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DROUGHT IN ODISHA 2015-16

# **DROUGHT AND ITS ALTERNATIVES**

a citizens' report  
on impact of drought and  
alternatives for mitigation

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# Drought and Its Alternatives

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on impact of drought and  
alternatives for mitigation

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## Preface

Twenty years after the publication of P Sainath's Book, *Everybody loves a good drought*, the basic and long term issues pertaining to drought still exist. Ironically the first story in the book, among many others, of the book was from Odisha. The question is how long will we continue to like a good drought?

The frequency of drought has been increasing– 6 times in last 20 years. (Status of Agriculture in Odisha, Directorate of Agriculture & Food Production, Govt of Odisha, 2009) More and more people are coming into its ambit. Ironically 2016 also marked 150th year of one of the most devastating famines in the history of Odisha – known as the *Na Anka* famine which happened in 1866, killing a third of its population. Subsequently, a Famine Commission was formed and its recommendations constitute an important milestone in the economic history of Orissa. The Orissa Famine Commission which submitted their report on 6<sup>th</sup> April 1867 attributed the delays and deficiencies in the adoption of effectual measures to check the calamity and listed three main causes for the drought - a. Inevitable circumstances b. Peculiarities of the system of administration c. certain errors and shortcomings on the part of different individual officers. One of the officers who were indicted by the Famine Commission was T.E. Ravenshaw, the commissioner of the province who made a gross mistake in misjudging the stocks of food grain in the state.

With the advent of monsoon, the menace of drought is very likely to be pushed into oblivion. But we need to be very clear that it is not entirely the monsoon deficit which causes drought. We hardly use 20% of the water got by monsoon rains says Richard Mohapatra, Managing Editor, Down to Earth in a state consultation on Drought in Odisha in May 2016. What causes drought is our failure to make use of the water given by the monsoon by creating many micro level water harvesting structures.

A primary drought assessment done by ActionAid in 38 villages (covering districts of Bargarh, Kandhamal, Sundergarh, Ganjam, Bolangir, Koraput and Nuapada) in Odisha on May 2016 show that about 57% of the ponds and bandhas created by MGNREGA have failed to work because the structures were badly planned with the inlets and outlets damaged. An estimate by Down to earth (1-15, May 2016) says 12.3 million water conservation

structures have been created under MGNREGA. And it comes 21 structures per villages. India's drought related expenditure since independence is Rs. 3.5 lakh crores. 64% of the total expenditure under MGNREGA was on agriculture and agriculture-related works. From its inception in 2006 to March 2016, the government has spent over Rs. 3 lakh crore on MGNREGA.

The ActionAid study further says that, 70% of the required food is not there for the drought affected families since many of them have not received the ration since February 2016. Thus the government programmes which were meant to provide employment, protection against shortfall of food grains need to be very effective to provide a safety net during the drought. MGNREGS has failed to check migration due to lack of work opportunity and delayed payment. Roughly 20% people have migrated in the villages surveyed. These social security programmes provide much relieved succour at the times of drought. Although government has announced 150 days of employment under MGNREGA, hardly 1% of the people surveyed in the village have got 150 days of employment. The drought package announced by State government and the Supreme Court (SC) of India (May 2016) orders on drought could provide good support to the communities in times of drought. Unfortunately not many in the villages are aware about these packages and SC announcements.

Another key thing in view of the impending drought is the selection of the type of crops which needs to be used in a drought scenario. With exception of millets, farmers have lost 40-70% of the paddy cultivation. As a result, farmers do not have adequate seeds for the next crop even if there is adequate monsoon this year. Apart from this forest produces also sustain the drought affected families although decline in forest produce is never taken into account while calculating drought loss. Drought also hits the landless the most because work in the village dries up and he is forced to migrate. A patch of land would enable one to cultivate something at least vegetables where here are water sources. There are examples of landless women forming collectives (not registered cooperatives but informal groups) in Sundergarh have taken land on lease and cultivated vegetables which provided not only some extra money but also gave extra nutrition to the family. This availability of adequate nutrition is extremely important as during the drought there is drastic reduction of nutrition levels of women and children.

In the areas in which I visited in Kandhamal, millets and mixed cropping

saved the day for the tribal communities there. An agricultural field in Kandhamal was full of fruit trees laden with mangoes, lemon and vegetables was a sight to behold even in this drought. Women collectives practicing climate resilient millet and vegetable cultivation have escaped the drought menace. Even in this drought some farmers in Kandhamal have reported good produce of Sorghum and other millets. Pagarpadi village in Tumudibandh Block of Kandhamal had cultivated oil seeds 02 to 07 species; legumes/pulses 12 to 39 species; paddy 02 to 05 varieties and millets 6 to 10 varieties. 25 kutiakandh households of this has got good yield from Sorghum cultivation. Low input climate resilient agriculture is thus the need of the hour.

The drought code needs to be changed to suit the present conditions. As rightly pointed out the Supreme Court in its recent orders on drought - the Government of India must insist on the use of modern technology to make an early determination of a drought or a drought-like situation. There is no need to continue with colonial methods and manuals that follow a colonial legacy. It is high time that State Governments realize the vast potential of technology and the Government of India should insist on the use of such technology in preparing uniform State Management Plans for a disaster.

As women and children, landless families, marginal farmers are the ones who are most affected by the drought, these groups should be given the special facilities under social welfare programmes. Very briefly, if we could give agricultural land to women and landless with small water harvesting structures around their fields and encourage them to practise climate resilient agriculture then perhaps we will not see this severity of drought. It may be wishful thinking but unless we do that, we will have face to drought with increasing intensity.

The present study report is the output of the collective efforts taken by ActionAid along with its partner organizations. This study includes the impact of the drought on the different categories of people, measures taken by the Government to address the issue of drought especially in view of SC orders on drought and the alternatives from the ground to mitigate the drought in long run.

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In solidarity

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## Section-I

### i. Background

Odisha is one of the 12 states severely hit by the drought in 2015-16. Deficit rainfall during the South-West Monsoon-2015, coupled with loss of crops in previous seasons and the prevailing crisis in agriculture and deepening water crisis has been impacting the millions in the state.

The state has recorded highest temperatures in recent times, crossing 40 degree C and sometimes crossed even 45 degree C. Heat wave claimed many deaths also. 2015 has been recorded as the hottest year in last decade. Though media and civil society reported 181 deaths due to heat wave, government accepted 18 only for giving compensation. In 2015, 67 people died in Odisha due to heat wave/Sun stroke (SRC, Odisha).

Odisha has long history of the menace of drought. It is one of the states most affected by climate change. Its ecology and weather have undergone noticeable changes such as extreme weather conditions where the pattern of droughts and floods is becoming a recurring scenario. This has already shown impact on agriculture in the state in the last 10 years whereby, there has been a decrease in production. It necessitates long term planning towards mitigation of drought. In the absence of long term efforts the people of Odisha continue to face the consequences of disaster.

The frequency of severe droughts is increasing in the recent times. People affected by drought have also been increasing. But the paradox is that, it is not always the monsoon which is responsible for the drought, it is often the failure of the distribution systems, lack of long term policies on drought and administrative gaps to deal with the drought situation.

This year as per government's data 29176 villages of 3832 Gram Panchayats under 235 Blocks in 28 Districts have suffered damage of crop to the extent of 33% and above. Total crop area of 1535902 hector has been damaged (Notification by Revenue & Disaster Management Department, Govt. of Odisha, No.4519/R&DM (SR), and Dated 7/11/2015). The cumulative losses

have been estimated around Rs 2344.99 crore.

Keeping in view of the above Government had declared the Drought Package 2015. It included a wide range of support promised by Government to compensate the loss. However the ground reality on the reach of this compensation is not deemed as satisfactory by people.

In this background the Farmers' Organizations and various Civil Society Organizations had undertaken a study to assess the vulnerabilities of the people affected by drought and the action of Government against the declared Drought Package 2015 and directives of Supreme Court.

The Study was undertaken in two phases- April 2016 & in the last week of May 2016 in 38 villages of seven districts (Sundergarh, Ganjam, Bargarh, Kandhmal, Balangir, Koraput, and Nuapada) of Odisha. The data was collected from community level through a semi structured questionnaire and Focus Group Discussion was facilitated in each study village among the farmers, women members and other members of the community. Besides that some significant case studies were collected from field pertaining to impact of the drought on people. The finding of the report reveals the situation of the study areas of seven districts only hence it can't be generalised for the rest of the districts but definitely we can get the trend of agriculture and the impact of drought in State.

## ii. Findings : Impact of the drought

The findings of the study have been depicted in this section as the impact of the drought on different categories of the people. The findings explain the vulnerability of people pertaining to drought in 38 villages in seven districts of Odisha. The present report also contains significant cases studies from the field which substantiates the fact the situation of the ground pertaining to drought. This report also includes the triangulated views of the community that was collected in a participatory focused group discussion process. Hence the expressed views may be considered solely as of the community with respect their vulnerabilities and response undertaken by Government as per the Drought Package 2015.

The drought has brought manifold impacts on the community. The crop loss due to drought has led to shortage and low intake of food and that has further put the community in vulnerable situation. In the absence of alternative livelihood options people have been compelled to migrate in search of job and exploited further. Women have been subjected to more stressful situation due to the burden of collecting water from distant places. Women members walk about 0.5 km to 1.5 Km of distance (3 to 6 time a day) to get drinking water. The impact of drought has been depicted in detail below:

### a. Loss of Crops:

- # 94% farmers of 38 villages in 7 districts of Odisha have been badly affected by the drought. All of them are small and marginal farmers and they cultivate to meet the food requirement of the family. Due to the crop loss the food security of the family has been affected.
- # 66% crops in seven sample districts have been affected due to drought. The major crops that have been affected badly are the high yielding and hybrid varieties of crops.
- # 40% crops in low land, 50% crops in medium land, and 70% crops in upland have been lost. 60% of millets especially ragi has been badly affected in western Odisha. The millet based mixed crops that was grown

in the upland have not been affected badly, only the yield has been low. Millet like Sorghum has given better yield in Kandhmal despite of the drought situation. The crop loss (5 to 10%) of millet based mixed cropping in Kandhamal, Sundergarh and Korpaut is low as compared to other patterns of cropping.

# 40% to 70% paddy has been lost due to drought situation and in the absence adequate irrigation facility.

## Case Study 1

### **Drought made farmer debt ridden from Mahajan**

The State Government has been putting lot of efforts to take forward the second green revolution. As an impact of this the farmers of western Odisha have been cultivating the hi-yielding and hybrid variety of seeds. On one hand it requires high input cost for seeds, chemical fertilizers, pesticides and insecticides. On the other hand the excess use of chemical fertilizer and pesticides are making the soil unfit for further cultivation as well as causing health hazards in human body. Unfortunately, if the crop fails, due to drought then the farmers take credits from various private sources to meet the basic needs in the absence of the credit support by Government. The overburden of loan is creating stress on farmers. The same has happened with Ajamila. He is 38 years old, a marginal farmer, lives in Dukechachara village, Saintala Block, Bolangir district with his wife and one child. He has 3 acres of agricultural land and cultivates paddy, cotton, maize, and green gram. To get a better production, he had taken the loan from village moneylender. He had bought 2 kg cotton, 2 kg fertilizers, 4 kg urea, and 2kg potash. But due to the recurring drought, he faced a huge crop loss this year. He invested a lot but in return got nothing. He says “we are small farmers and mostly depend on rain water for irrigation and drought acts as an evil agent to us. I have been using the hybrid variety of seeds in my agricultural land and for that I need pesticides, fertilizers and a lot of money for investment to get better

crops. This year, I had taken the credit with high interest from the Mahajan (village moneylender) and purchased fertilizers and seeds. After sowing them for a better harvest, I kept looking for rain but even after 21 days of waiting there was neither a drop of rain nor even a cloud on the horizon. Eventually the crop died out of water deficit and with the crop, died the hope of mine. Hope of repaying the debt of the Mahajan also died. Now I am depressed as I had promised the Mahajan to repay the debt with interest very soon".

The villagers are facing the problem of crop failure and food scarcity due to drought. They do not have enough grains to survive. Many farmers have fallen into the clutches of credit system in villages, have taken loans from various sources. The distress migration has increased in the village; people have started migrating to other places where they can survive. The community is completely dependent on the forest produces but it is not adequately available. The villagers are looking for support from Government in terms of seed support, input subsidy, and work under MGNREGA.

There are 3 tube wells in village. The community is completely dependent on the rain water for irrigation. They are facing the food shortage and seed. There is no availability of fodder for livestock. The community wants a check dam to be built in their village where they can get water for their crop field. No action so far has been taken up by community, Government or any other actor.

The Revenue Inspector had surveyed the village aftermath drought, without consulting the villagers properly and had assured about the input subsidy to be provided to the farmers but no farmer have received any benefits from drought package. No farmers have received the bore well input subsidy so far.

Ajamilla is expecting that Government would take proper steps to mitigate drought in their areas, by providing water facilities through check dams. Proper information on drought packages should reach the farmers.

## Case Study 2

### **Loss of Livelihood Options and Unequal Compensation induce Migration**

Mittu lives with his family of eight members that includes his wife, parents and four children in Bandhanpodar Village of Kermity Gram Panchayat under Kundara Block of Koraput District. Mittu does not own any land. He had taken lease of 10 decimals of land for Rs. 5000 as security (bandhak). Since Mittu was landless and not having any economic assets hence it was quite difficult in his part to get loan from any Government source. He had borrowed Rs. 5,000/- from money lender who has been practicing money lending in Kermity village of Koraput coming all the way from Bihar.

Mittu says "I found 80% of the crops was severely damaged due to drought. I had taken loan and invested the money in share cropping to grow food. I used to do share cropping since I don't have land of my own. Previous year I had good yield and adequate food was available for the entire family. Besides that I was collecting wood and some other uncultivated forest produces from the nearest forest, making coal out of the wood and selling in the nearest market. This year the production of the forest produces has also been reduced drastically and thus the burden has become almost doubled. I have to repay the loan as well as arrange alternative options to meet the food needs. Without having any means of alternative I went to Andhra Pradesh to work in a brick kilns site. Prior to leaving for Andhra Pradesh, I had applied for job under MGNREGS but didn't get any work". Before going to Andhra this year I took the advance of Rs. 10,000/- from the agent and left it at here at home so that the family could meet their food and other expenses".

Also Mittu adds that "The crop that I had grown on share cropping basis was only source to get food for the whole year. And the loss of crops due to drought has impacted adversely on the food intake of family. It was quite difficult meet even half of the requirement of the family for the whole day."

Mittu has only one daughter and she is studying at primary level. This time the vacation was quite long for the heat wave situation and the children were also not being provided with mid day meal during vacation even if there was directive from Supreme Court to provide so. The whole community has been impacted due to the crop loss in the up land and medium land although the loss in low land has not been affected so. This time the production of forest

produces has also been decreased. Earlier people were meeting 30% of food like uncultivated forest tubers, leaves, fruits, edible flowers from the forest. Mahua, Chahar and Kendu were major forest produces consumed by the local communities in the lean season.

Besides that the community has been facing the scarcity of drinking water since the only tube well in the village is meeting just one fourth of the required water needs. The village is having a big portion of high land but there has not been any measures undertaken by the Government for conservation of water. There is a seasonal stream, which has some left over accumulated unclean water. This is their only source of water for all purposes.

This village has not been declared as drought affected by the district administration as a result the communities are deprived of getting compensation from Drought Package.

## **B. Loss of Seeds:**

- Due to loss of crops, small and marginal farmers who are basically sharecroppers don't have seeds for the next cropping season. Even if there is a normal monsoon 20% Dalit landless families including single women who depend on sharing cropping are unable to take land for sharecropping because they do not have seeds.
- The farmers have lost the seeds like paddy, millets, green gram, black gram, yellow gram, oil seeds, ground nuts and vegetables. The reason is that most of the villagers are small farmers and they consume the food grain they produce. As the crops were damaged due to drought, the farmers had to maintain their household needs by consuming even the traditional seeds.

## **C. Food Scarcity & Change in Food Consumption:**

- The small and marginal farmers could barely meet 30% of the requirement for the whole family. This year, the family consumed the produced food grains especially rice and millet maximum for 2 months.
- 12% households have not received food grains through PDS since February 2016 in Ganjam and April 2016 in Kandhmal respectively because of the confusion created by the distribution/non distribution of

new ration cards. All these have created severe food crisis. It is likely to be more aggravated during the upcoming rainy season.

- There is decline in harvesting forest produces like tubers, leafs by 40% due to the drought situation. Earlier people used to collect tubers from the forest and boil it further and eat during lean period.
- Mahua, Char, Kendu, Kusum fruits harvesting has been decreased approximately by 60%. People used to fry the Mahua flower, make gruel of it and used to eat it during lean period. This time harvesting of Kendu is almost nil.
- Families are collecting forest tubers of various kinds like pithal, karaba and cherenga besides leaves like barada and arguna for the last four months.
- Also they have been collecting sal leaf to prepare plate out of that. 60 leaf plates are sold in Rs. 50/-. The minor forest produces were useful to meet the food crisis.
- 70% families have obtained loan from money lender at the interest rate that ranges from 36 to 40% to meet the food need and other essentials.
- Money lenders have taken this an opportunity to invest money for loan at higher rate of interest and there are no preventive measures by the local administration.
- Though Anganwadi Centers are functional, children have not been provided with additional eggs and milk as per Supreme Court order. In 34% villages the Anganwadi Centre is located within the distance of about 1-3 Kms.
- People are not able to afford social function like marriage due to the drought situation.
- Due low food intake and heat wave many families are not able to do hard work. They have not yet started ploughing of agricultural field.
- In 70% households there has been significant change in food consumption. In those households the amount of food intake has been severely reduced. The heat wave and decreased food consumption made it impossible for people to engage in hard labour through MGNREGA.
- 71% female were found having decreased food intake due to the prevailing drought situation.

## Case Study 3

### **Non-Timber-Forest-Produces, an Alternative Source of Livelihood have been affected by Drought**

Non-Timber-Forest-Produces as an alternative source of livelihood provides income to the people of Bargarh for six months. Here Tulabati Kamati, 55 old from Biripali village, Bargarh district shares how their NTFP collection has been affected due to drought. She narrates "I have 2 sons, 2 daughter-in-laws and 3 grand daughters and 2 grand sons. But, I am staying with my husband separately from them. I have been cultivating paddy, black gram, and green gram in 1.7 acres of land with the support of my husband. We get the required food from agriculture and also we get rice through PDS in every month. Collection of NTFP is also another source of income for us. We have been collecting NTFP like char fruits, kusum fruits, mahua flowers and fruits, kendu fruits, mangoes from nearby forest including green kendu leaf every year. In the last year we had sold out 40 kg kendu fruits, 100 kg mangos, 30 kg mahua flowers, 40 kg mahua seeds and 10 kg char seeds and earned Rs. 7000/-. Apart from this we have been collecting sal green leaves and making plates and cups and sale out it in the market throughout the year".

She says "it is sad to say that this year I could not collect these NTFP due to drought. My paddy crop field has also been damaged. Quantity of green kendu leaves are of very low this year. I have earned only Rs 1,700/- from kendu leaf and other items this year. This drought has put a very adverse impact in our livelihood. It would be difficult for us to manage our income in rest of the days of the year. It strikes me again and again".

I have not yet received drought input subsidy from the government. Now I am serving drinking water on the road side. Gram Panchayat has engaged me with this work for summer seasons only up to the month of June 2016. I have been collecting drinking water from the village tube well and taking bath at a private bore well. There are 3 public tanks in our village, but these are dried up due to drought.

80 families depend on NTFP collection out of 120 families of the village. We manage our house expenditure through the collection of NTFP. Now we are facing financial hardship this year due to non-availability of NTFP. Electricity connection has been provided to 12 bore wells within one month

by the government. People are using its water for drinking and bathing purpose.

I have been receiving food grains through NFSA and getting old age pension as well. Media has highlighted the drought issues in the sub-division. The family has not yet received any drought input subsidy from the government. Gram Panchayat has engaged him in serving the drinking water to people in this summer seasons.

I am expecting from the government that it should declare the special drought package for the Non Timer Forest Product collectors as soon as possible.

## Case Study 4

### **Drought Pushes Girls to Migrate from Village**

If a family possess very less amount of land and faces crop loss due to drought, then it becomes very difficult for them to survive. Then the high interest loan traps them in a debt cycle and compels them to migrate again to pay off the loan. This case study is about a family who is the victims of drought, and finally has decided to migrate to meet the immediate family needs, especially for the treatment of Jayaram, the head of the family. They are forced to make a choice of migration out of desperation. The community faces hardship due to the limited resources and recurring drought. As a consequence of this drought, two young girls of this family were forced to migrate for first time.

Promila Dharua of Kadalimuda village, Saintala Block, Bolangir district is mother of four children, lives with her husband Jayaram Dharua. She is a small farmer, possesses only 1 acre of land. As an alternative source of income, the whole family depends on daily wages and collecting forest produces to sustain their family's needs. Her husband Jayaram has been paralyzed since three years, and the family is investing a lot of money for his treatment. They had cultivated paddy but due to drought they have incurred losses. Her two elder daughters are already married. Her husband was the main source of the family, who is now paralyzed. Now Promila and her two daughters have taken the responsibility to support their family. Promila says "I have no other means of income other than working as a labourer. I have lost my crops. All money invested in cultivation got lost. I had hope for a good harvest. I thought after selling the harvest, I will repay the debt and with the remaining profit I will get good medical treatment for my husband but due to drought and non availability of irrigation facility, the money I borrowed from local moneylender got lost with this crop failure. My two daughters Nirvani (20) and Lavani (17), had migrated to AP, worked there for 6 months and just returned from there. This dreadful drought made my daughters to migrate. So far we have not received any input subsidy or any benefits from Government".

This case study clearly reflects how the drought has affected the family to survive and they are not able to meet the expenses of ongoing treatment of a family member. This crop failure has put adverse impact on their economy and daily needs. The community is suffering from the shortage of food grains, depending on the Government to support them. The young girls are forced to migrate. There are many families in the village are compel to leave the village and have chosen the option of migration as an alternative.

There are no actions so far have been taken up by the Government, community or any other agencies to response the drought situation. The government has declared to provide crop loss compensation as input subsidy to the farmers Rs 6,800/- per hectare to the affected farmers but no one from this village have received the input subsidy.

In the village, there are 3 tube wells which dried up during the summer. Out of 3 bore wells, one of them is not functioning properly.

In this village also, R.I had surveyed the village aftermath drought, without consulting the villagers properly and had assured about the input subsidy to be provided to the farmers but no farmer have received any benefits from drought package. No farmers have received the bore well input subsidy so far.

This family is looking forward to get support from Government. The girls are back to their village and do not want to go back to AP. But they want to get some work under MGNREGA to survive.

#### **d. Distress Sale:**

- To meet the food crisis the farmers of Nuapada are selling their valuable resources like bullock. The rate of bullock in the local market has gone down as large number people want sale their bullocks. (8 farmers of Pethiapalli village in Nuapda have sold 16 bullocks and 30 goats in a distress price)
- This time the migrants have received very low advance since a large number people wanted to migrate.

## D. Water Scarcity:

- 47% tube wells were found functional during the study period. People shared that they get 2/3rd of the drinking water required for the households. Women members walk about ½ km to 1.5 Km of distance (3 to 6 time a day) to get drinking water. 53% defunct tube wells were not found repaired by the concerned department.
- The ground water level has decreased to 35 to 50 feet. Hence during the hot summer the wells and ponds dried up. Water bodies which can reserve water for the whole year have not been renovated since a long. 93% traditional water bodies have not been renovated for the last 10 years but it has the potential to meet the water requirement of whole summer season.
- 57% of water bodies created under MGNREGS have dried up without proper inlet and outlet.
- The small check dams constructed by people on stream were very useful in meeting the water crisis.

Here is a case study from Ganjam District of Odisha which reveals how women bear the burden to collect drinking water for the family. In order to fetch water the women walk to Kalabhut river flowing 0.5 km away from the village. They often go to the river to fetch water at least 4 times a day, even in scorching sun. But with the drought even the river became dry compelling them to collect water by digging ditches on the sand.

## Case Study-5

### **Drinking Water Crisis at Dahanipalli, Ganjam: Women Walk Long To Fetch Water**

Dahanapalli is a small village in Golia GP of Buguda block, Ganjam district which tells the poignant story of drinking water crisis intensified by the recent drought in the area. Surrounded by forests the village is inhabited by 23 households of Kondh tribe hardly making a living on agriculture and allied activities. Total 6 numbers out of these households are share croppers. The working members of these households also work as share croppers in the fields of other villages.

All the agricultural land in the village is rainfed and therefore a good harvest depends largely on good monsoon. Failure of monsoon means failure of crops. In the last kharif season a severe drought hit the district and the area causing a heavy loss to crops and economy of the community along with acute food and water crisis.

The availability of potable water became a cause of concern in the village with people drinking contaminated water, inviting diseases and women walking long distances to fetch water.

There are 2 tube-wells in the village, but except in the rainy season the water level has been staying low round the year for the last 5 years. So they fail to supply the required water to all the households. This year the water sank to a low level earlier and the tube-wells became non-usable with water flowing only occasionally. It is learnt that the water level in the area has sunk to at least 50 feet lower in the last five years.

There is a pond in the village, but the water is unsuitable for drinking, more so following the drought. So, in order to fetch water the womenfolk walk to Kalabhut river flowing 0.5 km away from the village. They often go to the river to fetch water at least 4 times a day, even in scorching sun. But with the drought even the river became dry compelling them to collect water by digging ditches on the sand.

There is a pond in a village 4 km away where clear water is available. But that would mean too much physical pressure on womenfolk; moreover,

because they also go to the forest to collect edible roots as there is the shortage of food grains to consume (a few male members are there in families due to distress migration).

According to the community members the potable water problem in the village could be solved if a check dam is constructed on river Kalabhut and a deep bore well is dug by the authorities.

Here is a case study from Ganjam District on how the community is facing the acute shortage of drinking water.

## Case Study-6

### Harnessing the Stream to Counter Drought

Village Andhari is a small tribal village in Pandripada GP of Polosora block in Ganjam district inhabited by 45 households. All the households are poor and maintain their livelihood on agriculture.

In the last Kharif season they cultivated crops such as paddy, finger millet, maize, green gram, black gram and horse gram besides vegetables like brinjal, country bean, cucumber, bitter gourd and ladies finger in total 220 acres of land. However, to their dismay the harvest was damaged as a severe spell of drought hit the area. In the absence of any irrigation system the community had to bear about 65 per cent (approximately 2/3rd) of crop loss.

Though the State government declared a compensation package no officials visited the village, no assessment was made and therefore, no compensation either in money or seed support was provided to the farmers.

Now the community is reeling under acute problem of food insecurity and drinking water crisis. The food grain available to the community being sufficient only to support the people for 3 to 4 months they had to borrow money from the local money lenders at 35 per cent of interest per annum. To add to it migration of youths from the village has increased, especially as the MGNREGA failed to provide job to them.

But the drastic effect of the drought could have been avoided had there been any effective irrigation structure to irrigate the fields or even a lift irrigation point.

However, there is a stream called Tipi Jharna flowing 0.5 kilometres away from the village. A check dam was constructed on it under ITDA support. But it is so low that it hardly serves irrigation purpose.

After the drought the community members realize the importance of raising the height of the check dam as it would irrigate many of their fields and save the village from drought. Also, they demand an L.I point or deep bore well to irrigate the fields.

Besides irrigation harnessing the Tipi Jharna would also cause supply of drinking water and mitigate the difficulties of womenfolk.

Here is a story of the collective efforts people to get the canal work completed, so that all can get the water from the canal to their cropped field. They filed a complaint to the District Collector and also done many strikes, but despite of many struggles, the canal work could not be completed.

## Case Study-7

### **A collective effort to get water for cultivation during drought**

Kudasingha is a village of 700 population of approximately 150 HHs, the communities resides here are dalit (ganda), adivasi (gond) and OBC. They are approximately 20 farmers, possess less than 2 acres and considered as small and marginal farmers and share croppers. They also work as daily wage labourers, and depend on nearby forest for collection of non timber forest produces.

This case study speaks about the community which is continuously fighting to mitigate drought through a lift irrigation project. Since this is a drought prone and non-irrigated area, the ground water level is very low, depleting every year and now the level is below 40 ft. The villagers totally depend on rainfall for their agriculture. Taking cognizance of this, a canal was built by the Government to supply water in 1992 under Ostali lift irrigation project in Jallia village to supply water to many other villages, so far 50% work is being done. Since 1996, villagers are paying tax for this canal which has actually turned out to be the less effective in terms of providing irrigation to their cropped lands. The work is not yet completed.

Kishore Bhanja (35 years old), from this village says "we have taken a lot of efforts to get the canal work completed, so that we can get the water from this canal to our cropped field. We have filed a complaint to the District Collector and also have done many strikes, but despite of many struggles, we have not yet tasted the success".

Now these villagers have decided, either to get the water from this canal or else to stop paying this unnecessary tax to the Government. As a consequence of this drought, people are forced to migrate to other places, out of state in search of employment. It is very disheartening to say that 50% of the population of this village have already been migrated to Tamil Nadu, AP & Kerala to get the employment mainly in brick kilns and construction sites, factories etc. One year back some government authority came for a survey and gave an assurance that after this survey they do not have to pay any tax to the government but after that nothing has happened and still they are paying the tax.

"The construction of canal or any irrigation project, to meet the need of farmers is a big scam and mess happening here. The contractors must have taken the money for its completion which is in pen and paper, but fact is that, we poor people are paying taxes for this and suffering most. If this canal was built, then it could have saved our crop lands during this terrible drought and would have not faced this huge crop loss." claims Kishore and villagers.

This year, drought has adversely impacted the lives of villagers. As they all have lost their crops, they do not have food grains to feed or seeds to cultivate also. They are totally depending on PDS food grains and waiting for Government to support them in getting seeds to cultivate for the coming agricultural season. However, no special measures have been taken up by the government to tackle the drought situation yet in the village. No farmers have received any drought package support from the Government though they were informed by R.I. about crop loss input subsidy to be provided but no Government officials have come yet. This recurring drought has resulted in distress migration in the village and almost half of the village population has been migrated to other states to get employed there. The entire families with women and children are out of village. It has forced the children to discontinue their studies and have gone to other states to survive. There are about 40 small farmers & share croppers and many of them have taken hand loan from the village moneylenders with high interest. They totally depend on the rain water for irrigation. Due to this recurring drought and crop loss, they are not able to return the money to the money lenders.

The villagers are facing water problem for drinking, bathing and washing. There is a river which is 1 km far from the village and women are facing a lot of problem due to this. No fodder is available for the livestock. The family as well as the community is waiting for the completion of lift irrigation project which can supply the water to their crop field during summer. No action so far is being taken up by community, Government or any other actor.

R.I had surveyed the village aftermath drought and had assured about the input subsidy to be provided to the farmers but no one from the village have received any benefits from drought package. No farmers have received the bore well input subsidy.

The villagers expecting that the issue of lift irrigation project of their village will be sorted out and they will get the water for their agricultural field. During this summer, they are desperately need work and wages in time under MGNREGA.

## Section -II

### **State's Action & Gaps:**

#### **a. State's Action against the Directives of Supreme Court : Access to Entitlements**

- In the absence of unambiguous crop loss / drought assessment criteria, the administration is using "eye estimation" method to depict the ground situation. No action has been taken by the State against SC towards using technology in estimation of crop loss rather than eye estimation.
- The Government of Odisha is referring to the Odisha Relief Code; and it has not been revised yet. Section 29 of Odisha Relief Code includes the following to define drought:

#### **i. Declaration of Drought :**

- a) Ordinarily declaration of drought in respect of a particular area shall be made by Government, after taking into consideration the crop assessment report submitted by the Collector together with the views of Revenue Divisional Commissioners and the Board of Revenue / Special Relief Commissioner.
  - b) Government may in special circumstances before compilation of such report by the field officer declare certain areas as drought affected after considering the monthly situation reports, the special report submitted by the Collector together with the views of the Revenue Divisional Commissioners and the Board of Revenue / Special Relief Commissioner and such other materials as are available with Government.
  - c) Without formally declaring any area / pocket as drought affected, no relief operation should ordinarily be launched upon.
- Despite of the above criteria, the drought declaration and assessment of crop loss has been a most complex and time consuming process. The loss of crops in the upland due to drought situation has been overlooked in

many times. The State of Odisha has a cultivated area of 61.80 lakh hectares out of which 29.14 lakh hectares is high land, 17.55 lakh hectares medium land and 15.11 lakh hectares low land. And also a large population depend on the upland for their livelihoods whereas the existing drought declaration criteria over look this.

- The State has already constituted the State Food Commission in the State. However the impact of its monitoring has not reached to the ground.
- Not a single school in 38 villages had provided Mid-Day-Meal during the summer vacation. All the schools in the 7 study districts were closed during the summer vacation. The addition supply of eggs or milk or any other nutritional substitute has not been provided in any Anganwadi Centers in 7 study districts of Odisha. Though Anganwadi Centers were functional, children have not been provided with additional eggs and milks. In 34% villages the Anganwadi Centre is located within the distance of about 1-3 Kms and it was impossible in the part of children to walk 1-3 Km distance in the hot summer.
- Also it was reported in the print media ( Odia Daily Prameya, Samabad and Samaj, 9th July 2016) due to apathy and negligence of Government 265444 children in the age group of 6-14 years ( Boys-135118, Girls-130258) in 3206 schools including primary, upper primary, high school and Government added high schools of Sundergarh district were deprived of getting Mid-Day-Meal for 64 days of vacation during summer season. This issue was brought to the notice of the administration, but the concerned authority is taking the plea that a circular was issued to the respective School Management Committees but there was no response from any SMC in regard to this.
- Also there was discussion on this in the district level consultations held in Bargarh, Bolangir, Ganjam, Kandhamal, Koraput and the state level consultations represent by farmers and community leaders form 7 districts of Odisha, it was viewed that Mid-Day-Meal was not provided during the summer vacation and all the schools in the respective areas were closed during. If this was the case, then the possible impact in form of deprivation of food would have been faced by 7, 35,011 children in 15,276 primary, upper primary and high schools of six districts.

No of Students Deprived up of Mid-Day Meal							
Sl No	District Name	Primary School		Upper Primary School		High School	
		TOTAL SCHOOL	TOTAL CHILD	TOTAL SCHOOL	TOTAL CHILD	TOTAL SCHOOL	TOTAL CHILD
1	BARAGARH	1027	14408	763	23786	334	6176
2	BOLANGIR	1377	49134	925	89877	353	14120
3	GANJAM	2484	91189	1288	155560	633	36045
4	KANDHAMAL	1250	34472	723	69754	201	16042
5	KORAPUT	1619	46883	850	50993	219	10529
6	NUAPADA	619	6282	465	17772	146	1989
	<b>Total</b>	<b>8376</b>	<b>242368</b>	<b>5014</b>	<b>407742</b>	<b>1886</b>	<b>84901</b>

- In the absence of long term efforts towards effective water conservation measures the people of Odisha continue to face the consequences of disaster. The Government of Odisha has taken up initiative like Jalanidhi Jojan to provide irrigation facility but it has failed to meet the purpose. In 2014, 6 numbers of deep bore wells were constructed under Jalnidhi Yojana in Barbhata village of Padmapur Block in Bargarh District. But due to lack of electricity connection the lift irrigation has been defunct since its inception. 318 acres of paddy crop has been affected due to this drought and 140 dependent families have been facing the crisis with uncertain livelihood options, says Sukadev Majhi, 40 years old, from Barbhata, Padmapur, Bargarh District, Odisha. As per the declaration the Odisha Lift Irrigation Corporation was supposed to repair the lift irrigation points and energy department was to give power to the LI points. But only 1% of LI points were found repaired. Sukadev Majhi, 40 years old, from Barbhata village of Bargarh district says "in 2014, one deep bore well was sanctioned in my name and that was installed in my agricultural field that year by the Lift Irrigation Department of Padampur division. I took loan of Rs 10,000/- from State Bank of India, Lakhamara branch and deposited it as my share. Since then, I have been waiting for electricity connection to my lift irrigation point. I have been approaching WESCO authority of

Padampur for time and again. Neither the WESCO nor the Lift Irrigation Department is coming forward to give electricity connection"

- Tackling of drought requires long terms measures towards conservation of rain water says the respondents. The average rain fall of Odisha is not poor, but the only action that can be really helpful to the farmers is conservation water and proper irrigation facility. It was found that 99% of the sample villages were not having any irrigation facility.

## Case Study-8

### **Impact of Drought on Children: Case for an AWC**

Village Andhari in Pandripada GP of Polasra block in Ganjam district is a small village of 45 families, all belonging to poor tribal class. Situated in forest land and hills, the village has no good communication facility.

All the households of the village depend on agriculture for their livelihood. The villagers live their hand to mouth producing not enough food grains to support them for the whole of the year. Without an effective irrigation facility, the villagers have to live on the mercy of the monsoon rains for farming and good harvest.

However, scanty rainfall in the last Kharif season has been causing them untold misery with a host of problems like food insecurity, water crisis, borrowing, migration and pressure and distress on women and children.

There is an Angawadi Centre at Pantinama, about 3 km away from the village to which 25 children go to attend. In the post drought situation, severe heat condition has been prevailing in village with very little drinking water. It is obviously not advisable that such small children should go to the distant AWC walking under the sun when there is small amount of water available for them to drink as the community is facing the shortage of drinking water.

Unfortunately, the AWC there do not provide more food meant to be provided during drought. Again, there are so many irregularities to which the community could not monitor properly.

In this context, the community demands a new AWC at the village. In such case the children could be provided services at their own village and get

the parental care. The villagers would also monitor the AWC in their own village more carefully.

### **Migration:**

- MGNREGS has failed to check migration due to lack of work opportunity and delayed payment.
- Less than 1% households have completed 150 days of MGNREGS work.
- Government has sanctioned Rs. 75, 000/- for construction of house under IAY and linked it further with MGNREGS. Each individual household is supposed to get Rs.15000/- from MGNREGS. Only first installment (Rs. 15,000/-) has been released to the people. Many of them have taken loan from moneylenders, sold their bullocks, sold goats to meet the construction cost but measurement of work has not yet been done for which 2nd and 3rd installment also have not been released.
- Migration has increased almost 2 times on the average as an aftermath of the drought. Families are compelled to leave the village and earn something in distant places like Chennai, Hyderabad and cities in Gujarat.
- Instead of 3 months they have been away for the last 6 or 7 months.
- 20% people have already migrated from the villages due to drought situation. 31 people are migrating for the first time due to drought situation.

Here is case study from Balangir district of Odisha which reveals how the distress situation has compelled the people to migrate.

## Case Study 9

### Recurring Drought Pushed Youth to Distress Migration

Bolangir district is one of the KBK districts in western odisha, popularly known for its recurring drought and distress migration. Saintala block is one of the drought prone blocks in Bolangir. It has been observed that due to huge crop loss and loan taken from various sources, people of this area migrate to other states by taking an advance from the middle men, under high risk of exploitation at destination. Several cases have been reported that these distress migrants who work at bricks kilns are facing gross violation of human rights and entangled in a bondage system. From Bolangir district, every year many families including women and children experiences torture, exploitation, harassment and brutality, even many death cases are reported at worksites. Poor sharecroppers, landless, small and marginal farmers from Dalis, Adivasi and OBC communities migrates to work at bricks kiln and construction sites of AP, Karnataka, Tamilnadu, Kerala after regular crop failure due to drought. However, the workers from this region are well known for their expertise in brick making. This has been a regular phenomena and a new trend has been developed of youth migration. This case study is basically about a youth, Bhagirathi (17 years old) who was forced to discontinue his studies, migrated to Kerala to get an employment to support his family.

Bhagirathi resides in Nuamunda village, Bolangir District with his parents and 3 sisters. They belong to OBC (gouda) community."We possess approximately 3 acres of agricultural land. The main crops we cultivate are paddy, cotton and green gram. The other sources of income are daily wages and collection of non-timber-forest-produces like chara , mahula, harida, sal leaves from the nearby forest. But this year the drought has hit very badly, significantly affected our food production and ways of living. We have lost all these crops due to crippling shortage of water and rainfall. My father also works as daily wage labourer but this year did not get enough employment under MGNREGA. This year drought has also affected in such a way that we are getting forest produces in very low quantity," he says.

No doubt, this year almost all the villagers have faced the drought badly but like Bhagirathi's father, there are more than 20 small farmers in this village

whom the drought affected the most. Bhagirathi is the 3rd child in the family. For first time, because of drought, he migrated to Kerala in search of some work (labour work) after completion of 10th standard, to support his family financially. During discussion it was clear that he is still interested in studying and wish for a good career. Due to no financial support, he sold the cycle provided by government to purchase the books for the board exam. His mother is a tuberculosis patient who is under the medical treatment. He further adds "we have no financial support and one more elder sister is there, her marriage is my responsibility now and the younger ones careers are my duty. I have to support my family now and to meet the expenses for my mother's treatment. My father is desperately waiting for the rain to make some miracle to this cropland. Due to this drought, I went to Kerala for first time. I have come here to attend a marriage ceremony, and then I will go back. I am getting Rs 400 per day as daily wages in Kerala. I would not have migrated If we would have not faced the crop loss. Like me there are many youth who are choosing the migration as an alternative option to survive their families".

The drought situation has an adverse effect on the family and the situation can be clearly inferred from the condition of the family mentioned above. This drought has changed the life of Bhagirathi who wanted to continue his studies further but he was forced to take the responsibility of his family, had migrated to Kerala.

There are no actions have been taken up by the Government, community or any other agencies to response the drought situation till date. The government has declared to provide crop loss compensation as input subsidy to the farmers Rs 6,800/- per hectare to each farmer's family but no one from this village have received the input subsidy. It's no doubt that small, marginal farmers and sharecroppers have been affected most and waiting to get some assistance from Government. They do not have the food grains in their houses, totally depending on the PDS food grains. Many families have been migrated to other states by taking huge amount as advance from the sardar/ middlemen.

R.I had surveyed the village aftermath drought and had assured about the input subsidy to be provided to the farmers but no farmer from the village

has received any benefits from drought package. 12 farmers have received the bore well input subsidy.

This community is expecting the government should take effective steps in order to mitigate the long term drought situation.

## **ii. Findings from Secondary Data : Analysis of reasons for drought in the context of Odisha**

Odisha has long history of the menace of drought. It is one of the states most affected by climate change. Its ecology and weather have undergone noticeable changes such as extreme weather conditions where the pattern of droughts and floods is becoming a recurring scenario. This has already shown impact on agriculture in the state in the last 10 years whereby, there has been a decrease in production. It necessitates long term planning towards mitigation of drought. In the absence of long term efforts the people of Odisha continue to face the consequences of disaster.

As can be seen from the table below, the frequency of severe droughts is increasing in the recent times. People affected by drought have also been increasing. But the paradox is that, it is not always the monsoon which is responsible for the drought, it is often the failure of the distribution systems, lack of long term policies on drought and administrative gaps to deal with the drought situation.

Some of the issues which have not been addressed in the long term strategic approach have resulted in creating development disparity across the State and also contributing towards a situation like drought. A detail analysis of the issues related to drought in Odisha has been depicted below:

### **iii. Diverse Agro Climatic Zone:**

The state Odisha is having a diverse physiological feature with wide ranges of hill, forest, peak, upland, long stretch coastline, extensive river basin, coastal plains, and broad spectrum of biodiversity, ecological habitats and mangroves.

On the basis of physical features and agro-climatic conditions, the state can be divided into four major agro climatic zones:

- Northern Plateau (constituting 18.3 per cent of the state's area and comprising undivided Keonjhar, Mayurbhanj, and Sundargarh districts). This region is characterised by hill ranges rising to elevations of 2000 to 3000 feet above sea level.
- Central Table Land (constituting 23.9 per cent of the state's area and comprising undivided Balangir, Dhenkanal, and Sambalpur districts). This region is generally flat with slightly undulating and folded topography, rising to an elevation of 1000 feet.
- Eastern Ghats (constituting 32.0 per cent of the state's area and comprising the undivided districts of Kalahandi, Kandhamal, and Koraput). This region is dominated by hill ranges along with some plains and valleys lying between them, with elevation of plateaus ranging from 900 feet to 2000 feet.
- Coastal Plains (constituting 25.8 per cent of the state's area and comprising the undivided districts of Balasore, Cuttack, Ganjam, and Puri). This region consists of a number of river deltas.

It is pertinent to mention here that highland constitutes 45.8% of the total state and 64.2% of the total land is found in the Eastern Ghat region. Highland in the Northern Plateau and Central Table constitutes half of the cultivated area. On the contrary, highland constitutes 29.2 % and low land constitutes 36 % of the cultivated area in the Coastal Plains (OSHDR 2004). The fertility of the soil of upland is very low and prone to erosion. The moisture retention capacity of the high land soil is very low and the topography is most suitable for low water intensive crops. The present agriculture policy of the State is not very supportive to the present cropping patterns of the high lands in Kandhamal, Koraput, Malkangiri, Nawarangpur, Raygada, Sundergarh district of Odisha. The majority of the population having the practice of millet based mixed farming and low water intensive traditional crops. As viewed by the Convener of Paschim Odisha Krushak Sangathan Sri Saroj Mohanty, "the traditional farming practices are more suitable for the high land rain fed areas since it involves low agriculture input cost. The farmers produce and conserve seeds of their own and don't depend upon the market for seeds, pesticides, insecticides and chemical manures. Also the community is having the traditional knowledge and skills related to control of pest, insect and soil

health management. If seeds' purity is maintained properly, the traditional crops would give very good yield. The food production system of tribal areas is not market driven; they produce food for their own. In this context the chemical free traditional farming is more suitable to the high land that is subject to recurrent drought. The traditional farming system is having the potentiality to mitigate drought in terms of using drought resilient varieties of seeds. Unfortunately many traditional but climate resilient varieties of seeds are being replaced with HYV (High Yielding Variety) which were drought and flood resilient. "

The State Government has been putting lot of efforts to grow cash crops in the water scarcity regions like KBK (Kalahandi, Balangir and Koraput) of which majority of the land is high. The areas are rain fed in nature and having inadequate irrigation facility. The State has promoted Cotton in 831 Ha. of KBK with the expenditure of Rs. 59.96 Lakh ( 2014-15), and Sugar cane in 1936 Ha. with the expenditure of 56.44 lakh (2013-14) and Sugar Cane Promoted in 466 Ha. with the total expenditure of Rs. 63.43 lakh (2014-15), 1746 ha with the expenditure of 136.55 lakh (2013-14). In four years, during 2005-08 the total rice area diverted to non Paddy crops (sugar cane) is 28,726 hectares (Y2005-12,792 Ha, Y2006-4244 Ha, Y2007-5836 Ha, and Y2008-5854 Ha.-Agriculture Status Reports, Govt. of Odisha). **Thus promotion of high water intensive cash crops in creating pressing water scarcity in the region and replace the food culture and diversity. Also in other way it is destroying the traditional coping mechanism of the community to withstand drought. The change in food production system and food diversity has adverse impact of the food security of the community.**

Most of the small and marginal farmers who cultivate high land they grow rice in those land for food security. But over the period the maximum efforts has gone into convert the paddy grown land in to non paddy land. Mixed cropping in the high land is a appropriate means for livelihood but there is inadequate effort towards promotion of mixed cropping that consider the cultural context of the community and their traditional, knowledge and skills pertaining to traditional chemical free farming that involves low input cost.

Odisha receives about 1451.2 mm of rainfall normally, with 25–30 % variation. The south-west monsoon that comes during June to September contributes to 84% of the rain fall. However, the south-western districts of Kalahandi,

Balangir, and Koraput fall in the rain shadow zone of the south-west monsoon and hence receive highly erratic rainfall. Even though the rainfall during the monsoon is very erratic and uneven, the quantum of rainfall is quite high. Due to drought situation the major Kharif crop is affected. Also there is instance of the failure of the winter monsoon for which the Rabi crops also affected. The table below indicates the actual rain fall of the State from 1961 to 2008. It is found from the table that other than the drought year the rest of the years the State has received almost normal rainfall. Even in those years the State had faced severe drought, the rain fall was not less than 900 mm. The rain fall data for the drought year is 1965-997.1 mm, 1974-951.2 mm, 1976-1012.5 mm, 1979-950.7 mm, 2002-1007.8 mm (Agriculture Status Reports, Govt. of Odisha). In the absence of the rain water harvesting system the State has faced severe drought. Jalana District of Marathwada receives the annual average rain fall of 730 mm but there are villages in the same areas like Kadwanchi Village that don't see a drought. They have raised their income by even 700%. In the last 20 years the village has not seen any drought including the drought of 2012, the worst in the 40 years. The project, launched under watershed programme was implemented in the villages between 1996-97 and 2001-02 with a financial outlay of Rs. 1.2 crore. It included construction of bunds and trenches, plantation of tress. These steps slowed the flow of running water, increased seepage and recharged ground water. They had an impact in on the nearby areas as well. Within two years, the wells in surroundings areas started recharging and the soil gained moisture. Once the water scarcity was over, the farmers constructed farm ponds and made drip irrigation. Also the traditional multi cropping system in the areas saves the crops from drought (Down to Earth, May 2016). In the contrary, the Government has not taken adequate steps in Odisha, most specifically in the western districts of Odisha towards conservation of rain water. In the absence of the adequate measure the state has been facing regular drought.

Richard Mohapatra of Down to Earth shared in the State Level Workshop on 10th June 2016 organized by ActionAid that in 10 years India can be drought-proof. Average Indian village needs 1.12 hectares to capture 6.57 million litres of water. It will use in a year for cooking and drinking. If there is a drought and rainfall levels dip to half the normal, the land required would rise to a mere 2.24 hectares. He also said the amount of land needed to meet

the drinking water needs of an average village will vary from 0.10 hectares in Arunachal Pradesh (average population 236) where villages are small and rainfall high to 8.46 hectares in Delhi where villages are big (average population 4769) and rainfall is low.

### Year wise Rain Fall Data & Drought Situation:

SL. No.	Year	Normal Rainfall mms	Actual rainfall mms	Kharif Rice Production ( in lakh Mts.)	Remarks
1	1961	1502.5	1262.8	36.99	
2	1962	1502.5	1169.9	36.32	
3	1963	1502.5	1467.0	42.47	
4	1964	1502.5	1414.1	43.59	
5	1965	1502.5	997.1	31.89	Severe drought
6	1966	1502.5	1134.9	35.37	Drought
7	1967	1502.5	1326.7	34.43	Cyclone & Flood
8	1968	1502.5	1296.1	38.48	Cyclone & Flood
9	1969	1502.5	1802.1	38.39	Flood
10	1970	1502.5	1660.2	39.13	Flood
11	1971	1502.5	1791.5	33.76	Flood, Severe Cyclone
12	1972	1502.5	1177.1	37.35	Drought, flood
13	1973	1502.5	1360.1	41.91	Flood
14	1974	1502.5	951.2	29.67	Flood, severe drought
15	1975	1502.5	1325.6	42.74	Flood
16	1976	1502.5	1012.5	29.58	Severe drought
17	1977	1502.5	1326.9	40.50	Flood
18	1978	1502.5	1261.3	41.89	Tornados, hail storm
19	1979	1502.5	950.7	27.34	Severe drought
20	1980	1502.5	1321.7	40.31	Flood, drought
21	1981	1502.5	1187.4	36.63	Flood, drought, Tornado
22	1982	1502.5	1179.9	27.07	High flood, drought, cyclone
23	1983	1502.5	1374.1	47.63	
24	1984	1502.5	1302.8	38.50	Drought
25	1985	1502.5	1606.8	48.80	Flood
26	1986	1502.5	1566.1	44.56	
27	1987	1502.5	1040.8	31.03	Severe drought
28	1988	1502.5	1270.5	48.96	
29	1989	1502.5	1283.9	58.40	
30	1990	1502.5	1865.8	48.42	Flood
31	1991	1502.5	1465.7	60.30	
32	1992	1502.5	1344.1	49.76	Flood, drought
33	1993	1502.5	1421.6	61.02	
34	1994	1502.5	1700.2	58.31	

35	1995	1502.5	1588.0	56.48	
36	1996	1502.5	990.1	38.27	Severe drought
37	1997	1502.5	1493.0	57.51	
38	1998	1502.5	1277.5	48.85	Severe drought
39	1999	1502.5	1435.7	42.75	Severe Cyclone
40	2000	1502.5	1035.1	41.72	Drought & Flood
41	2001	1482.2	1616.2	65.71	Flood
42	2002	1482.2	1007.8	28.26	Severe drought
43	2003	1482.2	1663.5	61.99	Flood
44	2004	1482.2	1256.7	58.84	Moisture stress
45	2005	1451.2	1497.7	62.49	Moisture stress
46	2006	1451.2	1682.8	61.96	Moisture stress/Flood
47	2007	1451.2	1583.2	68.26	Flood
48	2008	1451.2	1525.5	60.92	Flood , Moisture Stress

Source : Status of Agriculture in Odisha, 2009, Directorate of Agriculture & Food Production, Bhubaneswar, Govt. of Odisha.

### iii Changing Water Used Pattern: Exploitation water by Industries

Major water sources of Odisha are being diverted for industrial purpose. 112 industries have been allocated water for industrial use from the major reservoir, dam, river, barrage and weirs whereas only 27 towns of Odisha have been supplied with water. Other than this water is being used for non irrigation purpose like bricks and tile making, hydro power generation, construction of commercial building (Report of Agriculture Department, Government of Odisha, 2013-14 & 2014-15). Among the major users Rourkela Steel Plant daily draws 28 crore litre, National Thermal Power Corporation (NTPC) 13 crore litre and Nalco draws 6.3 crore litre. The state government has also allowed several under-construction and proposed projects to draw water from the river. Among them are Monnet Ispat – 40 cusecs, Navbharat Power – 42 cusec, GMR – 30 cusec, Jindal Thermal – 40 cusec, SR Power – 48 cusec, CESC – 42 cusec, Lanco – 40 cusec, Mahanadi Urban Power – 40 cusec and Bhushan Energy – 40 cusec (<http://www.orissapost.com/water-for-industrial-use-leaves-brahmani-high-dry/>). However the irrigation facilities to the uplands are yet to be provided by the Government to protect and strengthen the agriculture 45.8% high land of the state. The total agricultural land area of Odisha is about 8.7 million hectares of which 1.9 million hectares are irrigated and the rest is rain fed. About 70% of the population lives in villages, and 85% of the total workforce depends on agriculture (ICAR, Odisha). However the cost of recovery from Agriculture and Industrial Sectors has shown an increasing trend as it increased from Rs. 7.0281 crore in the year 1996-97 to Rs. 629.22 crore in the year 2014-15 (Department of Water Resource, Govt. of Odisha, 2015). There is a rising trend of water tax collection. In other way demand for irrigation to

In 2014, 6 numbers of deep bore wells were constructed under Jalnidhi Yojana in Barbhata village of Padmapur Block in Bargarh District. But due to lack of electricity connection the lift irrigation has been defunct since its inception. 318 acres of paddy crop has been affected due to this drought and 140 dependent families have been facing the crisis with uncertain livelihood options.

- **Sukadev Majhi**, 40 years old, from Barbhata, Padmapur, Bargarh District, Odisha.

agriculture land has been increasing. However all the agricultural land has not been provided with irrigation facility.

As per the report, the State Government during 2014-15, has established 7821 number of PLIPs (STW-2,165, BW-4,855, DW-800, and RLIP-1) under Jananidhi-I by utilizing subsidy of Rs. 3,436.79 lakh and during 2013-14, 13,297 number of such PLIPs (STW- 5,148, BW-6511, DW- 1,634, and RLIP-4) through extending subsidy of Rs. 4,787.11 lakh. The State Government proclaims to have brought 42,813 Ha.(16,213 Ha. during 2014-15, & 26,600 Ha. during 2013-14) of additional area under assured irrigation. However the ground reality is something different. The Janandihi Yojan of Government has failed to meet its purpose.

## Case Study-10

### **Jalanidhi Yojana of the State Government failed to meet its purpose**

Sukadev Majhi, 40 years old, from Barbhata village says "I am a small farmer possessing 3.5 acres of agricultural land. In 2014, one deep bore well was sanctioned in my name and that was installed in my agricultural field that year by the Lift Irrigation Department of Padampur division. I took loan of Rs 10,000/- from State Bank of India, Lakhamara branch and deposited it as my share. Since then, I have been waiting for electricity connection to my lift irrigation point. I have been approaching WESCO authority of Padampur for time and again. Neither the WESCO nor the Lift Irrigation Department is coming forward to solve my problem yet".

He further adds "one electricity transformer set up nearby my lift irrigation point in the month of April 2016. But it has not been charged yet. If it would have been charged with electric power, then five farmers could have saved 25 acres of crop field during 2015 Kharif season from drought. One transformer can supply power to 5 numbers of pump set for lift irrigation. I along with four other farmers namely Pradeep Majhi, Bipin Bihari Negi, Budha Negi and Bansi Negi have been waiting for electricity connection to our lift irrigation bore well points. 25 acres of crop fields will be getting

water through these 5 lift irrigation points. We have been requesting the department repetitively, but no one is trying to solve our problems”.

In our village, total 318 acres of paddy crop fields have been affected due to this drought. Total 140 families have been suffered due to drought. 6 numbers of deep bore wells under Jalnidhi Yojana have been installed since 2014. But due to lack of electricity connection, they are not functioning.

In the last year (2014-15) Government has created 7821 PLIPs for creating irrigation facility to 16,213 acres of land but all those structures are found dilapidated, defunct, without having electricity connection.

Ground water level and water level fluctuation has been the reason for occurrence of drought in Odisha over the period. The decreasing of forest coverage is also one of the contributing factors of ground water depletion.

#### **iv. Unequal Distribution of Land:**

As on 31st March 2016 Government has distributed only 3, 76,610 titles (Individual- 3, 71,459 & Community- 5,151) for forest land to the tribal households against total claims 6,18,313 (individual-6,05,163, community-13,510) under Forest Rights Act, 2006 (Status Report on the Implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 for the period ending 31st March, 2016, Ministry of Tribal Affairs, Government of India). Only 60.91% of the total claims have been settled whereas a large number populations depending upon the forest land are yet to get the recognition. Non recognition titles for their rights over resources preventing the advasi and other traditional forest dwellers the access to forest resources which in turn affecting their livelihoods. In such situation, the drought subjects them to multiple vulnerabilities and reverses the development that has already taken place.

- Share Croppers continue to deprive up of input support and compensation due to lack of recognition and appropriate legislation.
- Government is promoting organic farming in the areas where the farmers are still continuing in traditional process without using chemical manures and pesticides. No effort has been made to convert chemical farming in to organic farming.

- The cropping pattern and agricultural system of the tribal areas is different and having potential of drought resilience. But there no adequate in the present agriculture policy of the State for its promotion. ● The net area sown for agriculture has been decreased from 38% (2010) to 34 % ( 2015). And 8.33% (12.98 lakh ha) land put to non agriculture purpose. Hence there is an increase trend of percentage of the marginal workers over the period. The percentage of marginal workers has been increased from 13.84% (1981) to 38.96% (2011). The percentage of main workers has been decreased from 86.16% (1981) to 61.04%.
- As per estimates made by the Planning Commission based on the Tendulkar Committee methodology, poverty in Odisha declined by 24.6 percentage points from 57.2 percent in 2004-05 to 32.6 percent in 2011-12. This was the highest poverty reduction by any major State in the country. Though there has been significant poverty reduction among ST and SC communities and in northern and southern regions, the incidence of poverty in southern and northern regions as well as among ST and SC communities still continues to be high and remains a matter of concern (Odisha Economic Survey 2014-15)

#### **v. What has been left out from the drought mitigation frame work?**

- Crop loss in upland is not considered as drought. The State has cultivated area of 61.80 lakh hectares out of which 29.14 lakh hectares is high land, 17.55 lakh hectares medium land and 15.11 lakh hectares low land.
- Loss of forest produces due to drought is not taken in to accounts as loss. Whereas 22.1% tribal population depends upon forest produces for their livelihood.
- The Non Timber Forest Produces are also affected in the drought condition whereas it has been left out from the loss calculation.

#### **b. State's Response to Drought in Odisha:**

The State Government's had declared 29176 villages of 3832 Gram Panchayats under 235 Blocks in 28 Districts and 412 Wards under 55 Urban Local Bodies as drought affected with the damage of crop to the extent of 33% and above. Total crop area of 1535902 hector was declared as damaged (Notification by Revenue & Disaster Management Department, Govt. of

Odisha, No.4519/R&DM (SR), and Dated 7/11/2015). Keeping in view of the severity of the drought situation, the State Government had declared the "Drought Package 2015" to support the farmers in compensating the loss. It includes 15 numbers compensatory packages. The declaration of drought package indicates the pro active steps of Government but the ground reality of its reach to the right holders is yet to be achieved.

The present study made an attempt to capture the reality of the reach of "Drought Package 2015" in terms having focused group discussion and collection of information from 38 villages in seven districts viz; Sundergarh, Ganjam, Bargarh and Kandhmal, Balangir, Koraput, Nuapada of Odisha. The findings of the above study related Government Response depicted below:

- It has been viewed by all the respondents of seven districts that the effort that has been made by Government towards creating awareness among the people on the drought package was not adequate. The package had not reached to all the affected households in most of the villages during the study period. 94% respondent viewed that there was no such attempt made by the concern district administration to create awareness on the declared drought package.
- Only 7 % farmers have been provided with mini kits of black gram (3 kg each) as seed support by the State Agriculture Department where as 90% farmers in study areas have faced the crop loss due to drought. Also the support of 3 Kg seeds was not adequate for the people to revive the Rabi crops.
- Government had declared to provide vegetable seeds in moisture stress affected areas of 235 Blocks in 26 districts of Odisha. But as on 8th June 2016 it had not reached to the community. 700 farmers of seven districts shared during the district level consultations that the above support from the administration has not reached to the community. The State had declared to provide vegetable seeds in moisture stress affected areas of 9 Blocks in Sundergarh district but during the study period it was found that only 10 farmers of Birkaldihi G.P in Balisankara Block had received the mini kits. Rests of the farmers were not certain about further distribution since there was no such notification on the farmers who will receive mini kits.
- The State Authority had issued circular to the district administration to

conduct sensitization and counseling camps at Gram Panchayat level in areas experiencing moisture stress but as per the view of the respondents there was no such programme at ground level to create awareness. It was found from the focus discussion process in 7 district of Odisha that there was no such evidence of the Government having organized health camps in their concerned village. This has created havoc among the people.

- As per the circular the District Horticulture Unit is supposed to select the farmers for providing subsidy of the vegetable seeds with the consultation of the PRI members but as per the information shared by the community during study and further at the district level consultation there was no such attempt made by the concern department to select beneficiary to provide subsidy. In the absence of this the community is having the plan to go for vegetable cultivation of their own in terms of taking loan from private sources. This source was also found exploitative since the rate of interest is very high.
- The study revealed a major gap between data provided by Government pertaining to Drought Package and the actual package reached to the field. As per the District Administration of Sundergarh Rs. 36, 57, 48,000 was sanctioned for agriculture input subsidy for the farmers out of which Rs.1, 32, 21,000/ was sanctioned for Balisankara Block. But the farmer of Balisankara shared that they had not received in any input subsidy by the Government. It was found from the study that there was unwanted delay in disbursement of the subsidy to the farmers even if the District Administration proclaimed of having placed the fund with the concerned Block office. The farmers had expressed that there was high degree of the apathy of the Government officials in providing subsidy to the farmers.
- The State Government had declared to provide agriculture input to the small and marginal famers but the study findings reveals that only 19% farmers out of 94% affected have been provided with agriculture inputs under the Drought Package.
- It was proclaimed that the Government is fully aware of the present drought situation and committed to protect the interest of the farmers. The short term Kharif loan would be converted in to medium term kharif loan. But the farmers of Bargarh district shared during the FGD and both

in district and state level consultation that the old loans of the farmers have been adjusted with new loan. In reality the farmers didn't get any loan support from the Government. As a result the farmers were compelled to take private loan from money lender in exorbitant rate of interest. Also many farmers have left their villages and migrated to out of Odisha. About 20% farmers have already migrated due to this.

- Government had declared that it would initiate tough action against the practice money lending as per the Odisha Money Lending Act but there was no such instances of action reported in the field despite of the money lending activities are full in force. In all seven districts it was shared the respondents that they have taken loan from money lender in exorbitant rate of interest. It was reported that in Koraput, the people from Bihar have come for this specific purpose only. The crop loss due to drought situation along with the absence loan support from Government has created opportunity for outsiders and the Mahajans to exploit people through money lending. The rate of interest range from 36 to 40 % per annum.
- Government had declared to provide 40,000 pump sets in the rain fed areas with 50% subsidy limited Rs. 15,000. But the study reveals that only 1% farmers have been provided with pump sets and that was found in Balangir district only. The farmers in the rest six districts covered under study had not got any pump set.
- As per the declaration the Odisha Lift Irrigation Corporation was supposed to repair the lift irrigation points and energy department was to energise the LI points. But only 1% of LI points were found repaired. Sukadev Majhi, 40 years old, from Barbhata village of Bargarh district says "in 2014, one deep bore well was sanctioned in my name and that was installed in my agricultural field that year by the Lift Irrigation Department of Padampur division. I took loan of Rs 10,000/- from State Bank of India, Lakhamara branch and deposited it as my share. Since then, I have been waiting for electricity connection to my lift irrigation point. I have been approaching WESCO authority of Padampur for time and again. Neither the WESCO nor the Lift Irrigation Department is coming forward to give electricity connection"
- Tackling of drought requires long terms measures towards conservation

of rain water says the respondents. The average rain fall of Odisha is not poor, but the only action that can be really helpful to the farmers is conservation water and proper irrigation facility. It was found that 99% of the sample villages were not having any irrigation facility.

- Only 24% students have got relaxation of tuition fees. 76% students studying in the private schools and colleges have not got the relaxation of tuition fees. Some students in Nuapada are not able to continue their education due to drought situation. It was found during the study that some of the students of Buguda Block had given fee but they have not obtained any money receipt for that.

### **c. Response of ActionAid & Its Partners :**

Action Aid's response owing to the present drought situation is depicted below:

- 938 households of 20 villages in 5 districts of Odisha were covered under the initial drought assessment done and the findings were further shared with the IAG. And in the second phase 38 villages in 7 districts were covered.
- District Level Consultation organized in 6 districts of Odisha mobilizing the District Administration and the Members of Legislative Assembly.
- Case Studies and relevant testimonies presented both in the district and state level workshop pertaining to the drought situations and its impact on the community.
- Assessment undertaken in regard to the response of Government in 6 districts of Odisha against the directives of Supreme Court.
- 41 malnourished children & 60 mothers of 5 villages in Balisankara Block of Sundergarh District provided with supplementary nutrition for two months.
- 174 women farmers of 40 collectives from Sundergarh provided with seed support for collective farming.
- 198 households of 19 villages in Nuapada provided with seed support.
- 100 households in Lahunipda Block of Sundergarh provided with seed support.

- 304 households in 35 village of Kandhmal District provided with seed support.
- 170 single women of the collectives in Ganjam provided with seed support.
- 2000 people from 3 Grampanchayats were mobilized and resolution made in special Gram Sabha for undertaking water harvesting measures under MGNREGS.
- 13 community tanks and 65 dug-wells excavated mobilizing support from district administration of Sundergarh.
- Monitoring of Government efforts for providing the entitlements and the basic services needed to the people at this time like drinking water, employment under MGNREGA, Integrated Child Development Scheme for Children, MDM and PDS.
- Collective efforts made by women groups towards highlighting the issue of drought situation and submission of memorandum.
- Engagement with farmers' organization to raise voice and make Government accountable for addressing the issues of small and marginal farmers, and share croppers under the Drought Package 2015.
- The various issues and perspectives regarding the drought has been brought in front of the media.
- The Recommendations pertaining to the drought situation has been shared with the district administration.

### **I District Level Consultations in 6 Districts of Odisha:**

Action Aid with support of partner organizations like SMPUP, DAS, CIRTD, Antaranga, JJDS, AES and Jivan Vikas had undertaken district level consultations in six districts of Odisha viz Sundergarh, Bargarh, Kandhamal, Ganjam, Balangir and Koraput. As many as 800 people were mobilized to discussion on the issues and share their concerns. The situation pertaining to drought was presented in terms of presenting case studies and related testimonies from the field. The officials from district administration like District Chief Veterinary Officer, Assistant Fishery Officer, Officers from NABARD, Assistant Director Horticulture, District Emergency Officer, Tehsildar, and Block Development Officer jointed the consultations held in the above six districts of Odisha.

Sl No	Date	District	Partners Organization
1	6th June 2016	Kandhmal	Antaranga
2	7th June 2016	Koraput	Adivasi Ekta Sangathan
3	7th June 2016	Bargarh	Samuhik Marudi Pratikar Udyam Padmapur (SMPUP)
4	8th June 2016	Sundergarh	Jivan Vikas & CIRTD
5	8th June 2016	Ganjam	Dalit Adhikar Sangathan (DAS)
6	9th June 2016	Balangir	Jana Jagarana Dadana Sangha (JJDS)

**The following issues were discussed and highlighted in the district level consultations:**

- Assessment of crop loss in forest land has not being done. The farmers not having patta of their forest land has been deprived up of the declared compensation by Government under the Drought Package 2015.
- The State Government had declared to pay an additional wage of 30% under MGNREGA. But the same has not been provided to the people worked under MGNREGA.
- Seeds support for Ravi crop has not been provided to any farmers of the district.
- Mid Day Meal was not provided to the children during vacation as per the directives of the Supreme Court. Additional supply of eggs and milk has not been provided in Anganwadi Centers. Even some of the centres were not functional as result the children were deprived up of getting the required nutrition.
- Adequate awareness measures have not been taken by Government on Drought Package.

- There is considerable crop loss in Kharif Season due to drought.
- Scarcity of potable drinking water has impacted the women members in terms of increased burden to collect water.
- Adequate measures have not been undertaken towards conservation of rain water as long term measures to mitigate drought situation.
- Forest produces that is one of the major source of additional food and livelihood has been affected in terms of decrease in production.
- Increased burden and stress on farmers to repay loans in high interest rate due to crop loss. Also in other way the migration has been induced for this.
- Most of the villages are affected by water scarcity due to drought. Though in some of the low land are not much affected however medium and high land crops have been damaged. The package for drought mitigation has been declared which has not at all addressing the issue of water scarcity.
- In tribal locality like Koraput, Kandhmal and Sundergarh districts most of the inhabitants are landless or marginal farmer, hence mostly dependent on forest produces. The loss in forest produces due to drought has not been considered. Government has declared package to provide necessary support for drought affected family like providing bonus, pump set, seeds etc. also they have exempted the school and college fee in the affected area. Increased engagement on MGNREGA may help to earn livelihood in this distress. However this information has not yet reached to the community.

### **The following suggestions were made by the participants:**

- Apart from revenue villages, drought affected forest villages along with hamlets should be identified and micro level planning should be done for long term solution. The micro planning should be done in a participatory process with the participation of community and soil conservation, and water conservations measures should be undertaken.
- Allied productive work apart from farm agriculture like animal husbandry, fishery and plantation of fruit bearing trees through MGNREGA should be given priority. This would be supportive during

drought to meet the crisis.

- Awareness on preventive measures and government package should be done widely, so that all affected persons will access those benefits.
- In the climate change regime, ecological farming which is resilient to climate change need to be protected and promoted.
- Supreme Court direction on addressing drought, this consultation is highly important.
- Irrigation facility should be made available for high land farming in terms of rain water harvesting measure. Millet based mixed cropping should be promoted to meet the drought situation.
- The existing traditional water bodies should be renovated. And more water bodies should be created under MGNREGS for conservation of water and increasing ground water level.
- The traditional drought resilient varieties of seeds should be conserved and promoted to reduce the loss due to drought. Also the farmers should be supported and encouraged in maintain purity of seeds for retaining the yield in traditional farming process.

## **ii. District Level Consultation on Drought in Bargarh District**

Paschim Odisha Krushak Bikash Manch, Zilla Lok Adhikar Sangathan along with some other likeminded organizations organized a district level consultation on Drought in Rajaji town hall, Padampur on 7th June 2016. Among others, Mr pradeep Purohit, MLA Padampur ,Mr Subal Sahu, MLA Bijepur, Mr Nabakishor Dash, DDA Bargarh, Mr Saroj Mohanty, Convener Paschim Odisha Krushak Samanwaya Samiti were present in this meeting. Around 350 farmers from the district participated in this program and shared the situation of their concerned areas and response of Government. The whole idea of having this consultation was to discuss about the present drought situation of the district Bargarh, and generate people's perspective and solution to mitigate drought. It was discussed that 28 districts of the state including Bargarh have witnessed drought in the present year with acute loss of crops and livelihood options. Last year, Government declared that only 33% of crops have been affected due to drought but in reality the extent of crop loss was 60-70% in the State. In more than 90% villages, the

traditional water bodies have been dried up due to lack of renovation for a long time. This has put the major impacts in the lives of livestock and farmers. People are facing acute scarcity of drinking water but no long term measures have been taken up by the Government although drought is a regular phenomenon in these areas. Bargarh is popularly known as the rice bowl of the state but the current unprecedented drought has shaken the people of the district. The farmers had a hope that the declared drought package by the Government would help them but all the affected farmers haven't yet availed the benefits as per the package. The Central Government and State Government necessitate take up the matter urgently to provide necessary support to the drought affected farmers as per the drought package. During the meeting, there was discussion on the recommendations of the Engineer A.N. Khosla that he had shared during the construction of Hirakud Dam. Once, Er. Khosla had recommended for creating irrigation facility through canal system to Bhatli, Sohela, Bijepur and Gaisilt areas of Bargarh. But over the period there has not been any action taken by Government as per the recommendations. Hence it was viewed by the people that there is lack of political willingness and administrative measures towards mitigation of drought in terms of providing long term solution of irrigation facility.

In Padampur Subdivision, drought is a regular phenomenon. The farmers of this region have been coping with drought for decades by cultivating drought-resilient seeds in the traditional process through applying through homemade organic manures and pesticides. But traditional farming is not being practiced by all the farmers. In the process of second green revolution the traditional climate resilient seeds and farming practices have been replaced with high-yielding and hybrid variety of seeds which needs huge water and chemical fertilizers for production. Thus the input cost has also been increased and the farmers have entered in to the cycle of indebtedness. The expectation of more production followed by overburden with loan to meet the requirement of high input cost has put the farmers in a more stressful condition. This condition of helplessness with lack of support mechanism from Government has lead to suicide and further impoverishment of the family. Faulty agricultural policy is another reason this crisis. It doesn't include the long terms measure to mitigate the drought

situation extending need based supports to the farmers. The Drought Package declared by the Government has the provision to provide minimum input subsidy support of Rs. 16, 5000/ per acre for non-irrigated areas but so far 86% people have received the input agricultural subsidy of only Rs. 6800/ per hectare. Till date, the affected farmers have not yet received the crop insurance support as well. The Krushak Sangathan and other participants have affirmed in the meeting that there are many issues needs immediate attention as per the package such as provision of Rs. 100/ for selling each quintal of paddy, exemption from land cess, exemption from school fees for children, inclusion of all the affected families under National Food Security Act, renovation of ponds, tanks and other traditional water bodies, deepening of existing bore-wells, development of more and more irrigation facilities for agriculture in large-scale, in-time seed support for Ravi cultivation, promotion of organic farming and traditional seeds etc. Few case studies were also shared by the farmers affected by drought. Chandrakanti Mahanand (51 years old), wife of late Srikanta Mahananda from Saplaha village of Paikmal block shared how the crop failure due to drought and over burden of loan forced her husband to commit suicide.

A wide category of people took part in this discussion like the farmers, intellectuals, Government Officials, members from Legislative Assembly, Civil Society Organizations, members of lok sangathan , Activists and media persons. They clearly stated that there is a need of strong political willingness and support of Government to mitigate the drought situation in Odisha. There were suggestions for Government to undertake long terms and short terms drought mitigation measures such as development of minor irrigation projects in Ong river, renovation of traditional water bodies, in time agricultural input subsidy support, provision of fodder, food assistance and drinking water etc.

Further to the consultation, the suggestions and demands were shared with district administration for undertaking necessary action.

### **iii. District Level Consultation on Drought in Sundergarh:**

CIRTD & Jivan Vikas, the partners of ActionAid together had organized a district level consultation on 8th June 2016. About 90 people from Balisankara and Lahunipada block of Sundergarh joined this consultation and shared the drought situation of their concern areas. The district level authorities like District Chief Veterinary Officer, Assistant Fishery Officer, and Officer in charge of NABARD for Sundargarh and Jharsuguda district, and Assistant Director Horticulture attended this meeting and responded to the peoples' concern. Among others the community leaders like Kedaranath Mundari, Fakira Nayak, Satyananda Patra, and Budhabari Kudha joined this meeting and shared the drought situation of the areas. Bhajamana Mahanta from Jivan Vikas and Ravi Kamal from CIRTD presented the findings of the assessment undertaken in Lahunipada and Balisankara Blocks of Sundergarh district that was followed by presentation of case studies and the relevant testimonials.

There was discussion that assessment has not been undertaken by the administration for the crop loss in forest land. Also a majority of the farmers don't have patta for the forest land they have been cultivating. As a result of this many tribal families have been excluded for getting compensation and input subsidy packages. The additional payment of 30% wage has not been given to the people worked under MGNREGA even if there was declaration in the Drought Package. Input seed support for Ravi crop has not been supplied yet. There is no action against the directive of Supreme Court to continue mid day meal in schools during the vacation and additional supply of milk and eggs to the children in Anganwadi.

The participants had the suggestion to convert the forest village in to revenue village and undertake micro planning for long term drought mitigation measures. There were suggestions for undertaking soil and water conservation measures. Allied productive work apart from farm agriculture like animal husbandry, fishery and plantation of fruit bearing trees through MGNREGS were also suggested to be undertaken by Government.

### **iv. District Level Consultation on Drought in Koraput**

AESS organized a district level consultation on the drought situation on 7th June, 2016 at Yatri Kutira, Koraput. Around 52 participants from Kotia,

Sambai, Kasadi, Guneipada, Bhitragada, Murkar, Nilabadi, Haridaguda and Kermeti Gram Panchyats joined and shared the situation of their areas and their thinking around alternatives to Drought. Ghasiram Panda, Programme Manager, ActionAid, Pintu Sahu and Prakash Kumar Samal from Emergency Section of the District Administration also joined the consultation. While welcoming the participants and guests, Project Director of AESS Shri Durga Prasad Mohanty said that most of the villages have been facing scarcity of drinking water due to drought. Though in some of the low land are not much affected however medium and high land crops have been damaged. The package for drought mitigation has been declared which has not at all addressing the issue of water scarcity.

While sharing the objectives, Ghasiram Panda told that drought has manifold impact on life of people in general and marginalized communities in particular. Actionaid has planned to undertake a study to know the situation of ground pertaining to drought and organize district level consultation in some of the drought affected districts and culminate it in a state level programme. He told that the change in climate is impacting the rainfall pattern and the irregularity in rainfall is leading to drought. Ecological farming is resilient to climate change and that need to be protected and promoted. In the tribal district like Koraput most of the inhabitants are landless or marginal farmer and they mostly depend upon forest for their livelihoods. The loss of forest produces due to drought has not been considered as crop loss by the Government. As a result the food security of the community has been affected. Job creation under MGNREGS to support the community in generating livelihood would be a great help to the community to face this distress situation. However the declaration of Government pertaining to the provision of 30% additional wage payment has not been reached yet to the community.

The findings of the study carried out in five villages of Kermeti Gram Panchayat were shared & the major findings are depicted below:

- No adequate awareness has been made by Government on Drought Package
- There is considerable crop loss in Kharif Season.
- Community has been facing acute shortage of drinking water.

- In the absence of drinking water facility, women bear the burden to collect water.
- There is lack of efforts by the Government to create water harvesting structures.
- Forest produces are the major source of livelihood but the production has been deteriorated drastically.
- Crop loss has pushed the community to the cycle of indebtedness.
- In the absence of alternative livelihood options in the locality, people have been compelled to migrate.

Sri Samal, official from emergency section in his presentation explained on the cause of drought and the support provision to the drought affected. He emphasized on developing People's plan on addressing drought situation. He told that Government has sanctioned Rs. 16, 000 to each farmer of the affected blocks of Koraput district. Apart from that fees in school and colleges have been exempted, he added. Sri Sahu, another official from emergency section told to report at nearest police station in case the moneylenders are harassing to people to recovery the loan. He spoke on the assistance provided due to loss in heat waves.

### **v. District Level Consultation on Drought in Bolangir District:**

Jan Jagaran Dadan Sangathan organized a one day consultation on drought in Arts Culture Parisad Bhawan at Tikrapada of Saintala block in Bolangir District. As many as 50 people from Kadalimunda and Kudasingha villages from Tikrapada Gram Panchayat, Dukerchakra and Nuamunda villages from Jurabandh Gram Panchayat, and Kendubhata village from Jhinkidungri Gram Panchayat joined this discussion. Among others were the members of Jan Jagaran Dadan Sangathan, farmers, women farmers, PRI Members and media persons.

The JJDS team shared the case studies and findings of Focused Group discussion held on drought in five villages of Bolangir district. Then the participants discussed about the present drought situation in Bolangir district, how it has affected their lives. The discussion was held around the various possible drought mitigation measures for their villages. The farmers discussed how the paddy, cotton and green gram crops they had cultivated

this year were damaged due to drought. The other sources of income are daily wages and collection of non-timber-forest-produces, also have been affected. As per the drought package declared by the Government, minimum input subsidy support is not yet provided to all the farmers. Though in the month of September last year, the Revenue Inspector had inspected the crop fields and reported to the government about the crop loss. He had informed the villagers about the subsidy support but very few farmers have received the input subsidy support so far. In the discussion it clearly came that Government should take immediate support to provide crop insurance support, exemption from school fees, provision of mid day meal support, inclusion of all the affected families under National Food Security Act, creation of irrigation facilities, renovation of traditional water bodies etc. This debilitating drought has also pushed the people to migrate other states in search of livelihood. There are many families who have been migrated for first time to survive their family members.

Finally, a memorandum was developed and decided to submit to the Collector of Bolangir. The ex-Sarpanch Tankadhar Dharua and two representatives from JJDS members took the responsibility to meet the Collector on grievance day and submit the memorandum. The following demands were emerged:

- Restart the Kudasingha canal work and make provision for creating more irrigation facilities
- Provide in time agriculture seed to the farmers
- Increase wage of agriculture workers.
- Create of marketing facility for agricultures produces
- Ensure of land development works in MGNREGA for marginal and small farmers
- Exempt water tax and electric tax
- Provide agriculture loan support in time
- Provide croup insurance and drought package to affected farmers immediately

## vi. District Level Consultation in Kandhmal

A district consultation on drought was organized by ANTARANGA, Kandhamal on 6th June, 2016 in Zilla Sansanskrutika Bhawan, Phulbani, Kandhmal with support of ActionAid Regional Office. Among others, Sri Duguni Konhar, MLA-Phulbani, Sri Hemant Kumar Dash, Assistant Project Director-ATMA, Sri Ashok Parida, Convenor- Phulbani Action Group(PAG), Er. Harishankar Rout, Secretary-SWATI, Sri. Kailash Chandra Dandapat, President-ANTARANGA, Sri Debabrat Patra, Regional Manager-ActionAid RO Bhubaneswar, Sri Pradeep Kumar Dash, District Coordinator-ANTARANGA and PRI Members from Phiringia & Khajuripada blocks were present in the above consultation. About 66 drought affected farmers from 11 blocks (G.Udayagiri, Tikabali, Chakapad, Khajuripada, Phiringia, Phulbani, Balliguda, Raikia, Tumudibandha, K. Nuagaon & Kotagarh) of the district attended this meeting and shared their views and concerns.

Sri Kailash Chandra Dandapat stated that "50% - 60% of people including 70% children in Kandhmal have been affected by drought and faced the water crisis. The water level in the wells has been gone down drastically. Hence availability of water for drinking and domestic use has become a major concern. Skin diseases, diarrhea, malaria, etc. are found to have increased in the district. The drought package declared by Chief Minister has not yet reached to the affected people".

The Regional Manager of Action Aid Sri Debabrat Patra shared that Marathawada and Bundelkhand have been severely affected by drought and faced acute water crisis. The water is pattern has been changed over the period. 90% of water is being spent for sugar cane farming and 1,50,000 liters of water is being used daily for maintenance of field for IPL matches where as a large number of people are being deprived up of getting drinking water.

He also mentioned that millet based mixed farming has been mildly affected by drought. And this farming practices need to be strengthened to face the drought situation. A strong coordination in between government and non government organizations is required to address the emergency situation like drought in the long run.

The Chief Guest of the programme Sri Duguni Konhar, MLA, Phulbani, said that the farmers gradually losing their interest and leaving agriculture due to the loss by drought and other disasters. There is a need to rebuild their interest and keep them motivated for farming. The open grazing of live stock is a major issue in Kandhamal and that need to be checked. Government should extend support for protection of livestock.

The President of ANTARANGA, Sri Kailash Chandra Dandapat stated that despite of the severe drought situation in the state the farmers of Knadhmal have been escaped from the loss due to millet based mixed farming system. And this pattern of agriculture need to be strengthened further by the Government by providing need based support to the farmers as long term drought mitigation measures. Most of the people depend upon the forest to meet their food needs by collecting uncultivated forest produced / Non timber forest produces. Government need to provide right prices for the NTFPs.

The District Coordinator of ANTARANGA Sri Pradeep Kumar Dash shared information about government's actions on post-drought situation in the district. 14,634.856 hec. Of crop land has been affected by drought. 51,521 farmers in 1885 villages under 127 Gram Panchayats of 11 blocks have been affected by drought. Government has released Rs. 10, 11, 27, 000/- to the district administration as input subsidy. And out of this Rs. 8, 28, 36,813/- has been provided to 43,395 farmers as input subsidy. 315 lift irrigation points are not functional out of 483 lift irrigation points exist in the district.

Janak Kumar Kanhar, Phiringia, said "Forest is our only source of alternative livelihoods and it has given us relief from drought. Belala Sen, Chakapad, said "RI has done the assessment of crop loss due to drought but the compensation has not yet reach to me. Nayan Mallick, G. Udayagiri, said "Most of our lands are high land and we depend upon the rain water for agriculture hence water conservation measures should be undertaken by Government to mitigate drought in the long run. Tilama Pradhan, Daringibadi, said " in the absence of the support by government, we managed our livelihood by collecting the uncultivated forest produces from the forest". Sada Majhi, Tumudibandha, said that there is delayed payment for the work under MGNREGS hence people are not interested to work.

The report was shared with the District Collector & Principal Secretary, Agriculture Department, Government of Odisha with a demand to declare Kandhamal as organic District taking necessary action towards promoting millet based mixed farming.



### vii. State Level Workshop on Drought in Odisha

ActionAid in collaboration with the Dalit Adhikar Sangathan, Adivasi Ekta Sangathn, Jagaran, CCWD, CIRTD, Jivan Vikas, Antarnag , Jana Jagarana Dadana Shrimaka Sangha, Odisha Anasangathita Shrimika Sangha, Patang, Seheda, Nirman organised a one day consultation on the drought situation in Odisha.

About 230 people from 7 districts of Odisha like Bargarh, Kandhamal, Sundergarh, Ganjam, Bolangir, Koraput and Nuapada joined this meeting held at Bhubaneswar & shared the drought scenario in the their respective districts.



**The Regional Manager of ActionAid Mr Debabrat Patra** welcomed all the participants and guests and shared the objectives and process of the state level workshop to share the draft findings of the citizen's report. He said that Actionaid has not only done primary assessments in drought but also provided relief (food and seed support) in some districts and monitored the government programmes in the districts. He shared that prior to this we

have done district level consultations in Koraput, Sundergarh, Kandhamal, Bargarh and Bolangir. He briefly shared the context of Odisha and how the

frequency of droughts has been increasing in the state of Odisha. He said that it is important to discuss both the problem and solutions regarding drought and advocate the same in front of policy makers.

Thereafter **B N Durga, Programme Officer, ActionAid** shared the draft findings of the study of citizen's report that was undertaken in seven districts of Odisha. Mr Durga while sharing the report he mentioned that the situation is really bad for small and marginal farmers, landless agricultural workers,



women and children from Dalit and Tribal communities in drought affected districts which we surveyed. With exception of millets, farmers have lost 40-70% of the paddy cultivation. As a result, farmers do not have adequate seeds for the next crop even if there is adequate monsoon. There is also a food scarcity - 70% of the required food is not there for the drought affected families since many of them have not received the ration since February 2016. There is also a decline in harvesting forest produces like tubers, leafs by 40% due to the drought situation. Though Anganwadi Centres are functional, children have not been provided with additional eggs and milk as SC orders on drought. MGNREGS has failed to check migration due to lack of work opportunity and delayed payment. Roughly 20% people have migrated in the villages surveyed. About 57% water bodies created under MGNREGS in 30 villages have been dried up without proper inlet and outlet. Inadequate efforts made by Government to create awareness among the people on the drought package. Even in the extreme drought condition, innovative practices like mixed farming, millet cultivation has saved the day for many farmers in the drought affected districts. Women collectives practicing climate resilient millet and vegetable cultivation have escaped the drought menace.



**Sandeep Chachra, Executive Director, ActionAid** stated that the present drought condition is juxtaposed with the politics of water, its access and control and privatisation. The increasing voice against drought is struggle for water as public commons. Agricultural farmers are becoming unorganised labourers. And it's creating a larger market for labour. In the disparity the people are leaving their land and selling their labour. The Dalit,

Adivasi, Muslim and Women are being differently affected by the situation like drought since they have been historical exploited in different ways and means.

**Rajendra Singh, Magsaysay award winner** and well known water activist said that failure of governance leads to drought and we need to ensure rights of land, seeds, water to people. The people need to govern themselves and takes decision on sustainable conservation of water. The state should take all endeavours to conserve and manage water strengthening Gram Sabha.



**Richard Mohapatra, Managing Editor, Down to Earth** in the inaugural session expressed that drought is no way related to monsoon and less rainfall. It's manifestation is rooted on the lack of long term action towards mitigation of drought. He suggested that MGNREG fund can be utilised towards harvesting to rain water with the participation of people and further steps like strengthening of sustainable

agriculture, increasing forest coverage and animal husbandry can be done to withstand drought in 10 years.

**The Convenor of Paschim Odisha Krushak Sangathan Sri Saroj** stated that the drought is a long term phenomenon and its manifestation is rooted on the lack of political willingness and long terms strategic measures.



**Rukmini Rao, well known agriculture expert** stated the Government should take all the policy measure towards building sustainable agriculture through strengthening of the millet based farming and traditional agriculture. The famers should be supported to produce seeds of their own.

#### **d. Alternatives survived the drought - Innovative Practices from the ground**

The present study has taken an attempt to capture the innovative practices that helps in withstanding drought in long term. The community has realized the particular kind of cropping pattern and agricultural practices has prevented drought and reduce the cop loss. The traditional varieties of seeds are drought resilient and having the potentiality to face the drought. Some of the innovative practices that were found successful in withstanding droughts are given below:

- Sorghum (a variety of little millet) found as the most drought resilient crop which gave good yield even in the extreme drought condition. The farmers of Kandhmal have been practicing mostly millet based mixed farming system with low input cost. During the extreme weather conditions, these crops found to be climate resilient and relatively gave

good yield than paddy. The tribal farmers are still doing cultivation for food. The cultivation has not been influenced by the present market economy of large scale production.

- 789 farmers in Tumudibandh of Kandhmal have been cultivating 26 types of millets and 39 types of pulses, 7 types of Oil Seeds, 5 types of Paddy in 582 acres of land.
- 325 farmers of 20 villages have been working on maintaining purity in 16 types of millets to ensure 90-95% germination. This has helped the farmers in getting good yield in the traditional farming process.
- The chances of cross pollination in millets are relatively less than paddy. The farmers are being supported for conservation of seeds through maintaining purity and application of organic manures, pesticides and insecticides like Jibamruta, bijamruta, panchagabya, general compost, vermin compost, nimashtra, brhmashttra. The farmers can be supported further to shift from physical purity to genetic purity. Since pure varieties of millet seeds were used hence the germination was good and the extent of loss in the present drought situation was very less.
- Farmers conserved climate resilient varieties of seeds and that can be improved further. In the current drought condition the yield of Sorghum has been increased.
- Supporting community to have increased access to uncultivated forest produces in terms of facilitating recognition community rights over forest resources under FRA would help community in mitigating drought situation.

In Kiri Village of Sundergarh the Paudi Bhyan community has constructed indigenous knowledge and technology based water harvesting structure and conserved water for irrigation of 36 acres of land.

## Case Study-11

### **The Traditional Variety of Drought Resistance Crops survived my Family during Drought**

This case study is on how the traditional drought resilient crops had survived from the present drought. Sindhulata Sahu from Bandhupali village shares while chemically produced high yielding varieties of seeds severely affected by the drought, her traditional drought resilient varieties of that was produced organically survived. She says "I live in a joint family that consists of my two sons, two daughter-in laws and one granddaughter. I grow food for my own in the three acres of cultivable land that I own. But this land is entirely rain fed. Like others I depend upon the rain water for agricultural activities in the above land. There was no such effort made by Government to provide irrigation facility. The yield of crops depends upon the rain fall. I used to cultivate high-yielding varieties of paddy, black gram, and green gram like in my land. The high yielding varieties crops requires in time rain fall followed by high input costs for chemical manures, pesticides, insecticides and herbicides. In this system of farming the input cost for farming increased year by year. I had to invest the minimum of Rs 20,000/- for farming of high yielding varieties of paddy in three acres of land other than my own labor. The total return from this investment was 25,000/- to Rs 27,000/-. In 2013, for the first time I started farming of indigenous paddy like Kadlikenda and Kamalshankari in 2 acres of land in organic process using organic manures like jibamruta, Ghanajibamruta, compost, vermin compost, neem oil and Brhmashttra in my paddy crop. The total input cost in this system of production was Rs 5,000/- excluding my labor. However, in return I got 18 quintals of paddy that year which costs of Rs 20,000/-

I felt excited about this and in 2014, again I cultivated indigenous paddy like Kadlikenda and Kamalshankari in 2 acres of land with homemade organic manures that costs Rs 4,000/- except my labor. In return I got 21 quintals of paddy which comes around Rs 25,000/-. In 2015, for third time I cultivated indigenous paddy like Kadlikenda, Bhulu and Kamalshankari in 2 acres of land in traditional method investing Rs. 4,000/- and in return I got 15 quintals of paddy that comes around of Rs 18,000/-. This year the drought hit very badly. The farmers who had cultivated high yielding varieties of paddy have

lost their crops due to drought. But I have not lost my crops as Bhulu, Kamalishankari and kandlikenda are indigenous paddy having the potential resilient drought. Also in this process I had cultivated green gram and black gram in one acre of land and earned worth Rs 900/- from it.

There are 171 families who cultivated paddy in 400 acres of land. Those who had cultivated high yielding and hybrid varieties of paddy, they have lost about 70% of its production. However 38 farmers who had cultivated indigenous varieties of paddy in an average of half acre to 1 acre of their land, they have got 6 to 7 quintals of paddy per acre in an average.

In my village, people are in need of paddy seeds for the next kharif season, whereas I have paddy seeds and food grains enough to survive as I have cultivated the traditional variety of seed. 10 women farmers like me had cultivated 3 acres of land in collective effort in one patch of land and have got 22 quintal of paddy. We had cultivated Bhulu variety of indigenous paddy in it. We are happy that our effort has not gone in vain due to drought; we are able to survive in the drought condition. We have not received any input subsidy from the government yet including the mini kits, pump sets etc.

I am expecting that the government should promote organic farming with indigenous varieties of seeds in drought prone villages. Subsidy should be provided to those who are preparing and using organic manures in their crop fields. Promotion of Mixed, Biodiversity and Sustainable Agriculture Practices in Pagarpadi Village, Tumudibandh Block, Kandhmal District.

Indigenous agriculture practices, crop diversity and indigenous seed diversity had been eroding at the Pagarpadi village. In addition the food and livelihood insecurity of the villagers was also on the rise.

The village Pagarpadi is located in Gunma Gram Panchayat, Tummid Bandha Block of Kandhamal Distirct in Odisha. The village has 25 households, with a total population of 139 (66 men and 73 women). Pagarpadi is a homogenous village, all the households belongs to Kutia Kandh community. They have been enlisted as the Particularly Vulnerable Tribal Group (PVTG) of India. All the households are below the poverty line (BPL). The major natural resources and land use practices at Pagarpadi includes agricultural land and forest land. The recorded agriculture land is spread in

an area of 39.67 acres, and divided into upland, medium land and low land. In addition an area of 25.2 acres of land had been settled as individual rights of under the Forest Rights Act (FRA) in the year 2010. Major occupation of the villagers is agriculture. Major crops cultivated at the Pagarpadi village include indigenous varieties of millets, paddy, pulses, and oilseeds. In addition to the cultivated crops, villagers also collect uncultivated non-timber forest products (NTFPs) such as wild tubers, mushrooms, edible leaves and fruits from the surrounding Kothagarh elephant sanctuary. Primary income generation activities of the households include sale of the surplus oil seeds, millets and pulses, secondary income generation activities include sale of the non-timber forest products (Sal and Siali leaves and hill broom) collected from the surrounding sanctuary and supplementary income generation activities include wage labour.

Before the Intervention of ActionAid the Kutia Kandh community was practicing shifting agriculture along the hill slopes. Shifting cultivation is entirely a rain-fed agriculture system. There was gradual erosion in both the indigenous agricultural practices and crop varieties at the time of our intervention at Pagarpadi village. The root cause for erosion of the indigenous agricultural practices and crops varieties was due to persistent drought conditions, changes in rainfall patterns, and restrictions of the forest department. As a result the area under shifting cultivation has decreased significantly at the time of intervention. All the above mentioned drivers led to decrease in agriculture productivity and loss of the indigenous seed varieties.

In the above scenario ActionAid supported Nirman to intervene at Pagarpadi village in the year 2012 to restore the eroding indigenous farming practices and crop varieties through promotion of mixed, bio-diverse and sustainable agriculture practices. As the first step, a baseline survey of the households was conducted to take stock of the household income and status of the Indigenous agriculture practices, crop varieties and seed diversity. A series of village level meetings on erosion of the indigenous crop diversity, indigenous agriculture practices and sustainable agriculture was conducted to motivate the villagers to revive their indigenous agricultural practices. Women groups were convened at the village and seed support was extended for individual households. Under the seed support programme, in addition to the heirloom available with the individual households, additional

millets and pulses seed varieties had been supplied to the beneficiaries. Training on preparation of organic manure (Jibamruta, bijamruta, panchagabya, general compost, vermin compost, nimashtra, brhmashttra) and on the field demonstration had been provided to the women farmers. Women were encouraged to practice mixed farming in an effort to revive the indigenous mixed and bio-diverse farming system with regular follows up.

Since ActionAid-Nirman's intervention there was an increase in crop seed diversity at Pagarpadi village, for instance, the millet diversity has increased from 06 to 26 species; oil seeds from 02 to 07 species; legumes/pulses from 12 to 39 species; paddy from 02 to 05 varieties. In addition to the seed support provided by ActionAid-Nirman, the other major contributors of increase in seed diversity includes, traditional seed exchange practices and bio-diversity festival, regional and state level workshops and festivals facilitated by ActionAid-Nirman and other seed exchange networks. The average household income has increased by 70%, for instance on an average household sold pulses alone worth INR 14,000/- in the year 2016. The food security of average household also increased since our intervention, the food scarcity per average household before our intervention was 45 days, but decreased to 25 days in 2013, within a year of our intervention. The crop diversity has increased; thereby food security of the Pagarpadi village is stabilized in four years by 2016. Despite the persistent drought conditions prevailing in India and Odisha in general and Kandhamal in particular, the millet based mixed cropping and the food security of Pagarpadi has been mildly affected.

It is necessary to mention here that the food security of Pagarpadi village remain unaffected during natural calamities of the past and present, for instance the local food security has remained unaffected during the previous Phailin cyclone disaster and the present prevailing drought conditions. Observations like these suggest that millet has tremendous potential to withstand natural calamities and secure the food security of local communities. Hence, it may not be wrong to suggest and promote millets as the crop to fight potential food scarcity caused due to human induced climate change and curb food insecurity, however, more research should be conducted in this direction to confirm this with empirical data and

evidences. Tuakala Village Received Titles of Community Rights including Community Forest Resource under the Forest Rights Act 2006

The village Tuakala is primarily inhabited by the one of the Particularly Vulnerable Tribal Groups (PVTGs) i.e. Kutia Kondh in Kandhamal district. They had been customarily dependent on the surrounding forest for subsistence and survival, since the time immemorial. Although there was some level of Government support for the Tuakala village to file claim for their rights over Community Forest Resources under the Forest Rights Act (FRA) 2006, but the support extended by the government was not adequate enough to empower and create awareness among the local community on provisions of the Act. As a result the villagers of Tuakala remained mostly ignorant about the provisions of FRA and rights claim process under the FRA and the file claiming process was never initiated at Tuakala. Further, the villagers were very hesitant to approach the concerned Government officials and seek necessary support to initiate file claiming process for due to the red tapism. In this background NIRMAL supported to the community in the year 2014-15, to file claim for their rights over CFR under the FRA initiating necessary process.

Tuakala village is located in Belghar Gram Panchayat, of Tummidibandh block, in Kandhamal district of Odisha. The village has a total 25 households, with a total population of 112 (men 53, women 59). Tuakala is a homogenous village, all the households belong to Kutia Kondh community. Kutia Kondh has been identified as the Particularly Vulnerable Tribal Group (PVTG) of Odisha. All the households are below the poverty line (BPL). The major natural resources and land use pattern includes agriculture land and forest land. The recorded agriculture land is spread in an area of 61.49 acres, and divided into upland, medium land and low land. Major occupation of the villagers is agriculture. Major crops cultivated at the Tuakala village include indigenous varieties of millets, paddy, pulses, and oilseeds. In addition, villagers also collect uncultivated non-timber forest products (NTFPs) such as wild tubers, mushrooms, edible leaves and fruits from the surrounding Belghar reserve forest. Primary household income generation activities include sale of the surplus oil seeds, millets and pulses, secondary income generation activities include sale of the NTFPs like, Sal and Siali leaves and hill broom, collected from the surrounding reserve and

supplementary income generation activities include wage labour.

Nirman's intervention: Nirman intervened in the year 2014, and supported the Kutia Kandh community of Tuakala village to file claim for recognition of rights over CFR under the FRA. A village level meeting was conducted in the year 2014 and the community was facilitated to convene the forest rights committee (FRC) at the village. The FRC constitution resolution was collected from the respective block level welfare office; to initiate the process. An awareness programme on FRA was conducted at the village to create awareness among the villagers on provisions of the FRA. Following the awareness programme, a notification was sent to Gram Sabha from the Gram Panchayat to initiate the process of CFR claim under the FRA. Participatory natural resources appraisal (PNRA) exercise was conducted for identification and mapping of the traditional forest boundaries, natural resources, customary land, forest resource use pattern and the resource governance system. Another meeting of Gram Sabha conducted and discussion made on joint verification and subsequently the concerned officials of the revenue department, forest department were intimated through a letter to participate in the joint verification process. Despite the intimation, none of the officials of any department visited the village for joint verification. A second letter was sent to the officials requesting them to initiate and participate in the joint verification process. But everything went in vain. Since the Government officials were reluctant to join the joint verification process, the villagers of Tuakala undertook the joint verification process of their own. Subsequently, meeting of Gram Sabha held and a resolution passed to submit the CFR. Hence the claim of CFR in the prescribed format along with the required documents was submitted to the SDLC. After series of follow up and filing of RTI, the CFR claim was approved by the Sub-Division Level Committee. The District Level Committee in the end issued title of CFR to the Tuakala village in January, 2016. Our intervention towards mobilizing community, supporting them in understanding law and initiating necessary process and further follow up was significant in getting recognition of the rights.

Recognition of rights of the community over the community forest has built up their confidence and increased their access to forest and uncultivated forest produces. During the present drought situation the community has met

about 30% of their requirement from the forest. They collected different kind of tubers, leaves, extracts from the forest and met the food need.

The community is in the process to organize a forest management committee and develop management plan for sustainable management of the CFR. Traditional Seeds Prove Drought Resilient

Village Talasar in Buguda block of Ganjam district is a small village of 63 households located 22 km away from the Block office in a remote area surrounded by forest land and hills. Until recently there had been no good communication to this village. Most inhabitants of Talasar (61 out of the 63 households) belong to poor tribal community of Kondh maintaining their livelihood on agriculture.

Total 49 households of this village have 245 acres of patta (entitled) land while there are 13 numbers of landless farmers and 6 numbers of share croppers. The community also cultivates non-patta land of 103 acres. The agricultural land is totally rainfed as there is lack of any irrigation facility. The village community used to sow traditional varieties of seeds since long. However, today, only 4 to 5 households use traditional varieties of seeds in cultivation. The rest sow either the HYV seeds or both HYV and traditional ones. Among the traditional seeds included are millet chanra, ragi (finger millet), black gram, green gram and paddy varieties like Rattanchuri and Nadiarasa.

As farmers follow conventional methods of farming and depend wholly on rainfall for a good harvest, food security is one of the chief problems of the village. The food grains which the community yields are insufficient to feed the people for the whole year. They support the population only for 7 to 8 months. So the youths migrate to other parts of the country in search for a job for 2 to 3 months. However, the drought in the Kharif season of 2015 has aggravated the situation further. With a poor harvest hardly sufficient to support 2 to 3 months of food, the poverty stricken community has been undergoing unspeakable maladies more so due to the highhandedness of the government officials. No compensation worth the name (only 13 out of the 62 victim households received the package) or loan facility was provided to them. The farmers made loans from local money lenders at 36 per cent rate of interest per annum. The government's MGNREGA scheme

failed to create enough man-days of work for the youths leading them to migrate to distant places for more than 6 months to earn their livelihood and repay the family debt.

The crops that suffered heavy losses in the drought mostly consisted of HYV varieties of paddy and maize apart from some hybrid varieties of vegetables. They suffered about 70 to 75 per cent of damage. However, the millets and especially, the finger millet crop sustained minimum loss. About 50 per cent of these crops survived even to this severe drought. Then State Agriculture Department provided seeds of green gram in the form of 40 numbers of mini kits (3 kg each) to farmers for the Rabi season. But there was below normal or scanty rainfall once again and these hybrid seeds did not survive the onslaught.

Nevertheless, the drought has shattered the economy of the farmers, but it has taught them a lesson that would help them recoil from the shock in the next sowing season, the coming Khariff. They have learnt that they would sow the traditional rather than the hybrid or high-yielding varieties of seeds that require more rain or more water in the field. Since they are determined now to sow these traditional drought resilient seeds, they are going to put their demand at the authorities for their supply.

The farmers hope that sowing of such seeds would result in better harvest even in the face of climate change and drought, and solve the problem of food insecurity and indebtedness.

## Section -III

### **Recommendations:**

The Study depicts the following recommendations keeping in view of the suggestions from the field:

#### **Prioritise the need of disadvantaged Community:**

- The drought mitigation measures should take into consideration of the caste and social dynamics prevalent in the villages. The people in dire need and the poorest need to be identified and reached out first as an effective way to reduce the vulnerabilities of the disadvantaged community.

#### **Support the Small and Marginal farmers:**

- The small and marginal farmers and share croppers are found to be the most disadvantaged groups. Hence they should be supported with agricultural inputs, long term credit facility and assured irrigation to meet the drought situation.
- Timely agricultural input support would be great help to the farmers in reviving the crops of next season.

#### **Promote Water Harvesting Measures:**

- Rain water harvesting measures should be undertaken as long terms measures to mitigate drought situation. This should be prioritized in the rain fed areas and the most water scarcity zone in terms of construction of small check dams, percolation tanks, farm ponds, small check dams, stream chamber, increase of green coverage, rejuvenation of depleted forest, insitu conservation of water etc.
- The traditional / old water bodies need to be renovated as water conservation measures. And new water bodies should be created delineating proper inlet and outlet.

- Soil & moisture conservation measures should be undertaken through gully plugging, contour-trenching, contour bonding.
- The indigenous knowledge and techniques related to water conservation should be recollected and make use for promotion of small, effective and low cost water conservation measures.
- Make use of MGNREGS for promotion of water harvesting structures.

### **Strengthen Innovative Practices (Climate Resilient Sustainable Agriculture):**

- The traditional variety of paddy which is climate resilient is being replaced by the high yielding varieties of seeds. Locally relevant climate resilient varieties of seeds, drought resilient millet based mixed cropping should be promoted to increase the land productivity. Agricultural input support and long term credit facility is very important in this process. Also Support small and marginal farmers for fencing of their land.
- Community based grain bank and seed bank should be promoted to ensure food and seed security.
- Model building can be done in terms of promoting organic farming in a tribal district like Kandhmal.

### **Strengthen Collective Farming and Ensure Land to Land Less:**

- Provide incentive to the women collective and farmers engaged in millet based mixed cropping and drought resilient crops, and maintaining of seed varieties and seed purities.
- Single women should be provided with land, input supports and credit facility for collective farming.
- Support women entrepreneurs for production and marketing of organic pesticides & bacteria culture called Jibamruta, Bijamruta, Panchagabya, General Compost, Vermin Compost, Nimashtra, Brahmashtra Ghana Jibamrut, Brahmastra, and Neem oil.
- Provide land to the land less and ensure physical possession of land. And support them further with agriculture input, long term credit support.

- Necessary institutional support should be extended for group based irrigation and collective farming towards enhancing the productivity of the land and resources of marginal farmers.
- Ensure speedy settlement of the claims (individual and community) under FRA to facilitate people access to forest and common resources which were found life saving in the crisis situation.
- The forest department should take proactive action towards preparing community forest management plan so as to ensure the livelihoods for the forest dwelling communities.
- The Gram Sabha need to be consulted to make judicious use of the CAMPA fund towards generating forest based livelihoods of the community.
- People who have received titles for their rights over forest land should be linked with different entitlements like housing, horticulture, and land development etc as mentioned in the FRA 2006.

### **Heat wave:**

With ever growing temperatures, the globe is experiencing increasing heat wave conditions. Odisha is at the receiving end due to both global and local reasons. Odisha government has done well to reduce deaths due to heat wave; however it needs a lot of intervention to reduce all vulnerabilities related to heat wave conditions. The ex-gratia support to heat wave death victims be enhanced at par to Rs. 4.00 lacs with other calamities. The process of assessing heat wave deaths needs to be simplified without any burden to the victims' families. To reduce the death toll to complete Zero, the preparedness actions need to be augmented and monitored in much better ways – by involving all stakeholders. Health facilities in the rural areas need to be improved; health insurance facilities must include one and all. Provisions be increased and improved for Kendu Leaf pluckers, MGNREGS wage labourers, construction workers and other people who are more vulnerable to heat waves. Effective monitoring of heat wave conditions and deaths of the animals, both near human habitations and inside the forested areas, needs to be introduced. Industrialization, mining and urbanization process in the state must consider integrating green policies and practices. Forestry, including urban forestry, needs to be promoted and strengthened. Desertification and land degradation process needs to be

arrested with strategic and strong interventions. The state climate change action plan needs to further strengthened and monitored on a regular basis. Special arrangement need to be done for the women most specifically pregnant women, children, old aged person to protect them from heat wave.

### **Drought Response & Accountibilities of the State:**

The state government needs to strengthen the existing mechanism and undertaken immediate assessment of the drought by enhancing its forecasting procedure and using the technology. Along with this the drought declaration and action need to be taken immediately and proactively by releasing the fund for quick action in the ground.

As per the order of the Supreme Court, the state government should allocate sufficient fund and revisit the existing drought code through involving the civil society organizations, independent agencies and experts and drought affected communities.

Also the state government need respond the drought situation actively and through undertaking long term measures of development.

### **Way Forward**

A plan of long term sustainable development measures that focus on right based approach can bring solution to meet the drought situation. Providing land titles to women for their ownership over agriculture land, supporting for construction of small water harvesting structures, encouraging them to practice traditional climate resilient agriculture & linking them with social security schemes are vital in mitigation of drought.

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**OFFICE OF THE DIRECTOR OF HORTICULTURE, ODISHA, BHUBANESWAR**

Letter No. 2MA (H<sub>1</sub>)108/15 1/6905 Hort.Dt. 03.06.2016

To

The Dy. Director <sup>of</sup> Horticulture (All, except Malkangiri).  
Asst. Director of Horticulture (All, except Jagatsingpur & Kendrapara).

**Sub-Drought Package-2015 for farmers of moisture stress affected areas-  
Modalities for seed supply.**

Sir,

Enclosed, please find herewith copy the Govt. letter No. Hort.(NHM)-68/015-9224/Ag dt. 30.05.2016 along with it's enclosure which is self-explanatory. You are requested to go through the above modalities during sale of vegetable seeds at subsidized rate in moisture stress areas for the year 2015-16 and follow it strictly.

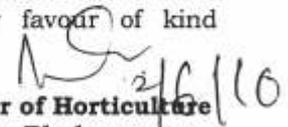
Yours faithfully,

  
Director of Horticulture  
Odisha, Bhubaneswar.

Memo No. 1/6906

Hort./dt 03.06.2016

Copy submitted to the Joint Secretary to Govt. in Agriculture & Farmer's Empowerment Department, Govt. of Odisha, Bhubaneswar for favour of kind information.

  
Director of Horticulture  
Odisha, Bhubaneswar

En. Verou copy  
sent   
03.06.16

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GOVERNMENT OF ODISHA  
DEPARTMENT OF AGRICULTURE & FARMERS' EMPOWERMENT

No-Hort. (M) -68/2015 9224 /Ag Date. 30/5/16

From

ALLO (MANDEGA)

Smt Mary Lakra, OAS (S)  
Joint Secretary to Govt.

To

DO

The Director, Horticulture  
Odisha, Bhubaneswar

Most Urgent  
Kindly circulate to  
all concerned for  
strict adherence  
to guidelines

Sub: Drought Package- 2015 for farmers of moisture stress affected areas-  
Modalities for seed supply.

Sir,

I am directed to invite reference to your UOI No.25 dt.30.04.2016 on the  
subject cited above & to say that Government have been pleased to approve  
the revised modalities for sale of vegetable seeds at subsidized rate in the  
areas having moisture stress during 2015-16.

The approved copy of the revised modalities is sent herewith for further  
action at your end.

Yours faithfully,

*(Signature)*  
Joint Secretary to Govt.

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**MODALITIES FOR SALE OF VEGETABLE SEEDS AT SUBSIDIZED RATE IN THE AREAS HAVING MOISTURE STRESS DURING 2015-16**

Government in Revenue and Disaster Management Department has declared 233 blocks in 27 district as moisture stress affected. Govt. has declared subsidized sale of vegetable seeds to 5 lakh farmers in those blocks. The vegetable seed will be sold at 75% for open pollinated varieties. About 25000 farmers has already availed the subsidy during Rabi and as per discussion in the meeting held on 20.01.2016 under the Chairmanship of Principal Secretary to Government, the programme will continue during Kharif 2016.

**Modalities for seed supply**

- i. Only open pollinated varieties of the crops approved in the State Level Seed Pricing Committee meeting held on 05.10.2015 will be supplied to the farmers at 75% subsidy leaving crops like pea and french bean which are not suitable for the season.
- ii. 5 lakh farmers will be covered under Chief Minister's special package. Each farmer can avail subsidy for maximum area of 0.1 ha (0.25 acre). The farmer can take up a single crop or multiple crops but subsidy will be limited to 0.1 ha.
- iii. This will maximize the vegetable production and provide early return to the farmers.
- iv. As the farmers have lost their crop, the seed supply will continue till next kharif (June, 2016) to ensure better return to the affected farmers.
- v. The DDH/ADH will select the farmers. During selection of farmers due care should be taken to select genuine farmer and representation from all sectors in the notified block. PRI members, Staffs of Directorate of Agriculture & Food Production, OTELP, Soil Conservation etc may be involved for this purpose. The bank account in the MGNREGS cases is also to be obtained.
- vi. The selected farmer will procure seeds from a seed dealer having valid license issued by the Directorate of Agriculture and Food Production, Odisha or Directorate of Horticulture, Odisha. The choice of seed / crop/ dealer is vested on the farmer as there is a large number of varieties of vegetables available in the market & choice of a variety vary from farmer to farmer even in the same locality.
- vii. The list of seed dealers having valid license has to be displayed in the office of DDH, ADH and AHO in a visible location for awareness of farmers.
- viii. The seed dealer will maintain a separate list of farmers willing to avail subsidy. The AHO and his staff should obtain the list on a fortnightly basis.
- ix. The AHO and his staff shall visit the farmers field and take a photograph of the field of the farmer with GPS tag and obtain a copy of invoice of seed and 1<sup>st</sup> page of bank pass book. The AHO shall verify the authenticity of the documents and seedlings grown and recommend for release of subsidy to the DDH/ADH.
- x. The DDH/ADH will release the subsidy in to the bank accounts of the beneficiary as DBT within 15 days from the receipt of the claim from the AHO/HO at the rate approved by the State Seed Pricing Committee held on 05.10.2015 (copy enclosed).

- xi. The handling charges allowed will be expended for advertisement and office contingency.
- xii. Directorate of Horticulture has already released funds under the scheme "Development of Potato, Vegetables and Spices" to the DDH / ADH basing on the number of blocks affected. The amount already allotted should not be exceeded by the DDH / ADH.
- xiii. The list of farmers, seed supplied and subsidy released will be maintained at Block, Sub-division and district level in hard and soft form and a copy pasted on the notice board of the Gram Panchayat.
- xiv. The progress on farmers covered will be informed to the Directorate of Horticulture on weekly basis and the list will be displayed in the website.

Sl No.	Name of the Vegetable	Requirement of vegetable seed for 0.25 acre (in kg)	*All in cost (Rs./Kg)	*Subsidy @75% (Rs./Kg)	*Handling Charges at ADH level (2%) (Rs/Kg)
1	2	3	4	5	6
1	Brinjal	0.050	497	373	9
2	Chilli	0.080	572	429	11
3	Cowpea	2.000	162	122	3
4	Bitter gourd	0.500	1652	1239	31
5	Ridge gourd	0.500	486	365	9
6	Pumpkin	0.500	1890	1418	35
7	Bottle gourd	0.350	950	713	18
8	Okra	1.500	378	284	7
9	Radish	1.000	292	219	5
10	Tomato	0.050	810	608	15

\* As approved in the SLSPC held on 05.10.2015

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Chief Minister Smt Naveen Pattnaik  
announces

**Drought Package - 2015**

Agriculture input subsidy will be provided to the small and marginal farmers who have sustained crop loss of 33% and above @ Rs.6,800/- per hectare of land in rainfed/ non-irrigated areas and Rs.13,500/- per hectare of land in areas under assured irrigation. Agriculture input subsidy will also be provided to farmer other than small and marginal farmers at the same rates subject to a ceiling of two hectare per farmer. For perennial crops the assistance shall be provided @ Rs.18,000/- per hectare. The assistance shall be provided to the Actual Cultivators.

Farmers affected by drought in Khariff will be provided fresh finance for Rabi cultivation during the current Rabi season which has commenced from 1<sup>st</sup> of October this year. This could be to the tune of 4500 crores.

The Government is fully aware of the present drought situation and is committed to protect the interest of farmers. Short term Khariff-loans will be converted to medium term loans in drought affected areas in cases of 50% and above crop damage. The rate of interest of short term loans will be applicable for converted medium term loans. This shall be done through interest subvention of 227.38 crores over a period of 3 years for bringing down the interest rate to 5% for the crop loans availed by the farmers.

District administration shall keep a close watch on money lenders and other unscrupulous elements causing financial hardship to the farmers and police will initiate tough action

against such elements under the Odisha Money Lenders Act and various sections of the Cr. P.C. SPs will have the responsibility to proactively do this. DIGs will review this.

5. 50% remission in respect of cess on land revenue will be given to farmers where the crop loss is 33% or more. Collection of the remaining amount will be deferred to the next financial year without levying any interest.
6. Tuition fees and examination fees in Government and aided Schools and Colleges in drought affected areas shall be waived.
7. 40,000 pump sets shall be provided through Odisha Agro-Industries Corporation with 50% subsidy limited to Rs. 15,000/- to the framers with priority to the rainfed areas. Besides, availability of pump sets in different Agro Service Centres shall be publicised to enable the farmers to hire the same to save their standing crops.
8. Odisha Lift Irrigation Corporation shall take immediate steps to repair the defunct LI Points. Energy Department shall energise the LI Points immediately. Necessary arrangement shall be made for providing diesel generator sets with submersible pump sets to the newly installed deep bore wells where supply of electricity is not possible at present. The district level committee constituted to revive defunct LI Points should start the work immediately and complete the same by by 31<sup>st</sup> December.

Steps have been taken to energise deep bore wells of 13,000 farmers.

OAIC  
Agri. Dept.  
in  
with  
Raj  
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convert  
panchayat

10. 4 Lakh pulse minikits, 1 lakh oilseed minikits and 5 lakh vegetable minikits will be supplied to the farmers for the Rabi Programme.
11. MGNREGA works will be taken up by the Panchayati Raj Department to establish water harvesting structures/de-silting of field channels, diversion weirs, etc. Our Government will provide 50 days of additional work over and above the 150 days announced by the Government of India in drought affected areas.
12. Food assistance @ 1 kg per adult and 500 gram per child shall be provided to people in dire need of immediate sustenance up to 60 days, as assessed by the Collectors.
13. About Rs. 1,000 crores will be spent to mitigate the drought situation in the State. The government will take all out efforts towards drought mitigation and protection of interest of farmers.
14. Government of India will be requested to provide interest incentive @3% for MCT loans i.e. at par with crop loans for prompt paying farmers which will help the farmers in making repayment at 5% rate of interest.
15. Government had undertaken exemplary works for the protection of interest of farmers during the 2010 and 2011 drought. It will continue to work in a dedicated manner to mitigate the difficulties experienced at present by the farmers in the drought affected areas of the State.

**Gokul Chandra Pati, IAS**  
Chief Secretary, Odisha



GOVERNMENT OF ODISHA

Phone : (+91 674) 2536700/4300

Fax : (+91 674) 2536660

Email : csori@nic.in

RDM-RLF-DROT-0020-2015  
No. 4408 /CS

Bhubaneswar, dated the 30<sup>th</sup> Oct., 2015

To

All Revenue Divisional Commissioners/  
All Collectors.

**Sub: Measures to mitigate drought like situation in some blocks/districts.**

Madam/Sir,

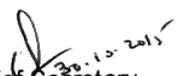
With a view to address drought like situation in some areas of the state, the State Government have decided to take the following immediate measures to be taken by all concerned:-

1. The Collectors will immediately form teams comprising of field level officials of Revenue, Agriculture, Cooperation and Water Resources Departments which will conduct sensitization and counselling camps at Gram Panchayat and village level in areas experiencing moisture stress. This will start immediately. All Tahasildars, BDOs and Senior field level officers of Agriculture, Cooperation and Water Resources Departments will visit ten such sensitisation camps daily and report to the Collector.
2. Such teams will sensitize the affected farmers regarding the package of assistance announced by the Government and all possible relief measures including available schemes to benefit the farmers. Further, these teams will keep close watch over local money lenders and immediately report incidents of debt related harassment of farmers to the police. The expenditure in connection with conduct of sensitization camps will be met by the Agriculture Department.
3. The teams will take steps for establishment of 'Farmers Clubs' in each affected village which will act as a medium between the affected farmers and the administration.
4. Steps should be taken to strengthen "Samadhaan Sibirs" in drought affected areas. These may be held as per a specified schedule to be chalked out by Collectors for senior officers of districts. The efforts should aim to reach out to all the farmers in affected villages.
5. For effective monitoring of this exercise, a 24-hour Control Room-Cum-Help Desk must start functioning immediately at Block and Tahasil levels besides District Emergency Operation Centre in the District Emergency Section of the Collectorate. Suitable number of personnel may be deployed in shifts in such Control Room-Cum-Help Desks. Such personnel may be properly oriented both on the subject matter and etiquette. Availability of at least one telephone in proper working condition must be ensured. The Collector will immediately notify the telephone numbers of all Control Room-Cum-Help Desks in the district for information of public.

6. The State Government had announced the Drought Package on 15.10.2015 which has been circulated among all the Collectors. In addition, the Government have taken the following decisions, which may be implemented forthwith.
- a. Recovery of all crop loans extended by Cooperative Societies in the affected Blocks as per eye estimation survey report is deferred with immediate effect. Re-phasing of the recovery schedule of such crop loans shall be made as per the announcement made in the Drought Package declared by the Government on 15.10.2015.
  - b. The Commercial Banks have been requested to take similar steps in respect of crop loans of farmers of the affected areas. In addition, the banks will take immediate action for disbursement of loans for Rabi Crops. Suitable cropping programme should be implemented taking into account the availability of residual moisture, irrigation water and other inputs. District level Bankers' meeting shall be convened by the Collectors within two days to discuss regarding rescheduling of crop loans and other emergency loan related issues.
  - c. Keeping in view the present distress conditions, collection of Water Cess in the drought affected districts for this year is waived.
  - d. Steps will be taken to create large water tanks through MGNREGA in every affected Gram Panchayat, wherever feasible. Sites for such tanks shall be identified within 2 days and work should start in 7 days following due procedure.
  - e. An additional 30% of the wage shall be paid to the labourers engaged MGNREGS in drought affected blocks as Drought Allowance. Expenditure on this shall be met by the State Government. Panchayati Raj Department will issue necessary instructions in this regard.
  - f. Development of private lands of the affected farmers can be taken up as a component under MGNREGS as an additional relief measure.
  - g. The Collectors and SPs shall strictly monitor the money lending activities in rain deficit areas and taken immediate action as per the Odisha Money Lenders Act, 1939. Joint teams of revenue and police should be formed for this. Action taken report in this regard must reach the Government in Home Department on a daily basis.
  - h. When any suicide case is reported in areas experiencing moisture stress, the joint enquiry report of Collector and SP must reach the Government in Home Department within 24 hrs with copy to Agriculture Department.
  - i. Disbursement of agriculture input subsidy must start latest by 10<sup>th</sup> November, 2015 as per the detailed instructions issued in this regard by the Special Relief Commissioner on 18.08.2015, 26.09.2015 and on 29.10.2015.

I would request you to take immediate steps to implement the above decisions of the Government and send a compliance report on each action point by 31.10.2015.

Yours faithfully,

  
Chief Secretary

Government of Odisha  
Revenue & Disaster Management Department  
(Special Relief)  
Rajiv Bhawan, Ground Floor, Unit-V, Bhubaneswar-751 001

No. 3654 / R & DM (SR)      Date: 18.8.2015  
RDM-RLF-MISC-0025-2015

From

G.V.V Sarma  
Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

To

All Collectors

Sub: Modalities for assessment of crop loss due to Natural Disasters and payment of Agriculture Input Subsidy to the affected farmers

Sir/ Madam,

Under the Revised Items & Norms of assistance from the State Disaster Response Fund (SDRF) & National Disaster Response Fund (NDRF) for the period 2015-2020 issued by the Government of India, revised provisions have been made for payment of agriculture input subsidy where the crop loss is 33% and above against the earlier provision for payment of such assistance for crop loss of 50% and above.

The State Government do hereby lay down the following modalities to be followed for assessment of crop loss due to natural disasters, identification of affected farmers and payment of agriculture input subsidy.

1. There shall be two modes of crop loss assessment, i.e.
  - (i) Crop loss assessment of individual farmers through eye estimation,
  - (ii) Crop cutting experiment.
2. Crop loss assessment of individual farmers through eye estimation:
  - a. Crop loss in limited scale may occur due to localized disasters like hailstorm, whirlwind and tornado. For such limited scale of crop loss, assessment of loss of individual farmers shall be made through field verification and eye estimation by a team of officials of Revenue & Disaster Management Department and Agriculture Department (including horticulture personnel) in the affected villages. The team shall comprise of :-
    - i. R.I (Assistant R.I. or Amin, where R.I. is not available)
    - ii. VAW (A.O., where VAW is not available)
    - iii. H.E.W. (Gardener/ Grafter, where H.E.W. is not available)

- b. All attempts shall be made by the team to make the survey as accurate as possible. While making the survey, a grid approach shall be followed.
  - c. The team will prepare a list of affected farmers who have sustained crop loss of 33% and above, type of crop cultivated, area under cultivation, type of cultivation (i.e. own or share cropping, etc.) and other relevant information. All types of crops cultivated in the affected area shall be included in the survey. In case of urgent need, manpower from other non-affected areas shall be pooled and utilized for the survey. The survey should be completed within 2 days.
  - d. Data base of cropped area and farmers shall be prepared by the Agriculture Department at appropriate level in advance and communicated to the Collectors of the Districts by the end of August every year so that valuable time is saved in preparing the list of farmers crop wise.
  - e. The list so prepared shall be displayed at a conspicuous place in the village inviting objections, if any, relating to the list. A period of three days shall be given for filing of objections. During this period, the team will conduct survey in other nearby villages.
  - f. A "Village Level Committee" will be constituted comprising of the following members to hear the objections :-
    - i. Sarpanch / Seniormost Ward Member in case Sarpanch is not available
    - ii. Land Owners cultivating their own land:
 

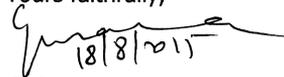
• Marginal farmers (< 1 ha.)	-	2 members
• Small farmers (1-2 ha.)	-	2 members
• Semi-medium farmers (2-4 ha.)	-	2 members
• Medium farmers (4-10 ha.)	-	2 members
• Large farmers (> 10 ha.)	-	2 members
    - iii. All members of Joint Survey Team
  - g. R.I. shall be the Convenor of the Village Level Committee who will convene the meeting immediately after expiry of the period for filing of objections relating to the draft list.
  - h. The Committee will hear the individual farmers, who have filed objections and resolve all objections as per factual position in the field. Once the objections are resolved, no further objection shall be entertained thereafter.
3. Crop loss assessment through Crop Cutting Experiment :-
- a. Crop loss in large scale over large geographical area may occur mainly due to flood, cyclone and drought.
  - b. In case of flood, the initial assessment of crop loss shall be made through field verification and eye estimation by a team of officials of Revenue & Disaster Management Department and Agriculture Department including horticulture personnel. At the time of eye

- estimation, the actual area under inundation may be taken into consideration. Further, the same will be cross-checked with the inundation data to be obtained from National Remote Sensing Centre /Odisha Space Application Centre.
- c. Based on the above information and field verification, the team will identify the area (grid) in the village expected to have suffered crop loss of 33% and above. The grid shall be identified using GPS. Area beyond the identified grid shall not be taken into consideration for assessment of crop loss.
  - d. Loss of vegetables and other horticulture crops within the grid shall be determined during field verification indicated under clause (c).
  - e. The assessment of crop loss in respect of paddy and other major crops in the grid shall, however, be taken up through crop cutting experiment, when the crop is ready for harvest, to determine the actual extent of loss.
  - f. Crop loss assessment on account of cyclone shall be taken up through field verification & eye estimation by the team of officials and crop cutting experiment as in case of flood. The entire village will form the grid for assessment.
  - g. In case of drought, crop loss assessment shall be taken up through eye estimation by the team of officials and crop cutting experiment. The low land / irrigated land (if water was actually available) shall normally be excluded from grid for assessment of crop loss. The rainfall data compiled by the Office of the Special Relief Commissioner and the bulletins issued by National Remote Sensing Centre (NRSC) under National Agricultural Drought Assessment and Monitoring System (NADAMS) shall also be referred to.
4. The crop cutting experiment shall be carried out as per the provisions laid down under the Odisha Relief Code and the executive instructions appended thereto subject to the following variations:
- a. For each affected grid in a Revenue village, the number of samples to be taken for crop cutting will depend on the area of the grid. A minimum of two and a maximum of ten samples crop cutting per affected village will be conducted jointly by officials of Agriculture Department, Revenue & Disaster Management Department and Director, Economics and Statistics for assessing the actual crop loss. The number of samples to be taken for crop cutting experiment should be calculated as follows:
    - i. Cultivated Area- <10 ha. - 2 samples
    - ii. Cultivated Area- 10-25 ha.- 4 samples
    - iii. Cultivated Area- 26-50 ha. - 6 samples
    - iv. Cultivated Area- 50-100 ha.- 8 samples
    - v. Cultivated Area- >100 ha.- 10 samples

Any two samples will be taken up at least 50 meters apart.

- b. The entire crop cutting process for each village should be completed within 7 days.
  - c. The technology recommended by Mahalanobis National Crop Forest Centre (MNCFC) for assessing crop yield may also be used for the purpose wherever possible.
  - d. The final crop cutting experiment report with the list of affected farmers (with crop loss more than 33%) should be transmitted to the Tahasil level by the next day of finalisation of such list.
  - e. Since the number of crop cutting experiments will be much higher than the number as per the present practice, the Tahasil, Sub-division and District level officials will make maximum possible random cross verifications.
5. The normal yield shall be determined by the Director, Economics & Statistics taking into account the yield of best six years out of last ten years.
  6. The crop loss shall be quantified in two categories i.e. 33% to 66% and above 66%.
  7. Agriculture input subsidy shall be paid to the actual cultivators i.e. the share croppers/ lessees based on field enquiry and verification.
  8. Similar procedure shall be followed in case of deity land under cultivation by share croppers/ lessees.
  9. In case of other privileged Rayats like widow and differentially-abled persons, etc, agriculture input subsidy shall be paid to the Rayats.
  10. Rayats allotted land under the Forest Rights Act, for which Title has been issued, shall be enumerated for payment of agriculture input subsidy.
  11. Government land under unauthorized occupation/ encroachment shall not be taken into consideration for enumeration for payment of agriculture input subsidy.
  12. All payments of agriculture input subsidy shall be made through e-transfer to the accounts of beneficiaries.

Yours faithfully,



Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo No. 3655 Date: 18/08/2015

Copy forwarded to the P.S. to Minister, Revenue & DM/ P.S. to Minister, Agriculture/ P.S. to Minister, Cooperation for kind information of Minister, Revenue & DM/ Minister, Agriculture/ Minister, Cooperation.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Memo No. 3656 Date: 18.8.2015

Copy forwarded to the OSD to Chief Secretary / P.S to Development Commissioner / P.S to Additional Chief Secretary to Chief Minister for kind information of Chief Secretary / Development Commissioner / Additional Chief Secretary to Chief Minister.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Memo No. 3657 Date: 18.8.2015

Copy forwarded to the Accountant General (A &E), Odisha, Bhubaneswar for information and necessary action.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Memo No. 3658 Date: 18.8.2015

Copy forwarded to the Principal Secretary to Government, Revenue & DM Department / Agriculture Department / Cooperation Department for information and necessary action.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Memo No. 3659 Date: 18.8.2015

Copy forwarded to the RDC, Central Division, Cuttack / Southern Division, Berhampur / Northern Division, Sambalpur for information and necessary action.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Memo No. 3660 Date: 18.8.2015

Copy forwarded to the Commissioner-cum-Director Agriculture & Food Production/ Director, Horticulture/ Director, Economics & Statistics/ Chief Executive, ORSAC for information and necessary action.



Deputy Relief Commissioner &  
*ex-officio* Deputy Secy. to Govt.

Government of Odisha  
Revenue & Disaster Management Department  
(Special Relief)  
Rajiv Bhawan (Ground Floor), Bhubaneswar-751001

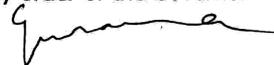
No. 4519 /R&DM(SR) Date: 07.11.2015

NOTIFICATION

In pursuance of the provision contained in Paragraph 29(b) of the Odisha Relief Code, the Government have been pleased to declare all the villages of 139 Blocks in 21 districts of the State as per Annexure as drought affected during Kharif 2015.

ORDER : Ordered that this Notification be published in the next issue of Odisha Gazette.

By order of the Governor



Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo No. 4520 /R&DM(SR) Date: 07.11.2015

Copy along with the copy of the Annexure forwarded to the Director, Printing, Stationary and Publication, Odisha, Cuttack for publication in the next Extra-ordinary issue of the Odisha Gazette and supply 100 copies to Revenue & D.M.(Special Relief) Department.



Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo No. 4521 /R&DM(SR) Date: 07.11.2015

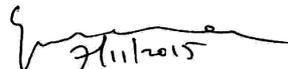
Copy along with the copy of the Annexure forwarded to the Secretary to Governor / P.S. to Hon'ble Chief Minister, Odisha / P.S. to all Ministers/ P.S to all Ministers of State / O.S.D. to Chief Secretary, Odisha/ P.S to Development Commissioner/ P.S to Agriculture Production Commissioner for kind information of Hon'ble Chief Minister / All Minister / All Minister of State/ Chief Secretary / Development Commissioner / Agriculture Production commissioner.



Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo No. 4522 /R&DM(SR) Date: 07.11.2015

Copy along with the copy of the Annexure forwarded to Secretaries of all Departments for information and necessary action.



Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

ANNEXURE

LIST OF BLOCKS AFFECTED BY DROUGHT DURING KHARIF -2015

Sl. No.	Name of the District	Sl. No.	Name of the Block
1	Angul	1	Athamallik
2	Balasore	2	Jaleswar
		3	Bhograi
		4	Nilagiri
3	Bargarh	5	Bargarh
		6	Barpali
		7	Bhatli
		8	Attabira
		9	Ambabhona
		10	Sohela
		11	Bijepur
		12	Gaisilet
		13	Padmapur
		14	Paikmal
		15	Jharbandh
4	Balangir	16	Bolangir
		17	Deogan
		18	Guduvella
		19	Puintala
		20	Loisingha
		21	Agalpur
		22	Patnagarh
		23	Belpada
		24	Khaprakhol
		25	Titilagarh
		26	Saintala
		27	Muribahal
		28	Bangomunda
		29	Tureikela
5	Boudh	30	Boudh
		31	Harabhanga
		32	Kantamal
6	Cuttack	33	Tangi-Choudwar
		34	Tigiria
		35	Badamba
		36	Narasinghpur
		37	Banki
7	Jajpur	38	Binjharpur
		39	Dangadi
		40	Korei
8	Kalahandi	41	Kalahandi
		42	M.Rampur
		43	Narla
		44	Karlamunda
		45	Lanjigarh
		46	Jaipatana
		47	Koksara

*Signature*

		48	Kesinga
		49	Dharamgarh
		50	Golamunda
		51	Junagarh
		52	Kalampur
9	<b>Kandhamal</b>	53	Khajuripada
		54	Phiringia
		55	Phulbani
		56	Balliguda
		57	Kotagad
		58	Tumudibandha
		59	Chakapad
		60	G. Udayagiri
		61	Tikabali
10	<b>Keonjhar</b>	62	Saharapada
		63	Keonjhar
		64	Banspal
		65	Telkoi
		66	Ghatagaon
		67	Patnagarh
		68	Champua
		69	Jhumpura
		70	Joda
11	<b>Khordha</b>	71	Begunia
		72	Bolagarh
		73	Banpur
12	<b>Koraput</b>	74	Borigumma
		75	Kotpad
13	<b>Mayurbhanj</b>	76	Morada
		77	Rasagovindpur
		78	Suliapada
		79	Bangriposi
		80	Baripada
		81	Bijatata
		82	Rairangpur
		83	Jamda
		84	Bahalda
		85	Tiring
		86	Joshiipur
		87	Karanjia
		88	Thakurmunda
		89	Sukruli
		90	Raruan
		91	Samakhunta
		92	Badasahi
14	<b>Nabarangpur</b>	93	Nabarangpur
		94	Nandahandi
		95	Tentulikhunti
		96	Papadahandi
		97	Kosagumuda
		98	Dabugaon
		99	Umerkote

*Signature*

		100	Raighar
		101	Jharigaon
		102	Chandahandi
15	<b>Nayagarh</b>	103	Bhapur
		104	Daspalla
		105	Gania
		106	Khandapada
		107	Nayagarh
		108	Nuagaon
		109	Odagaon
		110	Ranpur
16	<b>Nuapada</b>	111	Nuapada
		112	Komna
		113	Boden
		114	Khariar
		115	Sinapali
17	<b>Puri</b>	116	Krushnaprasad
		117	Kanas
18	<b>Rayagada</b>	118	K. Singpur
		119	B. Cuttack
		120	Muniguda
		121	Chandrapur
19	<b>Sambalpur</b>	122	Dhankuda
		123	Rengali
		124	Jujumura
		125	Maneswar
		126	Bamra
		127	Jamankira
		128	Kuchinda
		129	Rairakhi
		130	Naktideul
20	<b>Subarnapur</b>	131	Sonepur
		132	Tarbha
		133	Biramaharajpur
		134	Ullunda
21	<b>Sundargarh</b>	135	Sundargarh
		136	Lathiketa
		137	Kuarmunda
		138	Nuagaon
		139	Bisra

*G. H. 7/11/2015*

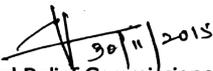
Government of Odisha  
Revenue & Disaster Management Department  
(Special Relief)  
Rajiv Bhawan (Ground Floor), Bhubaneswar-751001  
No. 4733 R&DM (SR) Date: 30.11.2015

NOTIFICATION

In continuation to this Department Notification No. 4519 /R&DM(SR) dated 07.11.2015 and in pursuance of the provisions contained in Paragraph – 29(b) of the Odisha Relief Code, Government have been pleased to declare 34 Blocks in 6 districts of the State as per Annexure as drought affected during Kharif 2015.

ORDER: Ordered that this Notification be published in the next issue of Orissa Gazette.

By order of the Governor

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

Memo no. 4734 /R&DM(SR) Date: 30.11.2015

Copy alongwith the copy of the Annexure forwarded to the Director, Printing, Stationary and Publication, Odisha, Cuttack for publication in the next Extra-ordinary issue of the Odisha Gazette and supply 100 copies to Revenue & D.M.(special Relief) Department.

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

Memo no. 4735 /R&DM(SR) Date: 30.11.2015

Copy alongwith the copy of the Annexure forwarded to the Secretary to Governor / P.S. to Hon'ble Chief Minister, Odisha / P.S. to all Ministers/ P.S to all Ministers of State / O.S.D. to Chief Secretary, Odisha/ P.S to Development Commissioner/ P.S to Agriculture Production Commissioner for kind information of Hon'ble Chief Minister / All Minister / All Minister of State/ Chief Secretary / Development Commissioner / Agriculture Production commissioner.

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

Memo no. 4736 /R&DM(SR) Date: 30.11.2015

Copy alongwith the copy of the Annexure forwarded to Secretaries of all Departments for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

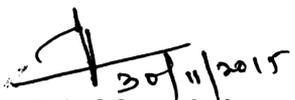
Memo no. 4737 /R&DM(SR) Date: 30.11.2015

Copy alongwith the copy of the Annexure forwarded to the Secretary, Board of Revenue, Odisha, Cuttack / All Revenue Divisional Commissioners / All Collectors / Sub-Collectors / Tahasildars of the concerned districts for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

Memo no. 4738 /R&DM(SR) Date: 30.11.2015

Copy alongwith the copy of the Annexure forwarded to Drought seat, R&DM(SR) Department/ Budget seat, R&DM(SR) Dept. / Relief Section (OSDMA) / 10 copies to Guard file for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal secretary to Government,  
Disaster Management

**ANNEXURE**

**LIST OF BLOCKS AFFECTED BY DROUGHT DURING KHARIF - 2015**

Sl. No.	Name of the District	Sl. No.	Name of the Block
<b>1</b>	<b>Anugul</b>	1	Angul
		2	Banarpal
		3	Chhendipada
		4	Talcher
		5	Kaniha
		6	Pallahara
		7	Kishorenagar
<b>2</b>	<b>Cuttack</b>	8	Athagarh
<b>3</b>	<b>Dhenkanal</b>	9	Gondia
		10	Kamakhyanagar
		11	Odapada
		12	Bhuban
		13	Hindol
		14	Parjang
		15	Dhenkanal
<b>4</b>	<b>Gajapati</b>	16	Kasinagar
		17	Gosani
		18	Guma
		19	Rayagada
		20	Nuagada
		21	R.Udaygiri
		22	Mohana
<b>5</b>	<b>Ganjam</b>	23	Chhatrapur
		24	Ganjam
		25	Buguda
		26	Aska
		27	Chikiti
		28	Jagannathprasad
		29	Patrapur
<b>6</b>	<b>Jharsuguda</b>	30	Jharsuguda
		31	Kolabira
		32	Kirimira
		33	Laikera
		34	Lakhanpur

Government of Odisha  
 Revenue & Disaster Management Department  
 (Special Relief)  
 Rajiv Bhawan (Ground Floor), Bhubaneswar-751001

No. 4777/R&DM (SR) Date: 03.12.2015

NOTIFICATION

In continuation to this Department Notification No. 4519 /R&DM(SR) dated 07.11.2015, No. 4733/R&DM(SR) dated 30.11.2015 and in pursuance of the provisions contained in Paragraph – 29(b) of the Odisha Relief Code, Government have been pleased to declare 42 Blocks in 10 districts of the State as per **Annexure** as drought affected during Kharif 2015.

ORDER: Ordered that this Notification be published in the next issue of Orissa Gazette.

By order of the Governor

  
 Special Relief Commissioner-cum-  
 Principal Secretary to Government,  
 Disaster Management

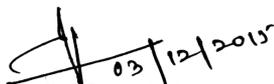
Memo no. 4778/R&DM (SR) Date: 03.12.2015

Copy along with the copy of the Annexure forwarded to the Director, Printing, Stationary and Publication, Odisha, Cuttack for publication in the next Extra-ordinary issue of the Odisha Gazette and supply 100 copies to Revenue & D.M.(special Relief) Department.

  
 Special Relief Commissioner-cum-  
 Principal Secretary to Government,  
 Disaster Management

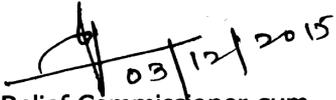
Memo no. 4779/R&DM (SR) Date: 03.12.2015

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 Special Relief Commissioner-cum-  
 Principal Secretary to Government,  
 Disaster Management

Memo no. 4780 /R&DM (SR) Date: 03.12.2015

Copy along with the copy of the Annexure forwarded to Secretaries of all Departments for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo no. 4781 /R&DM(SR) Date: 03.12.2015

Copy along with the copy of the Annexure forwarded to the Secretary, Board of Revenue, Odisha, Cuttack / All Revenue Divisional Commissioners / All Collectors / Sub-Collectors / Tahasildars of the concerned districts for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

Memo no. 4782 /R&DM(SR) Date: 03.12.2015

Copy along with the copy of the Annexure forwarded to Drought seat, R&DM(SR) Department/ Budget seat, R&DM(SR) Dept. / Relief Section (OSDMA) / 10 copies to Guard file for information and necessary action.

  
Special Relief Commissioner-cum-  
Principal Secretary to Government,  
Disaster Management

**ANNEXURE**

<b>LIST OF BLOCKS NOTIFIED AS DROUGHT AFFECTED DURING KHARIF-2015</b>				
<b>Sl.No.</b>	<b>Name of the district</b>	<b>Sl.No.</b>	<b>Dist wise Sl.No.</b>	<b>Name of the Block</b>
<b>1</b>	<b>Balasore</b>	<b>1</b>	<b>1</b>	Baliapal
		<b>2</b>	<b>2</b>	Oupada
<b>2</b>	<b>Bargarh</b>	<b>3</b>	<b>1</b>	Bheden
<b>3</b>	<b>Cuttack</b>	<b>4</b>	<b>1</b>	Dampada
<b>4</b>	<b>Deogarh</b>	<b>5</b>	<b>1</b>	Tileibani
		<b>6</b>	<b>2</b>	Remal
		<b>7</b>	<b>3</b>	Barkote
<b>5</b>	<b>Dhenkanal</b>	<b>8</b>	<b>1</b>	Kankadahad
<b>6</b>	<b>Jajpur</b>	<b>9</b>	<b>1</b>	Jajpur
		<b>10</b>	<b>2</b>	Dasarathapur
		<b>11</b>	<b>3</b>	Dharmasala
		<b>12</b>	<b>4</b>	Rasulpur
		<b>13</b>	<b>5</b>	Bari
		<b>14</b>	<b>6</b>	Sukinda
<b>7</b>	<b>Koraput</b>	<b>15</b>	<b>1</b>	Boipariguda
		<b>16</b>	<b>2</b>	Jeypore
<b>8</b>	<b>Mayurbhanj</b>	<b>17</b>	<b>1</b>	Saraskana
		<b>18</b>	<b>2</b>	Kuliana
		<b>19</b>	<b>3</b>	Betnoti
		<b>20</b>	<b>4</b>	Udala
		<b>21</b>	<b>5</b>	Khunta
		<b>22</b>	<b>6</b>	Bisoi
		<b>23</b>	<b>7</b>	Kusumi
<b>9</b>	<b>Rayagada</b>	<b>24</b>	<b>1</b>	Rayagada
		<b>25</b>	<b>2</b>	Kolnara
		<b>26</b>	<b>3</b>	Kashipur
		<b>27</b>	<b>4</b>	Gunupur
		<b>28</b>	<b>5</b>	Gudari
		<b>29</b>	<b>6</b>	Padmapur
		<b>30</b>	<b>7</b>	Ramanguda
<b>10</b>	<b>Sundargarh</b>	<b>31</b>	<b>1</b>	Hemgir
		<b>32</b>	<b>2</b>	Lephripara
		<b>33</b>	<b>3</b>	Tangarpali
		<b>34</b>	<b>4</b>	Subdega
		<b>35</b>	<b>5</b>	Balisankara
		<b>36</b>	<b>6</b>	Bargaon
		<b>37</b>	<b>7</b>	Kutra
		<b>38</b>	<b>8</b>	Rajgangpur
		<b>39</b>	<b>9</b>	Bonai
		<b>40</b>	<b>10</b>	Koira
		<b>41</b>	<b>11</b>	Gurundia
		<b>42</b>	<b>12</b>	Lahunipara



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