

STATUS REPORT ON MILLET IN KANDHAMAL DISTRICT



February, 2012

NIRMAN

Biruda, Itamati, Nayagarh,
Odisha-752068, INDIA

E-mail: nirman96@gmail.com

Website: www.nirmanodisha.org

NIRMAN
An Initiative for
Sustainable Development

Acknowledgement

*T*he Organization cum researcher to the Study is enormously grateful to the following individuals for their contributions to this study report.

Funding for the study was made possible by support from the **Millet Network of India, Convened by Deccan Development Society (DDS), Hyderabad, Andhra Pradesh**

Director, Deccan Development Society (DDS)

Shri P V Satheesh

Study Team

Shri Ramesh Chandra Naik

Shri Pratap Chandra Panda

Shri Aditya Pratap Singh Deo

Miss Sabitri Patro

The Organization conveys gratefulness to the following individuals for their insights and contributions during the study, group discussions and consultation meetings:

Shri Prasant Majhi, Dupi

Shri Subhash Mallick, Dupi

Shri Ashok Majhi, Ward Member, Dupi

The Organization also expresses its hearty gratitude to the villagers of Dupi for their timely co-operations, participation, valuable sharing and suggestions.

February, 2012

**Prasant Mohanty,
Executive Director, NIRMAN**

Table of Content

Executive Summary

Section I: Introduction to the Study.....	5
1.1 : Scope of the Study	5
1.2: Objective of the Study	5
1.3: Methodology of the Study	6
Section II: Beginning of the Study	7
2.1 : Socio-economic Status of the village.....	7
2.2 : Study Process.....	7
2.2.1 : Process of the Exercise-1.....	7
2.2.2 : Process of the Exercise	9
Section III: The Tools and findings	14
Table-1: Months in Odia & English Calendar.....	14
Table-2: Types of crops available.....	16
Table-3: Planting Calendar	17
Table-5: Festivals and Millets.....	18
Table-6: Harvest Calendar	18
Table-6: Change in food stuff intake	20
Table-7: Community perception upon Sun, Rain and Crops.....	21
Table-8: Time-line Trend Analysis of Crops grown.....	25
Table-9: Summarized Trend Analysis	26
Section IV: Conclusion	28

Executive Summary

Well...the debate has been continuing on inclusion of Millets in the National Food Security Bill specifying distribution of Millets (largely it means only *Jowar, Bajra or Ragi*) along with Rice and Wheat; in addition there are efforts from the Ministry of Agriculture and especially the Rural Development Ministries to formulate a Millet Mission (on the lines of National Food Security Mission-NFSM-Rice, NFSM-Wheat or NFSM-Pulses) to address the production of millets, enhancing millets' productivity and increasing the area under millet farming. The strategic approach is very likely to encourage the package driven Green Revolution technologies and there is every chance that, it will be all market-based and focused on the elitist health and nutrition agenda.

Millet Network of India (MINI) says it loud and clear that, '***millets are not mere crops; they are an entire concept***'. Across the country, we have seen that millets have never grown alone, and always in combination with a host of other crops that include other millets, pulses, oilseeds, vegetables and a host of other crops...each with different cropping cycles and different uses. What will happen to the 'Millet concept', the biodiversity, the organic practice, the marginal- small farmers' survival, livelihoods, nutritional aspects and the agenda of indigenous people knowledge systems? What about sustainability and the Climate Change effects? However, once again, the traditional biodiverse farming system and associated knowledge system are at stake.

MINI has initiated a series of processes to document such millet based bio-diverse farming pattern, practices and knowledge associated including the food habits, customs and cultural beliefs. These manuscripts can be utilized to initiate 'pressure group' against the state policies' apathy towards these wonder-crops. One such study has been conducted by NIRMAN, an Odisha base advocacy group of MINI in Dupi village of Kandhamal district.

The Kutia Kondh community living there in the midst of the hill ranges faces everyday challenges with rising mercury level, erratic rainfall, constant lower yield, decreasing seed varieties and in turn insufficient farm produce to run life comfortably. The excessive focus on rice and wheat under the Government aided Food Distribution System (FDS) has ablated the mountain-bound rural populace away from millets; on the other hand, the complete lack of support or negligible support system of the State for their millet cultivation has discouraged the community from cultivation. Besides, heavy deforestation, relatively higher rate of soil erosion & related change in soil chemistry and intervention from Forest department have been few other related reasons identified for discouraging the community's farming practice.

However, millets for the Kutia ingrained in their system of living are under threat but yet found to be holding a significant position in their life style. Their integrity and intimacy with millets is inherited. Tools like *diversity mapping, trend analysis* etc. had been used in the study which reflects how diverse has been its presence and the process further reflected on the decrease in diversity from 66 to 15 varieties within three decades. Migration among village youth is alarming. The uncultivated food collections are reducing. The never-rice-eater community has been habituated to rice consumption pattern. Disease occurrence, effects of malnutrition etc. are very observable. But, still they stand with their noble ways of farming as of solemnity. The wonder-crops along with their farming practices need to be restored as a mean retort to food & nutritional insecurity and 'food sovereignty' as a whole.

Section I: Introduction to the Study

The Status Reports on Millets has been planned to include Kandhamal district (the district is named after high concentration Kondh community: Kutia Kondh) of Orissa. It aims to collect the rich experiences of the people who have been growing millets. The exercises designed and planned to be carried out are significant in the lights of the rapid changes that are being witnessed in the agriculture. The inroads being made by maize and GM crops; the growing dependence on PDS rice and wheat and the increased use of chemical fertilizers, leading to a loss of fertility of soil are some of the known factors of other reasons, specific to each locality, which can be unearthed by a more focused and localized study. The status report is an attempt in this very direction. In preparing this report, the emphasis is on PRA and FGDs, more than on quantitative data. This comprises the first stage of the exercise and involves undertaking a range of exercises like *Time-line*, *Millet inventory*, *Festive map*, *matrix ranking of wholesomeness of millets vis-à-vis to other crops* and so on.

1.1: Scope of the Study

The appraisal will include but not be limited to study

- Details of Agro-Climatic situation
- Documenting the practices of millet based farming system etc.
- Trend analysis of crop diversity and its impact on household food security
- Community's perception & vox Populi regarding their farming practices; ways of sustainable farming system approach: identifying priority of the farmers

1.2: Objective of the Study

Given the complex nature of farming system and multidimensional knowledge and skills associated with it ensuring food security, it becomes imperative to study its patterns and practices. The designed forms and practices of farming system are un-written patented with the farming community which can be coined as the 'food & nutrition base' to the community. Where the conventional and modern farming system approach with Green Revolution package driven policy, scheme or programme framework have not been successful in achieving the coveted goals, millet based mixed farming system and practices throws rays of sustainable development which need to be addressed promptly. In this context, the objectives of this study include:

- To map present cropping pattern, practice and diversity
- To document the present situation of the farming practices vis-à-vis gradual change in practice in past 25 years. In this, the study would attempt to highlight ways of millet farming and millets as sustainable measures to ensure food and nutrition security
- To delve into the underline causes of respective changes in farming practices and to find out reasonable solutions to the experienced adverse impact

1.3 : Methodology of the Study

The study being undertaken is essentially a diagnostic research attempting to make use of rich primary resources available on the subject from different sources to attain the above stated study objectives. Special emphasis has been put on millet farming especially hill agriculture system approach keeping the study area in view. However, community's participation has been emphasized in the study through group discussions, exercises and individual interactions.

Live pictures from people's view have been taken through direct interaction with the villagers to highlight the adverse impact of the present agricultural development. Primary data obtained through group discussions, participatory exercises, individual interviews etc. have been used to assess present farming practices and espouse the concept of millet based mixed farming as a means to achieve food and nutritional security.

A gross total of 55 villagers, of which 23 were mid-aged female, participated in two groups as *participatory group* (the members of this group have been participated directly) and *advisory group* (the members from this group have been played role for cross-checking the data or information shared by the former) in various exercises primarily used to assess their current farming practices, its trend in practice and impact of such practices on food & nutrition status at family level. Various pre-assigned PRA tools were used during the entire exercise by the trained and experienced team of NIRMAN to facilitate the process.



Section II: Beginning of the Study

2.1 : Socio-economic Status of the village

The Study was conducted in Dupi, a revenue village of Gumma Gram Panchayat, 20 kms away from Tumudibandha community development block of Kandhamal district. The village has 40 Schedule Tribe and 14 Schedule Caste households separated by two different habitats, but live together. The ST community live here is the Kutia Kondh¹ community. The average population size is 7.2. The average operational land holding of the community is 1.78 acres, of which 56% accounts for upland, 19% for medium and 25% for low land. All the households are below poverty line. Most of the households don't have enough food resources available during the 2-3 months of scarcity. The average indebtedness among the HH is Rs 8753/- primarily taken for food purchase, medical expenses and cultural activities.

2.2 : Study Process

The village in its simplest of ways greeted the team and omnisciently gathered to enquire the reason why the team was there. The village Dupi is located in between the Gumma and Belghar mountain ranges has restored its simplicity and the smoking *chulahs* in the chilling morning further explained the historical presence of the village for more than 160 years. The NIRMAN team gathered around interacting with the young and elderly, men and women, explaining the purpose of visiting and looking forward for a possibility of sitting together in the middle of the village for a day long discussion. Many of them agreed and other villagers later joined in to participate in the discussion, from the village of total 40 households 43 persons sat together to begin the discussion.

Before beginning the discussion with the defined tools, it was important for the team to explore how there has been a transition in community cohesion with consistent external forces paving their way in. These forces may be through the market, may be through various Government schemes and programmes and also may be through GO- NGO bodies. To explore further and initiate a warm up activity for rapport building the team introduced a small exercise before facilitating the actual tools as per the ToR.

2.2.1 : Process of the Exercise-1: Four circles were drawn on the ground adjacent to each other, but in a cyclic direction and four people were called to stand inside the circles. Purposively four people from four different backgrounds were chosen.

¹ The Kondhs¹ are one of the indigenous communities; classified under the ancient Gondid race of proto Austroloid group who inhabit in all block of this district comes under the scheduled tribe category. They earn their livelihood through agriculture (under rain fed condition), shifting cultivation (locally known as *podu chasa*) along hill slopes, by collection of materials from forests and wage-earning.

1. The first person was one of the NIRMAN team member's who was external to the village and brings in his own as well as organizational ideology with him and has higher chances of influencing the environment he has come in to.
2. The other member belonged to the Schedule Caste community who is more exposed to market is literate and has better access to benefits from market compared to other tribal (the Kutia Kondh) communities in the village.
3. The third person was a village youth who was an elected member and ex-Sarpanch from the village and has a know-how of schemes and programmes implemented in the village
4. The last member was a middle aged farmer of around 48 years and has been into farming activities since he was 8 years old. He carries vibrant knowledge of farming from the time he went to the farm fields with his father and narrates experiences from time immemorial.

The purposive selection was on the basis of their position in the current state of being to influence other community members and have an authority to lead decisions in the village. All the members standing in the midst of the circle were asked to stretch their hands straight and a fistful of green peas were given to them. They were directed to eat those peas without folding their hands. After a long consistent try of about 10 minutes they failed to eat it. A young member in the group watching the exercise volunteered to come in and stretched one hand of the member standing in the circle to reach out to the mouth of another member adjacent to him. The entire group was delighted to see how one member fed another member in the circle without bending their hands and going by the rules of the game.



An effervescent discussion on the game brought in reflections from the group on how life and livelihood have been driven by various such rules from time to time and people from varied background have settled together in the village to cope with the changing rules of the game. On narration Ashok Majhi claimed that “this is how we live and also stand with the entire village in time of need to share food and celebrate together. We work on

each other's field during the agriculture operational period and do not encourage external labour. By the end of the day, we do a feast together and the entire village comes together.” The team also asked whether the external person who comes inside the village always has good intentions or does well to the village. Niranjana replied saying that “we greet the external person like any other guest of our village but yes some come with their own set agenda. We do not retaliate and allow him to do what he

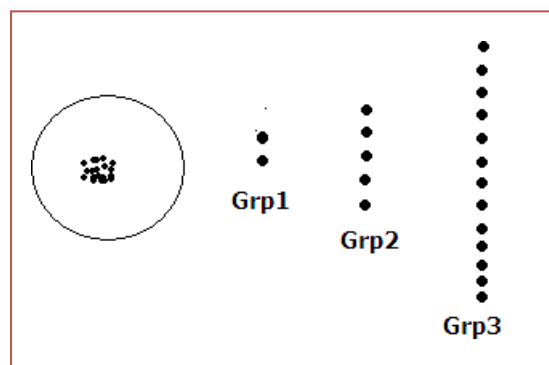
wants”. Suddenly Duli, a mid-aged widow shouted about how the traders come to the early in the morning and start bargaining the agriculture products and NTFPs; “they used to take our produces forcefully and give a token amount in return”, she adds and later everyone there in the discussion agrees with her.

This session further continue with another simulation exercise in order to better understand their understanding about their own life & livelihood pattern.

There was a congregation of 47 persons of which 22 were ladies on that time of the day. The presence of the elderly encouraged us. Following from the previous play, NIRMAN facilitated an exercise to understand the community dynamics.

2.2.2 : Process of the Exercise: First of all, two members were requested to volunteer for the game. Subhash and Ramesh came up to be the volunteers. Then, another five members were called to be the next set of volunteers. They were made three groups with 21 members out of the 43; Group-1 with two members, Group-2 with five members and Group-3 with rest 14 members. Then to each of these 21 members, 5 marbles was distributed. Then all the three teams were asked to put the marble in one place. It was put together and circled. Then all the three teams were made to stand in a distance from the circle at 2 ft, 5 ft and 12 ft distance.

Being in the structure, all the three teams were given wooden logs. The first team was given a longer and a heavier one, the second one was given a longer and lighter one and the third team was given a shorter and a lighter log. The activity was to hit the marbles through the log and the number of marbles that comes out with each hit is the property of the group. This process should be continued till the time all the marbles are taken out of the circle. The basic rules for the exercise would be to take out marbles out of the circle, the sequence of taking hits would be from Group-1, Group-2 and Group-3 respectively and for the hits the group would decide together who will take the hit. Then the group made their hits. By the end of the exercise Group-1 had a total of 66 marbles, Group-2 had a total of 30 marbles and Group-3 had 6 marbles. Based on this activity the next phase of the discussion had begun.



NIRMAN wanted people to share their feelings behind the whole exercise in terms of how were they feeling while playing the game? Unanimously, people shared that they liked the game and there were also other feelings shared by the group. Group-3 said that they felt sad as they could not get more as compared to others and they also did not like the distance in which they were located from the circle. They said that even when they were more in number as a team their achievement was much less. Group-1 said

that they could get more and therefore they are feeling good. Group-2 shared that they are happy but they could have got more.

Group-1 was asked to talk to Group-3 to share their feelings. Ashok Majhi from Group-1 said that out of seven people who had hit, if one of them who were better at aiming could have hit, they would have got more. He said that since they had a heavier and longer log, each time their team had a hit they broke the heap and it certainly was not easy for the third group. Therefore there is nothing to feel bad or sad about it.

A member from Group-3 said that it was actually the size of the log which made a difference in achieving the output. Group-3 said that their distance from the circle had obstructed them to gain more number of marbles too. When the facilitator asked that when there was no strict rule told to the groups of adhering to their lines where they stood then why they did not come ahead and take the hit. Whereas there was already a member from first group who had attempted to cross the line and take hits. One of the women members from the Group-3 said that “how can they cross the line because it will be like breaking the rule and we would not like to break the rule”. When further asked by the facilitator that what the harm in breaking is the rule when one is losing their share to the other. They just replied that a rule is a rule and especially when it is set by the one who is facilitating the whole game, and then it should not be broken.

The interesting thing to learn from it was the submissiveness of the 3rd group was to an extent that they were able to accept their loss of resource. They did not even resist when the member from the first group crossed his line to make a bigger hit. There was no loud resistance. This essentially reflects certain attitudes built upon from ages in defining what is ‘injustice’ and what it means to raise voice against injustice.

NIRMAN called upon the teams to talk to each other and discuss the situation where in one group there is 33 marbles per head and the other does not even have one per head. He also asked the group to see if there is any interconnectedness of the game with their real life situation.

Group-1 contributed just 10 marbles in the circle, but it became the owner of 66 marbles where as the third group gave out 70 marbles, but got just six. Group-2 had given out 20 marbles, but it gained 30 marbles i.e. profit of just 10 marbles. Since Group- 3 had much less, they talked it over with Group-1 and requested for some marbles. In the game, Group-1 asked for money, fixes interest rates and even asked for the farm produces as a cost for the marbles. Listening to this, one of the members of Group-1 straightaway denied for any marble, but there was a woman who requested looking at their misery and looking at the surplus they had. Listening to the request Group-1 decided to give one marble for each. Group-3 was happy, but then since Group-2 also had surplus, they also tried to ask some more from them. Group-2 had five members and they have earned 6 marbles per head. They replied that they just have one marble

as profit and they would not like to give that away. They suggested Group-3 to take a loan from Group-1.

The whole scenario was a reflection of a kind of society we have of three major classes. One which has most resources, the other which has not more, but not even less resource i.e. the middle class and last but not the least, the class having the least resources. It always happens that the middle class is a pool which has suggestions to give to the one who has no resource and also crave for what he couldn't have. The essential negotiations happen between the 'groups having most resource' and the 'groups having none'. The group in middle chooses to remain in comfort and unaffected by any condition. The game brought reflected these dimensions very clearly.

Along with other discussions, NIRMAN began discussing with them about the history of the village, about the way it has evolved. According to the villagers in the last 12-15 years, population has increased. People shared about their daily living from farmlands to collection of forest resources and from mortgaging own resources to work as wage labourer. Earlier each household held its piece of land surrounding the homestead. The villagers used to grow millets along with legumes and oil seeds. The soil was very fertile, thick blackish brown colour and it did not have boulders in the soil.

People from the exterior generally come to their village to collect the forest produce, fire wood and millets too. When there were market days, the traders down in the market began coming to their villages almost regularly to collect the produce. Other businessman started approaching them and encouraged them to cultivate market centric crops. They said it to 'Jani', 'Behera' and 'Pradhan' who was the village head long back. They told them because village men will agree to whatever the head will decide. The traders intended to do business and so, the benefit of that went to them.

Later people in the villages also needed money to meet their festive expenses, health needs, marriage expenses etc. and so people went and asked the traders for money. Traders negotiated for cash crops in return for money which push them to cultivate more cash crops like mustard. More exposure to market, changing life style and introduction of rice based PDS also encourage them to turn away from growing millets to few cash crops along with paddy both on medium and low land areas.

NIRMAN connected all this history to the game that was played where Group-3 gave out 70 marbles, but earned only 6 marbles. In a similar way people gave all the nutritious diverse crops and adopted few crops for trading interest, but received from the businessmen an amount comparable with just 6 marbles.

This kind of process sharing continued in the second level 'village cluster level meeting' where two important comments were made by the community. One, slowly the community began knowing that the traders are taking the produce down and selling it in much higher prices. Secondly, the place where millets were dominantly grown

together has been replaced by few market centric varieties. The community realized that they come under Group-3 category in practical and practice that is being utilized by the system all-time.

NIRMAN further probed by asking them a valid question on their choice of survival? How would they like to survive? Whether they would choose to grow food/cash (crop) in their land, sell it in market and live with buying food from the earned money or first grow surplus food for the family, feed the family and then sell the surplus and fulfill the monetary needs. Secondly, whatever they sell, like for mustard or others who should decide the sell off price for market?

In response to this, people replied that till now it was the trading people who have been influencing them to sell their staple food needs such as millets and also encouraging the oil seed cultivation. But they also shared their feelings on how they have lived their life till now. They shared about their eating habits on how they used to eat very simple food which suited their health conditions. When they learnt to go down and earn money, they began buying oil and spices and now they feel that they have been inviting more diseases with the food they eat (more later on Food Pie Chart).

People generally adopt five kinds of occupations or livelihood pattern throughout the year: (1) Agriculture, (2) NTFP collection, (3) Collection of roots & tubers, (4) Mortgage or sale of lands, crops, livestock etc. on scarcity and (5) Working as wage labourer. However, they recognize 'agriculture' at supremacy and 'wage work' as the most disliked occupation. While all mid-aged female members participated in the discussion vote to agriculture, 20% male shared concern with 'wage work' parallel important.

NIRMAN continued in explaining in connection to the game that when some has quantity equivalent to 30 marbles per head, here there is a community who don't even have one marble per head not having food to eat. The other group just feels sad about it but essentially keeps exploiting/continue to have control on the resource. They sympathize, but don't really want to do anything to solve the misery. So, likewise in such a situation there are other avenues brought in by people or Govt. department through schemes which convinces people to have PDS rice, ICDS nutrition supplement or rotten grain in MDM and grow cash demanding crops, give suggestions to take loan etc. and with growing climate change the problem has further deepened.

NIRMAN further facilitated that change in climate is something which is not in our control, what is there in our control is our choice of cultivation in our own land with our own seeds. This control and/or choice to decide was once there with us, which is no more there in our hand. Earlier people used to grow the crops which were nutritious for our home, but now we grow something which is neither good for health nor gets us good price for it. Now people who have less access stay far away from their farm lands and actually if you see these are those people who remain hungry for a greater period of

the year. Even the market is controlled by few people. These fewer people would always want interest in return when one would like to seek help from them. In return the community started sharing their present day how their ritual related, healthier and resilience diverse farming system has been shifted to mono-crop based farming pattern.

The community also ranked mixed farming system above than mono-crops system of millet farming. They analyzed this in terms diverse food, lower risk and more adaptability. Again, they calculated the cost of cultivation to half in earlier system than the later. In addition, realizing the nutritional aspects of millets, a diverse millet based farming model is being proposed by the community where different government sponsored programmes and schemes can be utilized in community prospective.



Section III: The Tools and findings

After the above games and related exercises, the community was fully active and possessive to be more participative in more of the kind exercises. NIRMAN drove the situation dipper into their agriculture pattern, practice, crops they have etc. valorizing more on discussion upon farming related few necessary factors such as soil, season, festivals/ cultures etc. they were requested for brick powder as red, ash as white and rice-bran charcoal as black colour. The community provided the needs immediately. It is the time to use the defined tools for more specific understanding.

The first tool utilized is the **Crop Mapping Tool**: Two persons from the community Ashok and Prasant were requested to volunteer NIRMAN for the drawing needs over the cement concrete road middle of the

village. The 1st column of the matrix bears a drawing of blazing sun and represents summer season. The 2nd column has a diagrammatic representation of clouds and rain drops representing rainy season and the third column meant for the winter represented through pieces of woods, ashes and a scarf (used to wrap over body during winter; it has been taken from a Paika Majhi, an elder of about 55 years). Members of the discussion panel could easily recall the months, so that each of the columns was further divided into four quarters, each representing a month.

Summer Season	Falguna	February-March
	Chaitra	March-April
	Baisakha	April-May
	Jyatha	May-June
Rainy Season	Ashadha	June-July
	Sravana	July-August
	Ashwina	August-September
	Bhadra	September-October
Winter Season	Kartika	October-November
	Margasira	November-December
	Pausha	December-January
	Magha	January-February



NIRMAN requested each of the women and men members to participate in the assignment asked to place the grains or crops in the columns as per its period of sowing/planting. Various grains were placed in the columns by one after one. There were discussions and arguments amongst the community members while placing the gains; these were later translated by

Ashok & Prasant to NIRMAN that they were cross-checking themselves whether they place rightly or not at right places.

Discussion over their Agricultural agenda, when dipper with the above tool, it was found that their life and livelihood is obviously in & around the hill slopes throughout the year:

The Kutia Kondh has its own agricultural operational calendar. Moreover, most of their rituals are related to agricultural activities and influence the timing of these practices. Land use pattern: They do cultivate over the hill slopes, medium lands and low land areas beside the stream the *Patabidi*. Hill slopes cultivate through slash & burn practice and mostly used to cultivate millets, legumes and oil seeds as companion crops. However, they use the medium lands for maize and mustard and the low lands for paddy cultivation.

Their agricultural calendar is divided into three seasons: summer (from mid-February to mid-May), winter (from mid-October to mid-January) and rainy season (from mid-June to mid-September). For each of these seasons, they do have certain agricultural operational activities:

Summer season (February-May): During this season, the Kutia Kondh generally does land development activities preparing for the up-coming planting season during the late summer. They follow '*podu chasa*' (shifting farming/slush & burn) pattern of farming practice. They usually use a piece of land for at least 3 years and then shift to a second piece of land chosen for next 3 years. After completion of 3 years, they do shift to the 3rd place for another 3 years and accordingly return to the 1st place after 6 years of duration. To prepare the land suitable for farming, they slash the flora and leave for drying. They collect the dry matter either at one place or at places and set fire called "*Nai-Rundhi Manalsu*" and spread the ash on the burned field. This *podu* practice when set uncontrolled, then it spread to whole of the forest and become a disaster. At times, the perennial trees, timbers (both matured & immature) etc. come under fire and costs further on livelihoods.

During May-June, after two-three rains, they celebrate the '*Bihan Puja*', worshipping the seeds of various crops. This festival is celebrated both at individual and community level. During the celebration, they select the seeds with respect to its physical appearance. Besides they observe little other quality like weight, smell, stickiness etc. Immediately after the festival, they set for broadcasting. Some seeds, like those of beans (cow pea etc.) and legumes (pigeon pea etc.) are dibbled while millet seeds are sown. After sowing, they start hoeing smoothing the soil and to mix the seeds with the soil. With the summer rains during late May, the seeds germinate. They do observe few patches with thin or no germination, then they broadcast the remaining millet seeds. Towards mid June, they usually dibble castor seeds.

Summer is the peak season for various fruits either from the forest or from their respective farmlands. They do seldom culture, but collect crops like jack fruit and mango. Collection of raw jack-fruit starts from January onwards, but February is the peak month for raw jack fruit. From April onwards the jack fruit will ripe. Raw mango is collected from March onwards and ripe mango from mid-April onwards. They do collect the mango seed as the powder of the seed is the staple food during the rainy days.

During summer, 40% of their food consists of uncultivated produces. They collect 14 varieties of wild tubers (yam species) and 6 varieties of green leaves from perennial plants which are rich food sources. They too collect tamarind and mahua flowers.

In this period, their major income is centered on tamarind and the *siali* (bauhinia) tree. The leaves from *siali* tree are used to make plates and the bark is used to make ropes. The Kutia collects imperate (birsa) grass used as roofing material. Summer is also the good time to collect broom sticks.

Rainy season (June-September): The Kutia weeds the crops from June to August. They construct small huts on their farmland to protect their crops from wild animals (like monkey, wild boar, birds etc). The hut is also used against rain, to rest, to keep food inside, to cook and to keep the harvest too.

During the rainy days, they collect 11 varieties of *chhati* or *kutka* (mushrooms) like *Amba chati*, *Panasa chati*, *Sargi chati*, *Basa chati*, *Kupa chati*, *Phuli chati*, *Piyal chati*, *Dungu chati*, *Jambu chati*, *Medrenga chati*, *Surubali chati* etc. This is the peak season to collect the *karadi* (bamboo shoot).

Winter season (October -January): This is the harvest season. During these months, the Kutia Kondh harvests finger millet, pearl millet, foxtail millet, little millet, sorghum, pigeon pea, cow pea, rice bean etc. They too collect tubers (sweet potato, taro, yam, and other yam species).

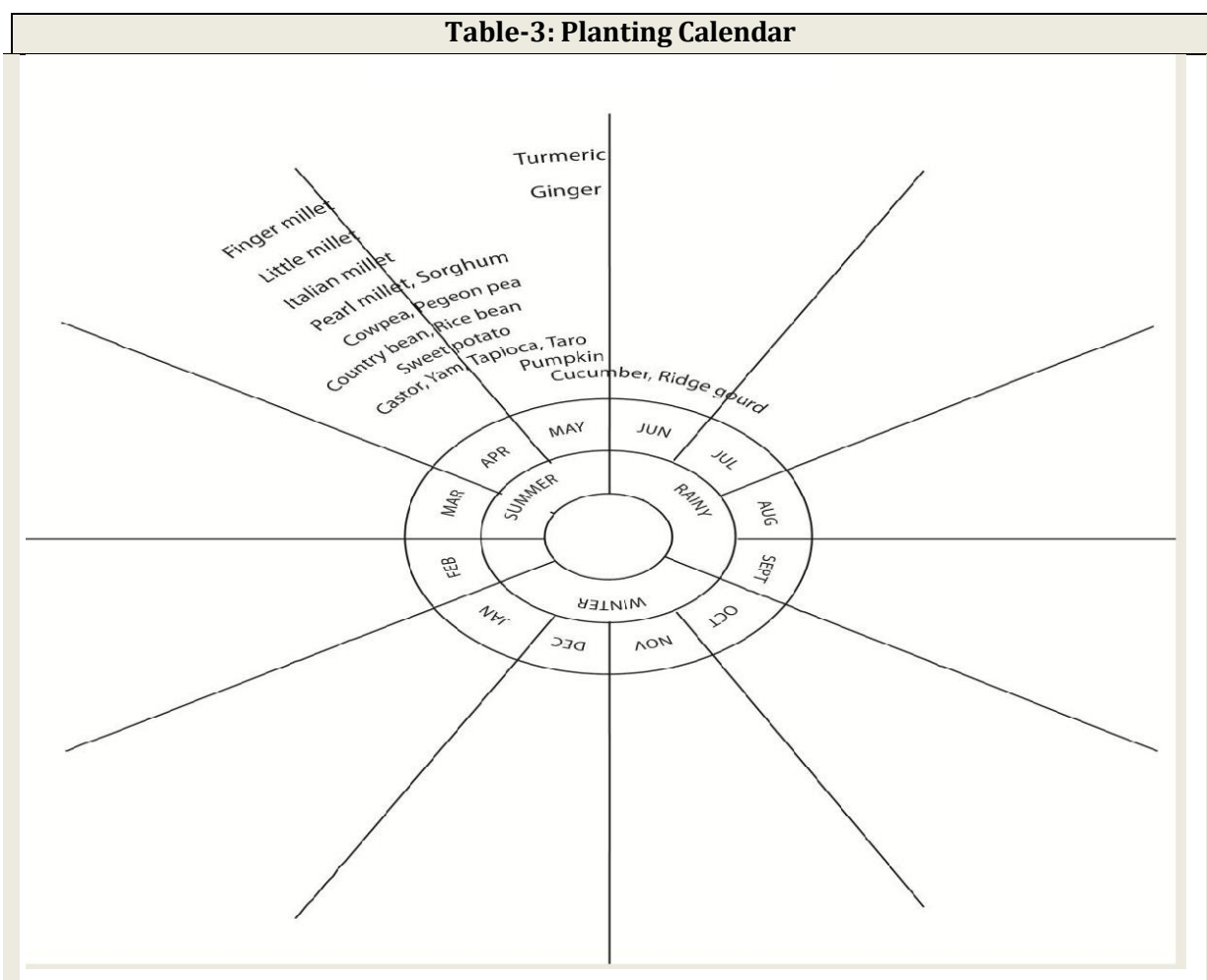
Ashok announced the exercise is over as they have placed all sorts of seeds/crops that they have. After completion of the planting calendar, NIRMAN document the seed varieties as follows:

Type	Sl. No.	Local name	Oriya name	Varieties	English
Cereals	1	<i>Ma-sha</i>	Kosala	1	Little millet
	2	<i>Arka</i>	Arka/ Kangu	2	Fox-tail millet
	3	<i>Mandia</i>	Mandia	1	Finger millet
	4	<i>Maka</i>	Maka	2	Maize
	5	<i>Khed-jana</i>	Janha	1	Sorghum
	6	<i>Dhulia</i>		1	
	7	<i>Kaate/Ganthia</i>	Bajra	1	Pearl millet
	8	<i>Sakara</i>		1	
	9	<i>Dhana</i>	Dhana		Paddy
Legumes	1	<i>Jhudanga</i>	Jhudanga	2	Cow pea
	2	<i>Kating</i>	Kaating/ Baragudi	2	Rice bean
	3	<i>Kandula</i>	Kandula/ Harada	1	Pigeon pea
	4	<i>Jhata</i>	Simba/ Jhata	3	Country bean
	5	<i>Biri</i>	Biri	1	Black gram
	6	<i>Bereng</i>	Simba	1	Country bean (whole pod)
	7	<i>Kolatha</i>	Kolatha/ Kulthi	1	Horse gram
Oil Seeds	1	<i>Tilaa</i>	Alasi	1	Niger

Table-2: Types of crops available					
Type	Sl. No.	Local name	Oriya name	Varieties	English
	2	Sorisha	Sorisha	1	Mustard
	3	Jada	Jada/ Kala	1	Castor

In summary, the Kutia Kondhs (the village community) are the custodians of 10 varieties of millets including 2 varieties of maize, 10 varieties of legumes and 3 cultivars of oil seeds. Besides, the community shared 3 varieties of yam species that they cultivate. The total number of varieties is estimated to 26; however, the community shared a total of 62 varieties that they used to cultivate in 30-35 years ago.

NIRMAN then facilitated the discussion towards what they harvest and when. Interestingly, many (6-8 persons) members from the floor jumped with the seeds and started placing at the respective spaces. On asking, they shared the entire process of planting and harvesting along with the duration of harvesting. All such sharings have been summarized in the following table-3.

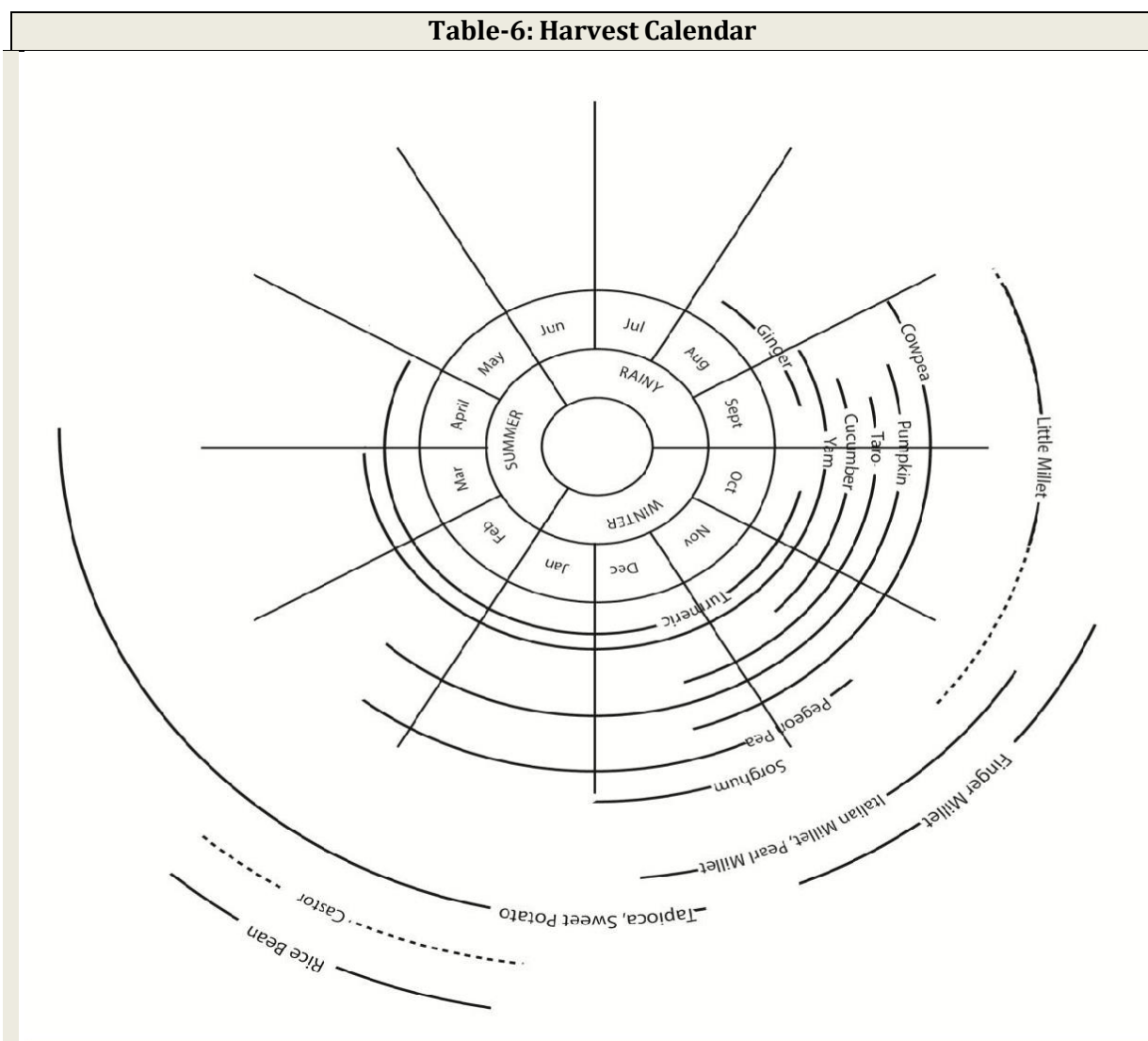


NIRMAN's being with community and community's interest towards more participation continued towards **Festival Mapping** understanding the significance of millet crops in

their various rituals. The following table shows the rituals that relates the Kutia Kondhs life with livelihoods.

Table-5: Festivals and Millets

Sl. No.	Name of the festival	Month in Odia	Month	Duration of celebration	Important grain
1	Bihan Parva	Jyastha	May-June	Four days	All varieties of seeds
2	Kamani Balujai	Jyastha	May-June	One day	Millets
3	Taku Puja	Sravana	July-August	Three days	Mango kernel, Millets & Rice
4	Nua Bhata-Khia	Bhadra	September-October	One day	Millets
5	Nua Jatra	Paush	December-January	Three days	Millets & Paddy
6	Bada Puja	Magha	January-February	One day	Millets



Besides, the '*bejuni*' (an unmarried lady who is primarily responsible for teaching family traditions and work to the young girls of the village) explained there is almost a festival

at household level in every month. A Kutia family's expense on ritual is always higher than any of its kind. Millets such as finger millets and little millets are very integral to each of the rituals. *Ragi* soup and rice made up of little millet or fox-tail millet is the supreme offering to the deities. Besides, offering liquors is mandatory in each of the rituals. But, the kind of liquor depends on its availability. If financial status allows, the family purchases *mahuli*, liquor made from fermented mahua flower, if not, one can prepare from little millet rice and celebrate the ritual. Asking the minimum expenses upon the rituals, it estimates shockingly at INR 60-65 thousands per family.

After a well mocking break with sweet Kutia song by the youth, our session on millet status continued towards **Crop Matrix**. NIRMAN began with a discussion which centered on how government plans are devised and implemented with consulting and seeking the opinion of community members. Ashok Majhi, Ward member of Dupi village started shouting on how the Panchyat is functioning without proper consultation with the members and counseling the real needs at various levels. Many community personals complained upon Government's approach of development. The community responded by pointing out that the government gave them rice at subsidized rates whereas they only prefer millets, but shifted to a combination of rice and millets and gradually moves to rice centric consumption pattern.

I along with our villagers had met the Sarapanch (of Gumma GP) for facilitating in the land lease process. The land was original belong to Dupi village and we were decided to use the land for cultivation of our staple crops as the Forest officials doesn't allow us to cultivate over the hill slopes. They didn't support us and later we found the piece of land under mango and cashew plantation.

Ashok Majhi, M-40 yrs, Ward member, Dupi

They shared about their eating habits on how they used to eat very simple food which suited their health conditions. When they learnt to go down and earn money, they began buying oil and spices and now they feel that they have been inviting more diseases with the food they eat. Like now they are eating rice, but it is not a preferred food for them, they preferred millets like *mandia* (finger millet) along with *maa-sha* (little millet) and *arka* (fox-tail millet) more.

They used to take millet meals along with the legumes. Gradually, their consumption of millets has decreased. Though they take food for three times a day i.e. morning (6 am-8am), noon (12 pm-13 pm) and evening (6.30 pm-7.30 pm), but the content of millet in their meal is decreasing in observable quantity.

Changes in food habits

Past (about 40-30 years back)		Present (over the last 5-8 years)	
Rank	Recipes	Rank	Recipes
1	Finger millet soup along with 20%-40% little millet or fox-tail millet rice	1	Finger millet soup (their intake increases during summer, usually March-June in the morning hour)
2	Little millet rice	2	Tuber crops (boiled & roasted)
3	Fox-tail millet rice	3	Rice
4	Boiled maize as 'maka bhata' (maize rice)	4	Boiled maize
5	Tuber crops (boiled & roasted)	5	Little millet rice/ Fox-tail millet rice
6	Sorghum rice	6	Boiled pigeon pea pod

Table-6: Change in food stuff intake

Time-line	6 am-8am	12 pm-13 pm	6.30 pm-7.30 pm
30 years ago	Only millets	Millets and Tuber crops	Only millets
15 years ago	Ragi soup (50%) and rice (50%)	Rice (50%), Millets (30%) and tubers (20%)	Only millets
2010-11	Only rice (during summer agricultural operational activities ragi soup)	Only rice	Millets (70%) and rice (30%)

Millets are replaced by rice either from PDS or purchased from market (in shortage). Consumption of tubers is also less either due to lesser availability or sells in market for rice. The same trend is also found with pulses in-take. More amounts of pulses are sold for money which in turn used for purchasing rice and liquor etc.

From 1983 onwards, they had a 'ration card' through which they were provided with sugar and kerosene at a price 25% less than the market. The government run PDS has started around 1997 providing them with rice at a subsidized price through its outlets. The PDS has encouraged a new pattern of food consumption in the community. The community was traditionally millet eaters/growers. However, the availability of rice at subsidized price has had an influence on the local community to adopt rice based farming system. The young farmers from the community are moving to valley & plains for rice farming, in turn neglecting the millet cultivation. The supplied rice is not sufficient which in turn made them market dependant. Again their interest towards the tuber crops is gradually replaced by rice. So they become market dependant from self-grower. Availability of rice through PDS has kept the community away from millets, but not completely.

The exercise proved that the community members required two varieties of millets more than rice and i.e. little millet and fox-tail millet. The elderly wanted only millets and the youth said they realized millets were strength giving food and filled their bellies.

Two major problems that pose threats to present practice of farming system were identified after a one and half hours long discussions over crops, food habits, healthier, nutrition (in terms of physical sharpness), labour intensive, rituals importance etc.

We recognize the change in health status of our family. I am healthier than my son and my son is healthier than my grandson who can be measured in terms of disease occurrence and physical fitness.

Rajmadha Majhi, M-75 yrs, Dupi (Day-2)

These were rising heat and erratic rain. The community was asked for a solution to the identified problems keeping a must view over health and nutrition.

A matrix was made with these two problems placed at two rows and the crops were placed over columns. The community was asked to decide which crop can withstand even in least water availability and rank accordingly with red, white and black (Red is for easily grow, Black is for moderate and White for more water consumption). From the entire exercise it emerged that the community could count on millets and cereals like finger millet, little millet, fox-tail millet, pearl millet, sorghum etc. and tubers crops. After so many discussions, arguments and gossips the following table has arisen:

The discussion was gradually taking its velocity towards the history of farming system approach specific to the region. We asked an elderly female of around 70 years about how life had changed over the years. He responded by turning his back to us. The others said that he was unlikely to participate as he did not like to communicate, particularly with outsiders. He also detested being photographed. The elderly *Bejuni* responded by saying that the earlier times were better.

Grains/Food/Resource	Heat	Erratic Rainfall
Little millet	X	√
Finger millet	X	√
Pigeon pea	X	√
Cow pea	X	√
Country bean	X	√
Sorghum	√	√
Pearl millet	X	√
Fox-tail millet	√	√
Niger	X	X
Castor	X	X
Rice bean	X	√
Yam species	√	√

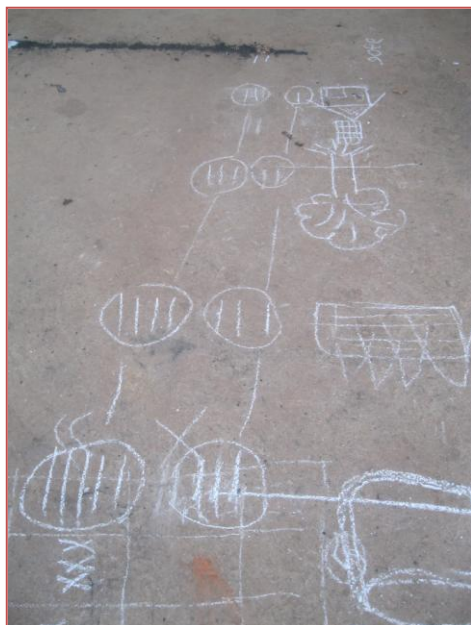


Since when had the difficult times started? Prasant translated for us. There were mostly blank stares. The tribal community has no sense of time as we know it. They live in eternity. They know the night and day, the seasons, the rainfall, their agriculture cycle. They can say exactly when a field is ready to be reused. But ask them about their age and they become silent. Their memory however carries the impression about big events that have affected them profoundly.

It was time to use the **Time-line/trend analysis tool**: All the elderly persons were invited again to the discussion the elderly person through a round of claps and planned to sit at one end of the straight village road near the well under the mango tree. Back to the community members was the school building and front to them was the newly constructed community marketing hall. Both the participatory group and the advisory groups were set in a concentric manner. NIRMAN drew a black line with the charcoal powder. The crop varieties significant to the community were placed above the charcoal line.

Our life in the forest is not easy. But we love nature and Mother Earth (Dharani). She has never let us down. She has always provided us enough for our daily needs. In future if she is angry we will still pray to her for relief. Because we love nature she is taking care of us. Don't you feel so? We sit and discuss so many important things. But we have never tried to go so deep into what we have or possess. The jungles and the hills give everything willingly to us. They are our Gods. They are there to look after us. It is their duty. So we have never worried or thought much.

Gachhakau Majhi, M-102 yrs (Day-3)



With respect to our last evening-gossip with Subhash, a 43 years old community member who has been farming since he was at 8 years, the villagers were asked about what were the important events that had happened during the past few years. The villagers started a soft discussion amongst themselves in their own tribal dialect. Actually they were at a loss to peep into such a distant past. The *Bejuni*, aged around 70, was consulted and she remembered that when Subhash was at 7 years, the community well was built. This became the first event to be recorded which was taken place at about 30-35 years ago.

The great grandfather of the village Gachhakau Majhi, around 102, recalled from his grandpa's gossip that they were shifted to this settlement in about 160 years ago. "We still go to our earlier settlement. Our place of worship remains there. Our earlier settlement was within the forest. But we suffered

diseases and were frequently attacked by tigers. So we shifted to this slightly lower region. People fear to go there so the forest trees in that area has survived felling” he adds in reply.

Parameswar Majhi, around 45, remembered that the school building was constructed around 20 years ago. Adding to him, the villagers recalled the mango tree near the well was planted at about 15 years ago. Tine Jani, a female of 70 years added the *Dharani Penu* wooden log was established near the mango tree near about 10 years below. Asking about the blazing community market hall, they replied it was built a year ago.

Now that some events that the community could recall were recorded, we moved on to the next part of the tool. We asked the villagers to recall the event of construction of the well and discuss regarding the produce from their fields and the forest. The *Bejuni* took the lead and said the **forests were very dense during that time**. When asked to identify the trees, she paused. To aid her, NIRMAN guided her to identify the trees on the basis of usefulness and produce.

On the basis of timber usually used to build the houses and furniture, she, aided by other senior members of the community, identified **seven trees** such as *Shala, Piyashala, Bada, Gireli, Beheda, Mango* and *Damana*. A community member made seven red dots on the timeline representing **6 fruit trees** (Mango, jackfruit, banana, dates, blackberries and cashew nuts), **11 trees were identified for uncultivable greens** (leaves as *kucha*) and that are *Kapa kucha, Mududa kucha, Jaba kucha, Batu Kucha, Pedaki kucha, Kuleru kucha, Eju kicha, Kriya kicha, Kyambelu kucha, Sorisha kicha* and *Madanga kucha*. **11 varieties of uncultivated basing (the tubers)** (*Kathi basing, Kuna basing, Rani basing, Sapka basing, Mara basing, Ratul basing, Kena basing, Bani basing, Napa basing, Pati basing* and *Kala basang*) were identified. The other forest products were mushrooms (three types), honey and gum.

“We planted one *mana* of seeds and got 100 *mana* of grain”, the community revealed. *The millets Mandia and Kosala were stress resistant crops. These required just one or two showers, needed very little care and grow in the most adverse conditions. Jhudunga, they said was a sensitive crop that required a cold climate. (Day-3)*

Regarding cultivable, the elders could recall **28 varieties of millets of 8 types and 16 legumes of 3 types** (the decrease trend in millet diversity with legumes has been outlined in table-7). They were *Mandia, Masha, Khed-Janna, Kaate/Ganthia, Arka (khagu), Maka, Kandula, Katinga, Jhudunga, Kolatha, Biri, Alsi* etc. The yield was profuse.

The elderly males identified **15 types of animals and birds** they used to prey upon, three types of tigers, elephant, bear, two types of deer, two types of monkeys, porcupine, big rodents, snakes, wild boar, fox, wild fowl, peacocks, rabbits, pigeons, owls etc. (In local language the names are *Barah, Sambar, Kutura, Bhalu, Bada Bagha, Heta Bagha, Karlapatra Bagha, Pati Mankada, Hanu Mankada, Gurandi, Shiala, Jhinka,*

Thekua, Mayura, Para, Pecha). The Kutia kondh, barring one community, eat all kinds of meat just as other forest and hill dwellers. Some clans eat snakes and insects too.

Before the well was dug, the villagers simply dependent upon the stream *Patabidi* for both drink water and paddy cultivations. It emerged from the discussion that **there were 32 households** around 30 years ago.

Notable **diseases** prevalent at that time were **fever, cough and skin diseases**. The **climatic conditions were extremely cold** at that time. The children suffered from measles and colds. There were **practically no deaths during births**, neither the child nor the mother. Sometimes acute diseases like vomiting and diarrhea took the lives of young and strong people. Injuries were a major problem. But **as there were diseases there were also herbs that cured the ailments** including even severe injuries, snake and insect bites. **The Jani, Pujari and Bejuni were well versed in tribal medicine, witchcraft and shamanism.**

Then we moved on to the **next event** that was the school building at the entrance to the village. This was **20 years from the present** and 10 years after the first event that was the construction of the well in the middle of the village.

As per response it was observed that profound changes have taken place in the intervening period. This was however voluntary. The 14 numbers of **birds and animals** mentioned earlier had **reduced to 6**; *Thekua, Gurandi, Mankada, Jhinka, Kukuda and Mayura*. **Trees have been cut down** in large numbers. **The tubers** have not **reduced** in number but **in size**. **Edible leaves** too were there, but in **much lesser quantity**.

Among the important observations they made was that the **banana produce had decreased**. The amount of **uncultivated greens** they got from the forests had **decreased**. The **stream** was observably **drying up during summer**. There were apprehensions even during that time that the streams could vanish altogether. The **rainfall** also was showing a **declining trend with irregularity**.

While the varieties of tubers and uncultivated leaves had not reduced, the **variety of millets had reduced to 20** of 8 types and similar to the legumes which had reduced to 13 of 3 types.

Moving to the next event when the *Dharani Penu* (the wooden log) was established near the mango tree, the situation in crop diversity was more alarming. **The millet varieties had shrunked to 16 and that of the legumes to 8.**

Coming to the present situation, the community continued to provide their experiences being at the midst changes. Four youths had migrated from the village to distant, but they had done so voluntarily. The **number of households was now 40.**

Close to their settlement, houses at the SC settlement are also increased to 24 from only 13 in 30 years ago.

The number of **animals** in the forest has come down even further. There were **only 2**, the rabbit (*thekua*) and the wild fowl (*bana kukuda*) who the Kutia sometimes hunted at night. Elephant invasion into the crop lands had increased many folds; crop loss due to elephants has become a phenomenon. The **trees** from which they extract timber were now **limited to 2**; *sala* and *damana*. **Fruits had reduced to 2**; mango and jackfruit. The **leaves**, they collected **from the forest were 11**, but the quantity of collection has been reduced because of more people and lesser trees. The tubers were still available but their size had further reduced. They still got **11 types of mushrooms**; the frequency of occurrence has become minimal.

Table-8: Time-line Trend Analysis of Crops grown

Trend	Reference Point	Time-line	Diversity Trend (in no. of varieties)										
25-30-Years before	Village well	1981-85	5	5	5	2	4	3	2	2	8	3	5
20-Years before	School Building	1990-91	3	4	3	2	3	3	1	1	6	3	4
15-Years before	Mango Tree	1995-96	3	3	2	2	3	2	1	1	6	1	4
10-Years before	Dharani Penu	2000-01	3	2	2	2	3	2	1	1	4	1	3
1-Year before	Community Market Hall	2010-11	2	1	1	2	2	2	1	1	3	1	2
Present day		2011-12	1	1	1	2	2	1	1	1	2	1	2
Crops (local name)			Khed-Janna	Mandia	Maa-sha	Kaate/Ganthia	Arka	Maka	Dhulia	Sakara	Jhudanga	Kandula	Kating
Crops (in English)			Sorghum	Finger millet	Little millet	Peal millet	Fox-tail millet	Maize	Dhulia	Sakara	Cow pea	Pigeon pea	Rice bean

Reflecting on the staple food crops grown, **especially the millets, there had only 10 varieties of millet of 8 kinds and that of legumes was 5 of 3 sorts**. Regarding fall in productivity, they revealed that while **earlier they sowed three addas (3kg) of seeds and reaped teen-shoou (300kg) of grain, now they found it difficult to get back what they sowed**. They also expressed concern over reduction in non-timber forest produce and uncultivated food.

On being asked what they perceived to be the reasons behind such a situation, where there has been a reduction in resources from forest and produce from farmlands. **The community ascribed reduced rainfall since the last 10 years, large-scale deforestation, soil erosion & soil hardening and intervention from the Forest Department over shifting cultivation** were to be the major causes.

Besides, the villagers point out **aggressive mustard cultivation over the medium lands is one of the major reasons for reducing land under millets**. The traders' push and the financial need of the community are mixed together encouraging them for such large-scale cultivation. The community's increasing financial need for purchasing food, health expenses and rituals have driven them borrowing money from others, especially the traders. Moreover, community youth's demand for mobile phones, music system, modern dress materials etc. are proved to be added burden upon both economic and social life of the villagers.

Resource	30 years ago	20 years ago	10 years	At present
Millets (8 types)	28 varieties	26 varieties	16 varieties	10 varieties
Legumes (3 types)	16 varieties	13 varieties	8 varieties	5 varieties
Trees - Timber	7 types	Deforestation results in scarcity		2 types
Trees - Fruit	10 types	Deforestation results in scarcity		2 types
Trees - Leaves (11 types)	More availability	Deforestation and numbers decreased	Lesser availability	Occurrence is very minimum
Tubers (11 types)	Availability rate is high	All varieties were available, but reduced quantity and quality	Lesser size, quality degraded	Occurrence is very minimum
Medicinal plants	Plenty	Scarce	Scarce	Very scarce
Other NTFP	3 types (Honey, gum, mushroom)	Reduced in quantity	Needed to spend more hour in jungles in search of the species	Reduced in quantity
Animals & birds	15 types	7 types, but that too lesser occurrence	Still less	Elephant invasion into the human habitat is becoming a phenomenon
Perennial Stream	One number	Drying up in summer	Water availability throughout the year is	Appears like a narrow drainage

Table-9: Summarized Trend Analysis				
Resource	30 years ago	20 years ago	10 years	At present
			very minimum	
Households	32 numbers	32 numbers	36 numbers	40 numbers
Disease	5 types (cold, cough, skin problem, diarrhea, vomiting)	8 types Increased intensity, more diseases like fits, arthritis, paralysis	Asthma occurred	12 types Weakness, tremors, stomach problems, worms added. Increase in intensity, more expenses on medicine
Climatic Condition	Cold, Heavy Rains	Diminishing rains	Irregular rain, hot sun, increased heat	Fire summer, Hot winter and with erratic rainfall
Soil	Very fertile; Blackish brown in colour	Reduced fertility; deep red appears as blackish crimson colour	Reduced fertility; loss of yield; red soil	Plagued by erosion; laterite soil, soil becomes more hard like rock surface
Traditional Knowledge	Rich	Disappearing	Disappearing	Almost gone. No interest in younger generation

In the middle of such challenges the Kutia Kondh community from Dhupi village knows their priorities. Agriculture being the key to it they speak with pride that their farming system provides them labour throughout the year, gives food for one and many, contributes to good health and strengthening their nutritional status and above all most importantly suits their culture. Beyond any scientific value analysis, millets for them are nurturer's, it is a food and it is a medicine for them. Instance of people from community using **Ragi powder with turmeric paste for children to cure dermatitis and related skin diseases, use the mixture as syrup to cure stomach worms for all age groups** shows their belief and knowledge system being strong and inherited from generations all together.

The three days participatory sharing and learning process with the community brought about a feeling of content for the community 'of being heard' and even a greater responsibility for the facilitators to help them overcome the challenges and threat visualized in the process by giving moral support on a regular basis. "We never realized what we were missing and after a long time someone came to talk to us about what richness our land has. Help us in reviving it", added the community instantly.

Section IV: Conclusion

Millet based farming system approach has a significant role to play in addressing two of the world's biggest and most urgent issues: climate change and food security. Further such varieties demand less external resource. The cropping pattern has enormous capacity to mitigate the increasing temperature, intensity of day light, erratic rainfall and nutritional insecurity as well.

The Kutia Kondh community of Dupi village understands the cultivation of millets has a wealth of production. All the farmers of the region are marginal holders and many are women. Their experience of millet cultivation, pattern and practices developed over many generations making them food sovereign. This diversified farming system with rich ecological knowledge of the smallholder farmers had been resulting in enhanced productivity, greater resilience and resource efficiency and improved access to food and income and ultimately strengthened the Kutia community over many years.

Millet based mixed farming system approach had been encouraging the Kutia community: use of local and indigenous knowledge & observation techniques and recognizes the critical role of women throughout the entire food chain as farmers, consumers and mothers. Being abysmally smallholder farmers', the community throughout the region have developed a multitude of practices and innovations that should be seen for what they are; the basis for any realistic development including productivity improvements.

Today, the Kutia community faces the alarming trend of loosing custodianship over their food production system. Their control over affordable, sustainable and locally adapted farming system is gradually weakening both by natural factors and by the policy environment. Their small farms with diverse crops are the key to local food and nutritional security. Gradual loss of crop diversity, especially the millets has been a threat to the local food sovereign regime which needs to address in order to deal with the situation of hunger, nutritional insecurity and climate variability.

It is time we try to put our millet farmers in tune with these challenging changing trends and demand for bringing the grassroots production systems well in tuned, with not only institutional and government production support mechanisms that encouraged organic farming, but also supports local livelihoods and nutritional diversity, cultural heritage and dignity. Therefore, along with establishment of area specific appropriate farming system approach which sustains and improves agriculture and relative livelihoods, it should also be ensured that the millet grains are procured by the government and utilized locally in various FDS programmes.