost most of their livestock (cattle, sheep, and goats). Due to heavy rains and severe floods, the land on the river banks got washed away and soil is eroded in most of the places. In some places both sand casting and silt deposition were noticed. Most of the standing crops were fully damaged and not even fodder is left for cattle.



Agriculture seeds and food grains damaged,
Gaddabasavapur

Seeds stored for Rabi crops were damaged due to flood water damaging the houses. Most of the farmers are left with little seeds for restoring agriculture activities. The farmers also lost food grains due to floods and thus are entirely dependent on food aid.

As land access improves, these households should be able to meet their basic needs after the first agricultural cycle if they can also simultaneously access tools, seeds and other agricultural inputs.

Suitable farm inputs and tools should be provided at appropriate time to the farmers to maximise household production. However, there is scope for more detailed planning, including variation in inputs (e.g. of seed types and quantities).

Government brought out a GO (No. 27) to help small and marginal farmers to replace livestock lost in the floods. The GO provides financial assistance of Rs. 10,000 for each buffalo / cow and Rs. 1000 for each goat/sheep lost in the floods. The district administration was entrusted for proper enumeration of animals lost in the floods.

Suggestions

- Immediate support could be provided for reclamation of land and other land development activities either under CRF guidelines or under NREGS.



Standing crop damaged due to floods

- Support to farmers to replace lost tools and implements, subsidised support of seeds for immediate Rabi season and the next Kharif season, subsidised support of fertilizers for next agriculture season.
- Financial assistance through reissuance of crop loans for immediate restoration of agriculture and rescheduling or loan waiver of previous season's crop loans.
- Government to collect all grains damaged in the floods for onward sale to breweries.
- Fodder banks to be established and fodder to supplied to farmers to feed animals.

3.4.4 Weaving

Traditional livelihoods and artisans are likely to suffer an adverse impact of long duration of unemployment due to complete alienation to their work in next few months. This may induce many young people to leave the villages and work in other trades and adopt less beneficial livelihood strategies. Already a few of them have migrated to nearby towns and to their relatives' places to take up weaving or work as labourers. The following table shows the impact of floods on weavers.



Sarees been damaged due to flood waters

Sl. No	Name of the Village	No. of Weavers affected	Handloom weavers				Others (specified)			Total Damage (Value) (in Rs. Lakhs)
			No. of Loom Equipments and accessories Require replacement		Yarn & Other Material like Dyes & Chemicals and Finished Stocks		Damage to Houses		Wage loss (in Rs. Lakhs)	
			No	Value of Damage (in Rs. Lakhs)	No	Value of Damage (in Rs. Lakhs)	Phy.	Fin.		
1	Rajoli	1715	1715	208.00	1715	274.00	1400	700.00	12.00	1182.00
2	Alampur	150	150	18.00	150	37.50	100	50.00	1.20	106.70
3	Korvipadu	50	50	6.00	50	6.86	50	25.00	0.40	38.26
4	Macherla	100	100	12.00	100	13.75	0	0.00	0.80	26.55
5	G.K.Doddy	100	100	12.00	100	13.75	0	0.00	0.80	26.55
6	Ghattu	20	20	2.39	20	2.75	0	0.00	0.16	5.30
7	Gadwal	50	50	6.00	50	6.86	10	5.50	0.40	18.76
8	leeza	50	50	6.00	50	6.86	10	5.50	0.40	18.76
9	Eklapur	50	50	6.00	50	6.86	0	0.00	0.40	13.26
10	Pragatoor	50	50	6.00	150	12.50	50	25.00	0.40	43.90
11	Chinnaporla	50	50	6.00	50	4.10	10	5.00	0.40	15.50

12	Tippadampally	20	20	2.00	20	1.50	0	0.00	0.16	3.66
13	Nasaloor	8	8		8					
14	Aragidda	85	85		85					
15	Baligera	11	11		11					
16	Mallampally	18	18		18					
	TOTAL	2527	2527	290.39	2627	387.29	1630	816	17.52	1499.2

Source : Handlooms and Textiles Department: Mahabubnagar District (08.10.2009)

All three types of weavers, i.e. weavers working under Cooperative Societies, Master Weavers and Individual weavers / Labour weavers, were severely affected due to the floods. The worst impact is visible in Rajoli village, the worst affected village in the state. Weavers work indoors and each household have at least two looms and the whole family lives on weaving. The floods not only damaged their houses but also their livelihood assets like looms, raw materials and finished products. We are developing a more detailed report discussing strategies for revival of weaving livelihoods, which will be shared with all the relevant stakeholders / others interested in this.



Damaged looms in Rajoli villages

3.5 Gender and Child Protection

The flood intensity increased in day time, thus preventing a huge loss of life in the affected villages. Even in the most severely affected village, Rajoli, only two people have died in the floods. While evacuating the village, in order to ensure that none of their fellow villagers suffered, the children and the disabled were given special attention. Many of the villagers mentioned a high level of cooperation and support from neighbouring villages in the initial stages and also appreciated responses from both the government and voluntary sector and general public who responded with alacrity.

3.5.1. Education

In all villages visited by us, the school buildings have suffered varying extent of damage and we have observed that government is making efforts to bring them to working condition. The schools have by and large started to function except in fully damaged villages like Ayyavaripally, Gadda

Basavapur, Mandoddi, Rajoli, Alampur and others. During the field visit made by one of our team members with Mrudula of Dr. Reddy's Foundation to run motivation camps for children in



temporary and emergency shelters, it was found that many school children have dropped out and moved along with their families to nearby towns and a few of them were engaged in small weaving activity. In all the villages visited, the study material and school books have washed away or were damaged as water flooded the houses and schools. A few agencies including Save the Children India, Dr. Reddy's Foundation are supporting the affected children with education kits. DRF is planning to support 7000 children in

25 worst affected villages with school kits and also run 25 child camps. In Rajoli, Prajwala, a Hyderabad based NGO working on trafficking is running child and women counseling centres to provide psycho-social care in the Rajoli camp.

Suggested interventions

- Children's kit should contain two sets of school uniforms, undergarments, foot wear, note books, pencils, pens and stationary, school bags, drawing books and colour pencils, personal hygiene kit like comb, nail cutter, rubber bands/ ribbons for girls, plate and a water bottle (pet bottle, which will last for few months) for mid-day meal purpose.
- Running temporary schools at camp sites jointly by education department and voluntary organisations
- Run early child care centres, crèches and ICDS centres in shelter camps
- Restoring teaching materials and aids for ensuring quality teaching in all schools in flood affected villages.



3.5.2 Gender

Floods cause women and men to lose their capacity to sustain families' livelihoods, e.g. due to loss of seeds, livestock, tools and employment. Unprecedented floods have forced men and women who were living altogether a different life and confined to particular roles and suddenly forced to take on new roles and responsibilities to ensure the survival of their families. Many families

displaced and women in particular frequently find themselves dependent on external assistance and altogether a new environment in temporary camps and shelters.



Women identified the provision of adequate shelter as the major issue of concern. In some cases their concerns were of a place to cook or sleep both of which are taking place in the open at present, the central role for adequate shelter is well reflected as a priority demand by them.

We have witnessed the burden on women of getting relief, taking care of children, safeguarding household belongings including the relief materials, cooking and collecting drinking

water. It should be recognized that relief aid may have bearings on the productive activities of women and men and their potential to earn incomes, and implication on their possibilities to participate in community activities and decision-making.

Suggested interventions

- A gender approach can assist in the understanding and profiling of vulnerable groups, in channeling resources to those most in need, and in the mobilization of the capacities of a significant proportion of the population that is often under-estimated.
- To respond to the changes in the external environment, it is essential to understand: (i)The specific roles and responsibilities of men and women, (ii) their main constraints and needs, and (iii) their ability to carry out activities under emergency situations (heightened urgency and activity) and early rehabilitation.
- It would be useful for any qualified agency to come out with such a focused assessment of gender concerns in post-flood scenario in Andhra Pradesh.

3.6 Flood – approaches to relief

3.6.1 Efforts in Coordination:

District administration has put up a temporary Information Center, after one week of poor coordination, on the highway (NH-7) at Pebbair, to compile data of relief supplies being sent by philanthropic organisations, and provide them with the necessary information about the needy villages where relief could be provided. One more such center at Alampur crossroads on the highway could have been useful. And if these centers were online (linked with each other and also with the district administration helpline in Mahabubnagar), they would have been able to provide

the required assistance in real time. They should also have had a district map (depicting flood affected villages, and location of the temporary Relief Camps) displayed at these centers.

A group of NGOs working in Mahabubnagar district got together and decided to start a Flood Information Center, so as to share information on flood relief and rehabilitation work to be taken up in the near future, and coordinate their activities while implementing rehab programmes. However, their response to our offer of crash-training (in disaster relief work) for their volunteers and workers has not been very enthusiastic.

INGOs coordination in Mahabubnagar district is yet a non-starter. Duplication of relief efforts by different INGOs was observed in Ayyavaripally and Gadda Basavapur villages of Weepangandla Mandal. It is very important that with scant resources the INGOs are finding itself very difficult to meet the humanitarian needs of the affected communities. Unless we have a good and solid coordination, it will be difficult to reach out to the affected people in time and avoid duplication.

3.6.2 Missing targets : Relief material distribution

Distribution of relief material to the flood-affected communities has been a problem in almost all places. The donors were concentrating on a few popular places (based on what they have seen on TV or read in the local Newspapers), while most other needy villages were being left out because of information asymmetry. Even in the villages/communities that had the good fortune of receiving relief material, its accessibility to the affected families is uneven. In some cases, the villagers received more of the same goods (e.g. drinking water pouches, cooked food) and none of their other requirements (e.g. blankets, clothes). In some other cases, only those staying in the temporary camps at the entrance of the village received most of the relief material, while those staying inside the village were largely left out. In several instances, because of unsystematic distribution within the village, the old and physically weak had difficulty in receiving the material as they could not assert themselves among the melee of surging crowds.

There has been a lot of wastage of donated material, such as old clothes and cooked food. Large heaps of clothes were seen dumped at many places, both inside and in the vicinity of the affected villages. Although many donors were sensitive and sympathetic enough to provide either new or usable clothes, it is necessary to spread awareness among society at large about the condition and usability of donated goods, and the cultural context of the recipient communities, so that the intended purpose is served.



3.6.3 Best practices : Relief material distribution

In spite of the widespread prevalence of unsystematic distribution of relief material, there were some notable exceptions where the local people using their wisdom, came up with their ideas and plans of action for ensuring equal/equitable distribution of the donated material to the affected families. One such example was seen in Seripalli village(Alampur Mandal), where the local leadership comprising of the Sarpanch, another Sarpanch of their neighbouring village, and the local MDO (a government official) developed a simple method for orderly distribution by collecting and verifying the Voter-ID cards of the adults in the village. This avoided duplication and ensured availability of material to each family. The villagers cooperated by remaining peaceful and waiting in the queues for their turn.

Later, it was observed in a few other villages that relief material was being distributed systematically against tokens issued (by the volunteers), based on the lists of the affected families in the village.

Annexures

Annexure-1

Sphere guidance on initiating humanitarian response:

Common standard 3: RESPONSE

A humanitarian response is required in situations where the relevant authorities are unable and/or unwilling to respond to the protection and assistance needs of the population on the territory over which they have control, and when assessment and analysis indicate that these needs are unmet.

Key concepts that guide the shelter response in emergencies:

The base concepts related to shelter are:

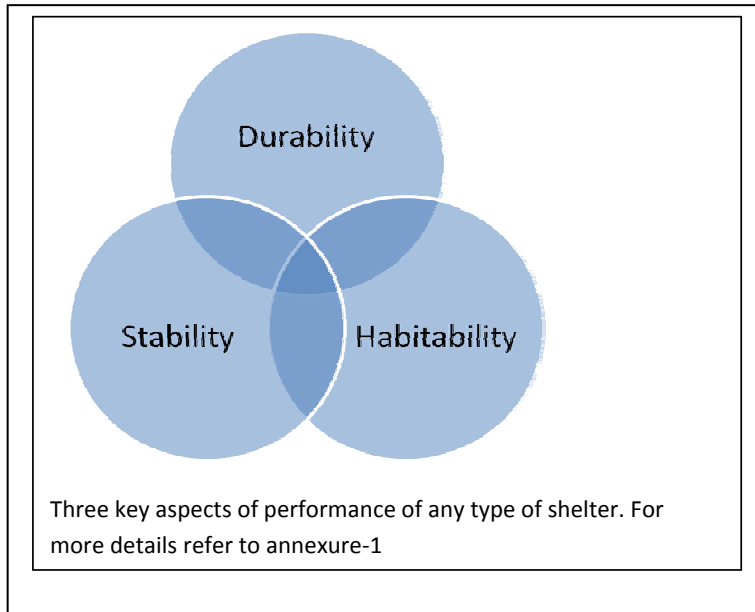
- **Two phase response prior to reconstruction:** The model that has proven successful in many disaster situations worldwide. Affected population needs shelter, settlement, NFI and other services in all the phases to survive homelessness. Different phases and response are
 - **Phase 1 Emergency shelter and settlement**
 - **Phase 2 Transitional shelter and settlement**
 - **Phase 3 Durable solution or reconstruction**

Hence shelter is a transitional process... Any intervention needs to be seen as a **part** of a critical path process of a family's recovery. Caution: different families at any given time might be at different stages of the journey of return to normal ways of living, hence their needs would vary.

- Shelter as a basic human need (privacy, dignity and protection) & right
- Physical and mental wellbeing can be enhanced through shelter response.
- Shelter is a "means" to saving lives: Shelter and settlement provides enabling environment for exercising of good hygiene practices; ensuring disease prevention.
- Shelter is a primary enabling factor to engage in any livelihood activity. Secure shelter as a foundation of early recovery and the ability to return to work leaving family safe at home.
- Provision of adequate shelter is one of the fastest ways to boot start an economy.
- Shelter is a focal activity in the return to normality; hence the need for a rapid return to 'normal' architecture and as much as possible 'normalising' community based procurement and construction.
- Settlement and shelter provision enhances people's access to WASH services.
- **Providing improved lifeline services** like drinking water, sanitation, health services etc. though settlement and shelter response can help in achieving **comprehensive disaster risk reduction**.

Annexure – 2

Habitability, Stability, and Durability of Shelters



Habitability means it suits for community for living, the features include, good for all seasons, good ventilation, good air flow, good lighting (day lighting), good indoor temperature, privacy, vector control, access to water and sanitation, internal space for different cultural and economic practices and safety.

Stability is primarily the output of engineering design and construction. The quality of construction can be achieved by application of '**ABCD of structures**'. Whatever may be the materials or size of the building,

ABCD has to be followed.

S. No.	Factors Governing Structural Stability	Output
1	Anchorage	Solid foundation and broad base
2	Bracing	Reinforcing with additional structural elements / cross members. Lateral resistance through triangulated geometry.
3	Continuity/Connectivity	Structural connectivity of wall to wall, wall to roof, wall to foundation. Connection of various components of the structure.
4	Ductility	The material property that can prevent sudden breakage, rather it allows deformity

Apart from material used, durability is hugely impacted by construction quality, design and detailing. Maintenance/upgradation can be a critical success factor in ensuring longevity of the asset. In permanent construction NGOs are invariably seen to flounder at the finishing stages, hence adequate energy, focus and resources need to be saved for the finishing stage of the dwelling unit.

Annexure – 3

Sphere Standards on Water and Hygiene (Indicators)

- Average water use for drinking, cooking and personal hygiene in any household is at least 15 litres per person per day

Simplified table of basic survival water needs		
Survival needs: water intake (drinking and food)	2.5-3 litres per day	Depends on: the climate and individual physiology
Basic hygiene practices	2-6 litres per day	Depends on: social and cultural norms
Basic cooking needs	3-6 litres per day	Depends on: food type, social as well as cultural norms
Total basic water needs	7.5-15 litres per day	

- The maximum distance from any household to the nearest water point is 500 metres
- Queuing time at a water source is no more than 15 minutes
- It takes no more than three minutes to fill a 20-litre container
- Water sources and systems are maintained such that appropriate quantities of water are available consistently or on a regular basis
- Each household has at least two clean water collecting containers of 10-20 litres, plus enough clean water storage containers to ensure there is always water in the household
- Water collection and storage containers have narrow necks and/or covers, or other safe means of storage, drawing and handling, and are demonstrably used
- There is at least 250g of soap available for personal hygiene per person per month.
- Where communal bathing facilities are necessary, there are sufficient bathing cubicles available, with separate cubicles for males and females, and they are used appropriately and equitably
- Where communal laundry facilities are necessary, there is at least one washing basin per 100 people, and private laundering areas are available for women to wash and dry undergarments and sanitary cloths.
- The participation of all vulnerable groups is actively encouraged in the sitting and construction of bathing facilities and/or the production and distribution of soap, and/or the use and promotion of suitable alternatives

Annexure - 4

Sphere Standards on Sanitation and Vector Control (Indicators)

- A maximum of 20 people use each toilet
- Use of toilets is arranged by household(s) and/or segregated by sex
- Separate toilets for women and men are available in public places (markets, distribution centres, health centres, etc.)
- Shared or public toilets are cleaned and maintained in such a way that they are used by all intended users
- Toilets are no more than 50 metres from dwellings
- Toilets are used in the most hygienic way and children's faeces are disposed of immediately and hygienically
- Displaced populations are settled in locations that minimise their exposure to mosquitoes
- Vector breeding and resting sites are modified where practicable
- Intensive fly control is carried out in high-density settlements when there is a risk or the presence of a diarrhoea epidemic.
- The population density of mosquitoes is kept low enough to avoid the risk of excessive transmission levels and infection
- People infected with malaria are diagnosed early and receive treatment

About the Team

The team of opinion that the felt needs of the communities are rapidly changing over last few weeks and the situation will be same in next few weeks. We will be bringing regular updates and share it across with all stakeholders and friends of poor communities. The team members will be continuing their voluntary work in the district and will be working with the communities and the voluntary agencies working for their relief and rehabilitation work. We continue to support the agencies and will render our services to our fullest capacity.

<p>R.K. ANIL +91 9492437410</p>	<ul style="list-style-type: none"> • With 16 years of experience in the areas of poverty reduction, rural livelihoods, droughts, relief and rehabilitation works, project management and partnership & Institutional building • Has done Engineering from BITS, Pilani and Rural Management in IRMA • Worked in International NGOs, World Bank supported Poverty reduction project in AP, UNDP, Delhi • Areas of interest includes, livelihoods related rural development work, project management and support to grassroot NGOs, Strengthening capacities of grassroot NGOs, Monitoring & evaluation of development projects, focus on Mahabubnagar district
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<p>V.R. SOWMITRI + 91 9848564699</p>	<ul style="list-style-type: none"> • Has 16 years experience in social development and Natural Resource Management, Forestry, HIV/AIDS, Project management and institutional capacity building • Has Masters in Chemistry and a Trainee in Communications and Environment Education • Worked with AP NGOs Committee on Participatory Forestry Management, Satyam Foundation, Centre for Environment Concerns, Raithu Sahaya Committee • Areas of Interest, project management, evaluations, tribal rights, forest rights, micro planning, HIV/AIDs and focus on tribal development in Mahabubnagar district