Participatory study in Kochepada and nearby villages

OGMAT and SNET started an initiative to explore a practice of participatory development in the village Kochepada that represents a number of villages near Ganeshpuri in terms of social, ecological, economical, and cultural context. The process began with a participatory rural appraisal exercise that was carried out in the village from November 2014 to enable the people in Kochepada to express, analyse, and refine their knowledge of a number of aspects of their community life. The present report elaborate a shared knowledge developed with tribal people from Kochechapada (and other nearby villages) that represent multidimensional reality of the region.

The outcomes of the participatory study of the context are detailed in the following sections.

1) **Social Map**

   The social map of the village was drawn by the villagers (a total of 18 people contributed to the exercise) as shown in figure 1 with the help of colored chalks on the ground in a common place used for public meetings. The social map reflects people's perceptions of the social dimensions of their reality including social stratification, demographics, social infrastructure, and housing. There are 126 people in Kochepada forming 27 households. There are 43 men, 43 women, and 40 children (0-18 age group). The households are either marginal farmers (18) or landless (9). A few households also cultivate crops on the land owned by the forest. There are 20 households using toilets out of the 22 households having toilets in their home.

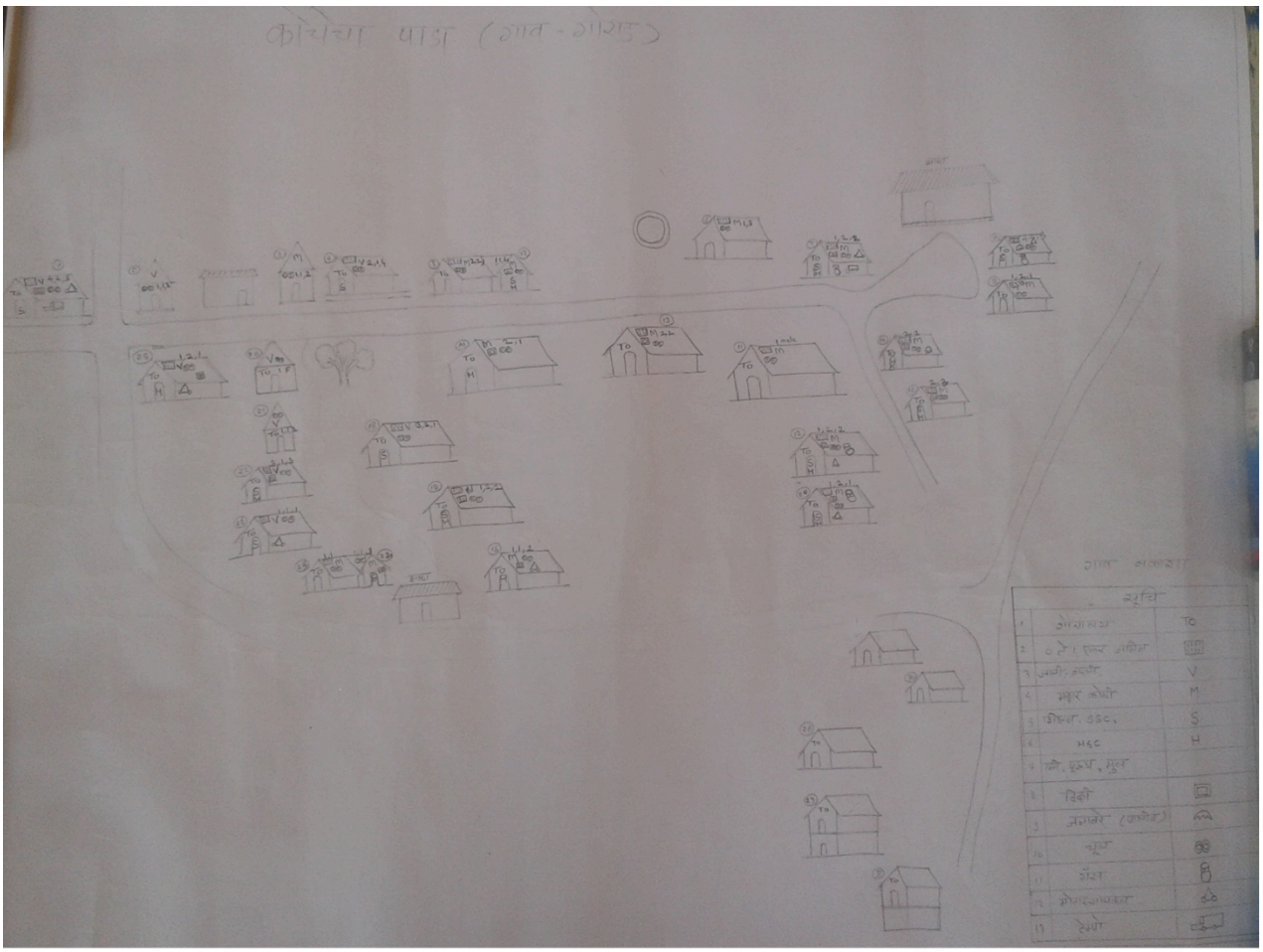

Figure 1: Social map in the village as perceived by the villagers

Level of education is low with only 11 people completed HSC examination and 18 more have completed SSC exam. There are 8 two wheeler vehicles and 2 goods carrying four wheeler vehicles. There are 15 television sets in the village. There are five households having traditional wooden walled houses. The remaining households have brick walled homes. There were four households having LPG stove connections. However, in 2017-18, Most of the families have got the LPG stove connections through central government's scheme. Cattle holding is very low with only two families owning a total of five cattle. The present livelihood alternatives include agriculture, animal husbandry, wage labour work and job, and selling non timber forest produce. Mainly the cultivation of paddy is carried out in rain-fed agriculture (a total of 26 households cultivate paddy). A number of farmers also cultivate rain-fed vegetables including okra, brinjal, chili, bitter guard, bottle guard, cucumber, coriander, and roots. Wage labour work mainly comprises construction work, sand collection (seven families), labour work at brick kilns, carpenter (3

carpenters), and masonry work. A number of youngsters also get employed by the distant industries (located at around 20 to 45 kilometres from the villages) on daily wage basis. The alternatives of wage labour work are sporadically available with uncertainty in procuring the payment of the labour work. The distant jobs are associated with a longer travel on daily basis with harsh work conditions. Most of the households raise hens for procuring eggs and meat for self-consumption and earning money by selling the hens in the nearby market. Two households carry out goat raising. There are 3 carpenters, five vegetable cultivators (as winter crops), and two liquor makers in the village. The five vegetable cultivators have dug around 10 feet deep ditches in their respective farms to avail water for irrigation after monsoon season. A few households collect gum (of *dhavda* and *aine*), jamun, and flowers of *moh* from the local forest in summer to earn some part of the livelihood. A few households living near forest area/hill sell firewood bundles collected from the local forest. Nearest market place, Vajreshwari, is located at the distance of around 5 km from the village.

2) Resource map

The resource map of Kochepada was generated by the villagers in the same way as the social map shown in figure 2. The map shows different natural resources and infrastructure in the village. The natural resources can be divided into the resources owned by various households (including farm land and deep ditches) and the resources owned by the forest department and the village commons (that can be utilized in a limited way by all the households). The commonly utilized resources comprise forest land, streams, two common wells, and a nearby river (*Tansa* river).

Resources from the local forest: Forest involves grass/bushes lands and the hilly forest located on the eastern and southern side of the village serves as a resource to collect cooking fuel, construction material (many wood species), and other forest produce (gum, medicinal plants, roots, forest vegetables,

forest animals, oil seeds, and fruits). It comprises mainly Government owned forest land.

1. Firewood: The tribal women procure an average of 600 kilogram firewood (mainly comprising *aine* wood) from the forest during winter and summer to fulfil their annual need of the cooking fuel and house warming during winter. The tribal women use barks of *aine, dhaman, kevan,* and *nandan* to tie firewood bundles.
2. Timber: The villagers procure wooden logs of tick*, dhavda*, shisav, chambali, khair, hedu, kalam, and shemti to make plough and to build cattle sheds, *kachcha* houses and bullock-carts (now this is not used commonly). The walls of the cattle shed and *kachcha* houses are made from *karvi* and *kuda* sticks, mud, and cattle dung. Bark of *shisav* and *shemti* is used to make plinth of cattle shed during monsoon. Wooden logs of tick, *shisav*, and *khair* are durable, wooden logs of *khair*, *haidu*, and *kalam* are hard, and the wooden logs of *dhavda*, *shisav*, tick, and *chambali* are flexible. *Shisav* trees reduced severely in the recent time period due to deforestation.
3. Medicinal plants: Table 1 lists a number of medicinal plants the associated uses to cure different health related problems. A few villagers exhibit the knowledge of a set of these medicinal plants and the treatment.

Table 1: A list of diseases and medicinal plants that are used to cure the diseases

Serial number	Medicinal plants/local inputs	Diseases/health problems cured by the plant medicines
1	*Tulsi, Adulsa, kodphal,* bark of *shidha,* and *haldi*	cough
2	Soot water	Intestinal worms
3	Neem and *Nibada*	Intestinal worms

4	Roots of *nihari*	Loss of hunger
5	Bark of Jambhul, bark of *kevni*, pod of *murudurgi*	Stomach ache
6	*Rankeli* (Forest banana)	Kidney stone
7	Leaves of *hadmodi* and clove	Kidney stone
8	Leaves of cotton, *errand,* and *tendli*	jaundice
9	Bark of *aaine* and *kayandola*	Deep would
10	Roots of *tad*	Tooth ache
11	*Burada*	wound
12	Thorn in sole	*bibba*
13	*Dhamli*	Snake bite (*phurse*)
14	Seeeds of *garbi*	Goitre

4. Forest vegetables: A number of vegetables are gathered from local forest during June to August. These include *shevla, kurudu, loath, tera, dinda, Baphali, takala, mat, kavla, kartuli*, sprout of bamboo, *uttersuni, bhopul (a mashrum), lunda* (a creeper), pods of *todu*, pods of *kharsinga*, leaves of *mokha, shekat* (drumstick), and *nikhara*, and *kand*. Flowers of *kuda* are also use to make a curry. *Kavda, kavdu* and *tera* are also found in the month of August. Flowers of *kuda* and fruits of *moh* are gathered during summer. Remaining vegetables are found mainly during June and July only. *Loath, shevla*, and fruits of *moh* are dried on an elevated platform over the wood burning cookstove (called as *Uttan*) during monsoon so that these can be used later on after July.
5. Forest animals: The tribal hunt frogs, crabs, fish, *ghorpad* (Indian monitor lizard), and peacocks during monsoon. Whereas, big rats, rabbits, *mungus*, wild boars, wild cats, *valan*, *baul*, *sayal*, and *gandya* are hunted

during summer. Rabits are hunted during winter as well. Earlier, tribal used arrows and spears for hunting. The usage of guns for hunting increased for the last two decades. The population of the forest animals has mainly reduced due to the depletion of the forests and over hunting. Two decades before, the tribal also hunted dears, however, their population has reduced significantly thereafter. Tribal don't go into the forest for hunting during monsoon mainly due to the fear of snake bites.

6. Birds: Tribal people hunt birds by using a locally made weapon called *bechki.* The birds, *Kua, Litya*, and *Potarya* hunted during monsoon. Whereas, *chitar, lahuri, tar-kombadi,* peacock, *haladkuda, ghegar, valha, borigala, kakad kumbhadya, saylya, pauspil, harud (bharadvaj), tirdha, khaprichor, kekati*, and *kalghosha* are hunted in winter and summer seasons. Population of all the birds is reduced mainly due to reduction in their habitat due to the depletion of forest (as per the tribal people's perception).
7. *Rab* a premonsoon agricultural activity: The tribal produce grass, cattle dung, leaves, and tree branches to carry out a pre-sowing burning activity called as *rab*. It is carried out to kill weed seeds and to provide potassium, phosphorus, calcium, silicon and other plant nutrients required for the early growth of the rice seedlings.
8. Fruits: During summer, the tribal used to pluck the fruits of *karvanda* (Indian mountain berry), *jambhul, tembhre, shelte, dhamna*, mangoes, *chini bore, torna, athurna, petara*, *humba*, *sitaphal* (clustered apple) and *ran avla*. Whereas, during monsoon, they used to pluck *koshim, amboda, alav*, and katas *kombla*. The plucking of the fruits got reduced after deforestation and the cutting of the fruits trees for getting more forest land under cultivation by the tribal. The tribal used to sell the fruits in the nearby market in large numbers. Presently, the tribal mainly use the fruits for self-consumption and only a few tribal sell the fruits to the local market occasionally.
9. Other non-timber forest produce: The tribal would collet gum (from trees of *dhavda, khair, aaine, kondoli, shemti, ehla*, and *babhul*), flowers of *moh*, and seeds of *dhavda* and tick. The tribal used to buy onions, potatoes, garlic, sugar, and jiggery by giving gum in a barter system. The reduction in the population of the gum producing trees reduced the

availability of gum and hence the collection work. In 1990s, all the households would collect gum from the local forest. At present, only one household collects the gum. There are four types of honey bees, namely, *movar*, *kolambi*, *aaga*, and *koti*. Karvi plants blossom once in five years producing higher amount of honey for the year. *Kolambi* bees build hive that hangs on a tree. *Aaga* bees build hive either on a tree or a stone structure. *Koti* bees build their hive inside the trunk of a tree. Movar builds hive either inside a tree trunk or inside the cavities of a stone structure. The villagers make ropes of the bark of *ambadi*, bamboo, and a *ber* grass to tie the harvested paddy stocks.

Resources from streams, nallah, and river: There are two streams on northern and southern side of the village. The streams carry water till the end of December, and thereafter the water remains in small ditches in the stream basins till mid-April. These streams serve as breeding and raising grounds for fish, crabs, and other aquatic animals (such as *khuba*) during monsoon. The villagers procure fish and crabs from the steams (during monsoon) and river (during all the seasons) for the self-consumption. The types of fish include *patya, vav, shingada, male, daku, kolambi, mori, valanji, chichya, kadvali, dandavan, balshi,* and *tika*. Whereas, the types of crabs include *kala, saphed, chimbori, gondola*, and *muthya*. The crabs (other than *chimbori*) are also found in farms and forests. The villagers' dry fish and a few vegetables (brinjals, okra, and forest vegetables) by using hot exhaust gases of the wood burning cookstoves by placing the items over an elevated platform above the cookstove. These dried food items are mainly consumed in winter and summer seasons. The tribal catch fish in the rivers and streams by constructing a boulder structure supported by wooden logs called as *Bhokshi*. The tribal collect/extract sand and boulders from streams, nallhas, and river for selling.

Resources from farm land: Different households own cultivable lands. There are three types of these lands, namely, plots (encroached land in forest area), farms having lime mixed soil and black cotton soil fields. Paddy is the main crop. Some of the households also cultivate ragi and vegetables (including brinjal, okra, bottle guard, cow pea etc.) during monsoon. Five families whose fields are near the streams cultivate vegetables and pulses as second crops

during winter and early summer. They draw water from big ditches dug in or nearby the steam basins.

There is a tar road connecting the village to the nearby bigger village, Ganeshpuri, located at around 3 km from the village. Other villages are connected to Kochepada by cart roads. Kochepada is surrounded by six different villages.

Figure 2: Resource map of Kochepada

3) Time line in Kochechapada

A timeline and trend line exercise was carried out in the village in a village level meeting attended by around 35 people belonging to different age groups. This provides aggregate of various landmarks and important historical events as

perceived by the people. It helps to identify the importance of these events inn changing the lifestyle of the people.

1990: Village is connected to the state electricity grid

1996: School started in the village

2006: Village was joined to Ganeshpuri by roads

2008: A drinking water supplying well was built in the village

4) Trend line in Kochepada

Tables 1, 2 and 3 show the trends for the variation of important elements of the village over three decades.

Education and infrastructure: Average level of education has increased over the period of last three decades. This has contributed in increasing the marriage ages of brides and grooms. This has resulted in increasing the number of bank accounts and job opportunities in the nearby industrial areas as contract worker. Twenty five years ago there were only wooden walled homes with thatched roofs made of rice straws. Introduction of Mangalori tiles began at around 1996 that replaced the thatched roofs. People started building brick walled homes since year 2000. In 2014, most of the houses are brick walled. Bricks are made locally by using agricultural top soil (please elaborate the earlier ways of construction of house and the recent practices with trends in mindsets, utility, resources etc.). The number of cell phones in the village increased over the last seven years. Most of the households have got cell phones. The number of motorised two wheelers increased over last ten years, mainly after the tribal started carrying out private jobs, wage labour work, and second crop cultivation.

Food habits: Earlier food habits comprised of ragi, rice, forest vegetables, roots and forest animals, fish, crabs, and dry fish (detailed in section so). Due to the excessive hunting (After advent of guns in the village) and thinning of the forest, a number of forest animals have either become close to extinct (such as

dear) or their population has become low. After the spread of hybrid rice varieties the proportion of ragi and roots in the diet reduced. Hybrid varieties of rice were introduced in 1990's. Hybrid varieties yield around 800 kg of rice per acre which is double the yield of earlier traditional varieties (zini, kur, turai) with a significant (more than double) reduction in the yield of rice-straw. This contributed to a reduction in the fodder availability and thus deterioration of the cattle population in the village. Gradually over the last two decades, the food habits incorporated hybrid paddy, wheat bought from public distribution system, and vegetables bought from weekly market places (including brinjal, potato, tomato, okra, beans, roots, and cluster beans). Mainly because of the depletion of forests and reduction in the time availability of youngsters who are engaged in wage labour work and jobs, the proportion of forest vegetables and forest animals, crabs and fish in the diet got reduced over the period pf last two decades.

Agriculture and agro-ecology: Earlier times, farming was carried out mainly for self-consumption. Villagers started cultivation of vegetables after year 2000 for earning money as well. Villagers would usually cultivate paddy (indigenous local varieties), ragi, cow pea, red gram, and varai during monsoon and chick pea, green gram, red gram, sesame, and black gram during winter. Farming mainly changed through three interventions, namely, 1) increment in the land ownership by tribal by encroachments in the local forest areas since 1970s till early 1990s, 2) the advent of hybrid varieties of paddy and synthetic inputs (in 1990s), and 3) beginning of cultivation of vegetables mainly as a second crop for selling the vegetables in the nearby market places (mainly after year 2000).

The tribal used to gather and sell NTFP, work as labourer in brick kilns and as a farm labourer before 1990s. They used to gather forest vegetables and roots, hunt forest animals, and catch fish and crabs for self-consumption. They would get paddy from the local non-tribal people in replacement of NTFP produce and a bonded labour work. Gradually, the tribal started encroaching the forest lands and started cultivation of paddy and vegetables (mainly after year 2000).

As the hybrid varieties increased the yield of paddy by around 1.5 to 2.5 times (gradually from 1990s' up to 2016) as compared to the traditional varieties, the area under cultivation of ragi and sorghum was gradually replaced by paddy cultivation in late 1990s. The monsoon crop pattern was changed from a

combination of paddy, ragi, and sorghum to mainly paddy. The hybrid varieties demanded synthetic NPK fertilizers for better yield. The increment in the usage of NPK fertilizers accompanies with a gradual reduction in the cattle population and the reduction in the usage of cattle dung manure in the farms. Cattle population in the village has significantly reduced over the last 25 years due to various reasons including reduced human work hours at home that can be expended for cattle rearing (children go to school unlike earlier), intervention of hybrid varieties of rice led increment in the area under cultivation of rice and the associated reduction in the sloppy grass lands (thereby reducing the fodder availability), selling of cattle to cover some household expenses (such as increased wedding expenses), and advent of chemical fertilizers and small power tillers. The tribal started cultivation of vegetables during monsoon and winter after year 2000. They also started using pesticides and weedicides for the cultivation of the vegetables. The tribal farmers attribute one of the reasons for the reduction in the cultivation of chick pea and lima beans to the reduction in the population of bullocks for ploughing. Farmers used to till their farm for the transplantation of paddy whenever the farms have drained most of the water during the months of July. However, since 2010, due to the scarcity of bullocks and the uncontrolled availability of tractors, farmers tend to plough their farms whenever the tractor is available even when there is ample amount of water in their farms. The accumulated water drains green/dry leaf manure from the farms, thereby, reducing its fertility.

A traditional pre-sowing activity called as rab is reduced due to the depletion of the local forest and the cattle population. In rab, different layers of dried grass, cattle dung, leaves, and tree branches are burnt on around $1/5^{th}$ of the total paddy farm or ragi farm. The activity is assumed to kill weed seeds and would supply various nutrients to the seedlings of paddy and ragy that is useful for the early growth of the plants. Reduction in the rab activity due to the depletion of forests and reduction in the cattle population increased the demand of synthetic fertilizers. On the other hands, reduction in the rab activity has also responsible for reduction in the cultivation of ragi and sorghum which demanded a thicker rab preparations as compared to the paddy. Farmers observed that rab can be partly replaced by the usage of synthetic fertilizers. These various changes caused depletion of soil fertility and thereby increase in the demand for the fertilizer inputs increasing the investment over fertilizers by

around 8 times over the last fifteen years. Earlier, the villagers would apply the fertilizers only at the time of transplantation. However, now it is applied for thrice.

Increment in the usage of synthetic fertilizers and pesticides for the cultivation of vegetables reduced the number of earthworms and soil microbes. Depletion of the forest and cattle population reduced the Greenleaf manure and cattle dung manure and thus the percentage of organic carbon in the farm soil. These changes gradually reduced the soil fertility. The tribal perceive that the reduction in the soil fertility is associated with a reduction in the taste and nutrition level of the rice. The hybrid rice breaks easily. It becomes sticky on over boiling. The people observe the problems of increased acidity in their stomach after a prolonged consumption of rice. The tribal would use seeds by preserving better paddy seeds of the previous year till 2005. Since then, the tribal have to buy new seeds every year from the market to get better yield. The cost of seeds increased by around three times for many vegetables and paddy varieties over the last ten years. The expense of renting power tiller for transplantation of the paddy seedlings increased from 500 rupees in 2005 to around 2000 rupees in 2017 (4 times). Depletion in the physical, chemical, and biological structure of the soil resulted in increment in the disease causing pathogens in the soil, reduction in the water holding capacity of the soil during winter, and reduction in the capacity of the soil to drain the excessive water. It was observed that after the advent of hybrid varieties and increased usage of NPK fertilizers was associated with increment in the number of fungi borne diseases (root rot, wilt, stem rot, blight etc.) after year 2000. After year 2010, the tribal preponed the sowing period of paddy by around 45 days. This change has reduced the diseases after 2010. If the soil health doesn't get improved, the diseases may again increase. Increased usage of pesticides killed friendly bugs and also generated pesticide resistance in various pests. This has led to the increment in the number of pests and their population over the last fifteen years, thereby, increasing the pesticide sprays by around 4-5 times for the vegetables cultivated during monsoon and by around 10-12 times for the vegetables cultivated during winter and summer over the last twenty years. The associated expense over pesticides has increased by around 20-25 times for monsoon crops and by around 50 to 60 times for various winter and summer crops. The increased occurrences of fungi borne diseases and pests

has led to the discontinuing the cultivation of water melon, tomato, and lima beans (*val*) by around 2012-14. Thus the intervention of synthetic farming practices along with the depletion of forests by different means depleted various facets of the local agro-ecology over the past two decades.

The interventions of increase in the total cultivation are after encroaching into the forest land, cultivation of hybrid paddy and increased the opportunities of labour work in the nearby areas helped the tribal to reduce the dependency on non-tribal farmers, thereby, reducing the problems of bonded labour. However, the interventions of hybrid paddy varieties (that demanded synthetic inputs) and the cultivation of vegetables by employing synthetic inputs along with depletion of local forests and cattle population caused reduction in the agro-ecology. This has increased investment on agriculture. It has also reduced the nutrition level of food and increased food toxicity. Scarcity of water has limited the cultivation of second crop to only around 15% of the farmers in the region.

(Trend of fodder/grass types/leaves of cattle, cattle diseases, raising, food, early benefits including milk, cattle dung, draft power etc.)

(farm land, encroachment, rules regulations and problems faced by the tribal)

Livelihood generation activities: These involve various skills, capabilities, assets, and activities required for the living of tribal people in the region (Chambers, 1993). These involve income generation activities, food collection/growing/hunting activities, firewood and water fetching, and cooking activities.

Firewood fetching: Forest cover surrounding the village has thinned due to the excessive deforestation (mainly by the wood selling contractors according to the perception of the tribal). Thinning of the forest increased the drudgery associated in firewood fetching activity reducing the firewood availability and increasing the average distance of the forest from the village residence. (elaborate with details, drudgery, health hazards, and other aspects)

Water fetching: Drudgery involved in water fetching activity reduced after building a well near the village (2000) and a well in the village (2008).

Food collection activities: These are already elaborated above.

Monetary income generation activities: The tribal were engaged in the collection of NTFP (gum, fruits, flowers, seeds) from the forest and collection and selling of firewood bundles in 1990s. They would raise and sell cattle and buffaloes and would work as agricultural labourer and on brick kilns. The tribal would get a set of vegetables and spices by exchanging gum in local market. Labor wages got escalated drastically since 1990.

In late 1990s' the availability of wage labour work at construction sites, masonry work, sand collection work increased. The thinning of forests led to the reduction in the collection of NTFPs and firewood bundles for selling. Only the households living on the periphery of the local forest would collect firewood bundles for selling. Liquor making was initially increased in late 1990s' and then gradually reduced after year 2005. The tribal can also earn by selling their agricultural top soil to the nearby brick kilns. The brick kilns require a medium type of agricultural top soil. It takes a number of years (more than 10 years) to regain the fertility of the soil once it is removed for making bricks. Reduction in the cattle count has further increased the required time period. The farmers are offered 100 rupees per trolley (100 cubic feet) of the soil. The farming household gets around 45 thousand rupees after selling one feet soil column over an acre of the farm. Soil from sloping farm is used to carry out road filling.

After year 2000, a number of farmers started growing vegetables for selling. A set of youngsters started doing contract based private jobs mainly after 2005, in the nearby industrial areas located at a distance of around 25 to 40 kilometres. Many tribal farmers own an encroached piece of land in the forest areas. They collectively do own less amount of the land that is registered on their name under the revenue department.

(**selling owned forest timber**)

Overall the tribal shifted their dependence on forest, rivers, land, and bonded labour to wage labour work and jobs. Mainly due to the depletion of

agro-ecology, depletion of forest, availability of wage labour work and jobs, increased formal education, intervention of synthetic farming practices.

Liquor addiction:

(shifting the dependence on companies and wage labour market)

Villagers had trapped in the vicious cycle of borrowing money from money lenders (to finance expensive events such as wedding) and its heavy repayments. Increased availability of wage labor work and intervention of hybrid varieties of rice had helped the villagers to break this cycle.

Cultural traditions and community level activities: The village has a cultural tradition of performing traditional dances (gauri dance, tipri dance, and tarpa dance) on several occasions across the year. These dances are elaborated in a separate section below. These events contributed in upholding the social capital in the village. These dances are mainly performed after transplantation till Diwali festival. However, the popularity of this tradition reduced after the advent of modern entertainment alternatives such as television sets and music systems in the village. Reduction in the tarpa instrument playing persons has caused the abolishment of the tarpa dance in the region.

Health issues: Major health problems in the village have changed over the last 25 years. Earlier times, villagers would suffer from various skin diseases due to the lack of sanitation (related to bathing and clothe washing). These problems have reduced over the past two decades. Diseases such as hepatitis, kidney stone, leprosy, joint pain, digestion related problems, and tuberculosis are increased. The reasons include contamination of drinking water by pathogens, pesticides, and heavy metals, change in the food habits, hybrid varieties of paddy and a number of other vegetables, depletion of the agro-ecology due to the reduction in cattle population and increment in the synthetic inputs, increased food toxicity due to the increasing usage of pesticides and chemical fertilizers, and increased drudgery in firewood and water fetching activities (in many hamlets if not Kochechapada). It was observed by the elderly people that the endurance strength of the people has deteriorated due to the changed

food habit. The problems of anaemia in the villagers increased as ragi (which is rich in iron) went missing from the diet. After year 2000, people started cultivating vegetables and increased the area under paddy by reducing ragi and sorghum.

(Trends in television sets, two wheelers, tape recorders, cell phones, lateral violence, language, clothing, justice system, village panchayat etc.)

Table 1: Trend line in Kochepada

Year	Avg. Education of youth	Monsoon Crops	Winter crops	Cattle per household	Wage labor	Food habits
1990	4	Paddy (traditional varieties, zini and turai, tornya, and kolti), ragi (two varieties), sorghum, khurasni, varai, cowpea, red gram, chili, chickpea, and common bean (*ghevda*)	Chickpea, black gram, green gram, red gramsesame, niger (*khurasni*)	10	8	Rice, ragi, jowar, udid, chavli, forest animals, roots, crabs and fish, dry fish.
1996	5	Paddy (traditional varieties), hybrid varities of paddy, ragi↓, sorghum↓, khurasni, varai, cowpea, red gram, chili, chickpea, and common bean (*ghevda*)	Chickpea, black gram, green gram, sesame, niger (*khurasni*), water melon	8	25	Rice, ragi, jowar, udid, chavli, forest animals, roots, crabs and fish, dry fish.
2000	7	Paddy (hybrid varieties), ragi (hybrid variety), reduction in the cultivation of sorghum, and varai, red gram, started cultivation of brinjals, cow pea, and lady finger, chili	Chickpea, black gram, green gram, sesame, niger (*khurasni*), water melon, lima bean (*val*)	6	50	Rice, ragi, jowar, udid, chavli, roots, crabs and fish, dry fish.
2005	8	Paddy (hybrid varieties), small amount of ragi (hybrid variety), red gram, small amount of sorghum, cowpea, chili↓, brinjals, cucumber, ridged gourd, and okra	Chickpea, black gram, green gram, sesame, niger (*khurasni*), water melon, lima bean, small amount of cluster beans, tomato, brinjal, and okra	5	100	Rice, ragi, jowar, udid, chavli, crabs and fish, lady finger, brinjal , dry fish.
2010	9	Paddy (hybrid varieties), only a few families cultivate ragi (hybrid variety), small amount of sorghum. Red gram, a few farmer also cultivate cowpea, chili↓, brinjals, cucumber, ridged gourd, and okra	Reduction in chick peas, greeb gram, black gram, and water melon, increased cultivation of cluster beans, tomato, brinjal, onion, and okra	2	150	Rice, ragi, jowar, udid, chavli, crabs and fish, lady finger, brinjal, potato, green vegetables from market, dry fish.
2016	11	Paddy (hybrid varieties), only a few farmers cultivate, ragi (hybrid variety), Red gram, a few	Small amount of chick pea, green gram, and black gram. Increased cultivation of onions,	0-1	(200, 150(for farming))	Rice, ragi, jowar, udid, chavli, crabs and fish, lady finger, brinjal,

		farmers also cultivate cowpea, brinjals, cucumber, ridged gourd, and okra	okra, cluster beans, brinjals, and bitter guards			potato, green vegetables from market, dry fish.

Table 2: Trend line in Kochepada

Year	**Firewood fetching hours during summer**	**Water fetching hours**	**Tree cover (comparison with tree cover of 1990)**	**Health problems**	**NTFP collection**	**Forest animals as compared to the availability in 1990 (only representative animals and birds are considered)**
1990	2 hrs	2 h in monsoon and 5 hours in summer	10	Hepatitis, skin problems, fever, cough, cold, diarrhoea	Gum (from alav, dhavda, babhul, and dhaman), fruits (including indian mountain berry, jamun etc.), seeds of tick and dhavda, flowers of *moh*	Rabit (10), wild boar (10), Bhekar (10), vultures (10)
1996	2.5 hours	2 h in monsoon and 5 hours in summer	9	Hepatitis, skin problems, fever, cough, cold, diarrhoea	Gum, fruits, seeds of tick and dhavda, flowers of *moh*	Rabit (7), wild boar (8), Bhekar (6), vultures (6)
2000	3 hours	1.5h in monsoon and 6 hours in summer (a well was built near the village)	8	Increase in Hepatitis, reduction in skin problems, fever, cough, cold, diarrhoea	Reduction in the number of families that collect Gum, fruits, reduction in the collection of seeds of tick and	Rabit (4), wild boar (5), Bhekar (4), vultures (2)

					dhavda, flowers of *moh*	
2005	3.5 hours	1.5h in monsoon and 7 hours in summer	7	Hepatitis, fever, kidney stone, cough, cold, diarrhoea	Gum, collection of flowers of *moh*	Rabit (2), wild boar (3), Bhekar (1),
2010	4 hours	1 h in monsoon and 2 hours in summer (a well is built in the village)	5	Hepatitis, fever, kidney stone, leprosy, tuberculosis, cough, cold, diarrhoea, diabetes	Gum, collection of flowers of *moh*	Rabit (1), wild boar (2)
2016	5 hours	1 h in monsoon and 2 hours in summer	4	Hepatitis, fever, kidney stone, leprosy, tuberculosis, cough, cold, diarrhoea, diabetes	Only a few people collecting gum, very less collection of flowers of *moh*	Rabit (1), wild boar (1)

Table 3: Trend line in Kochepada

Year	Folk dances	Habitat	Economic services	Liquor addiction	Liquor price
1990	Gauri, tipri, tarpa, tur, chavli, dhol, chavli	Traditional wooden houses with thatched roofs	Money lender	A number of adult drinkers	2 rupees per liter
1996	Gauri, tipri, tarpa, tur, chavli, tur, dhol	Traditional wooden houses with thatched roofs, mangalori tiled roof	Money lender	A number of adult drinkers	
2000	Gauri, tipri, tarpa	Traditional wooden houses with thatched roofs, mangalori tiled roof, brick walled houses	Bank services, reduction in money lenders	A number of adult drinkers, youngster drinkers started increasing	4 rupees per liter
2005	Reduction in the number of programs of Gauri, tipri, Tarpa	Traditional wooden houses with mangalori tiled roof, brick walled houses	Bank services	Adult drinkers reduced, youngster drinkers increased, children also started consuming liquor	
2010	Gauri, tipri	Reduction in traditional wooden houses with thatched roofs, mangalori tiled roof, brick walled houses	Bank services	Adult drinkers reduced, youngster drinkers	10 rupees per liter

				increased, children drinkers increased	
2016	Gauri, tipri	Most of the brick walled houses	Bank services	Adult drinkers reduced, youngster drinkers increased, children drinkers increased	50 rupees per liter

Table 4: Trend line in Kochepada

Year	**Age of groom**	**Age of bride**	**Livelihood/income generation activities**	**Justice system**	**Clothes**	**Toilets**	**Cell phones, television sets, Bikes**	**Lateral violence**
1980s					Women: 4 *vaari* saari, 9 *vaari* saari, Elderly Men above 40: *dhotar,* Youngsters*: pants shirts*			
1990	15-20	14-18	Collection and selling of gum, fruits, seeds of tick and dhavda, flowers of *moh* and firewood bundles. Consumption of forest animals, birds, forest vegetables, and fish and crabs, wage labour work, agricultural labour, working on brick kilns, raising and selling of cattle and buffalo		Women: 9 *vari* sari, Elderly Men above 50: *dhotar,* Youngsters*: pants shirts*			
1996	17-22	16-18			Women: 6 *vaari* saari by new generation, Elderly Men above 45: *dhotar,* Youngsters*: pants shirts*	3-4 toilets		
2000	18-22	16-18	Collection of gum, fruits, seeds of tick and dhavda got reduced. Consumption of forest animals and birds reduced, wage labour work, sand collection, masonry work, wage labour work, agricultural labour, working on brick kilns,		Women: 6 *vaari* saari by new generation, Elderly Men above 60: *dhotar,* Youngsters*: pants shirts*	5-6	TVs	

			raising and selling of cattle and buffalo					
2005	18-24	17-19			6 *vaari* saari by new generation, Elderly Men above 60: *dhotar,* Youngsters*: pants shirts*	8 (Compulsion for Govt. subsidised homes)		
2010	20-24	18-21	Collection of gum, fruits severely reduced, collection of firewood bundles reduced, consumption of forest animals and birds greatly reduced, wage labour work increased, cultivation of vegetables started, private jobs in nearby industries started, sand collection, masonry work, reduction in agricultural labour, reduction in working on brick kilns, only a few households involved in raising and selling of cattle and buffalo		6 *vaari* saari, Men: Pant shirts	10		
2016	21-26	18-22	Collection of gum, fruits severely reduced, collection of firewood bundles reduced, consumption of forest animals and birds greatly reduced, wage labour work increased, cultivation of vegetables started, private jobs in nearby industrial area, sand collection, masonry work, reduction in agricultural labour, reduction in working on brick kilns, only one household involved in raising and selling of cattle and buffalo		6 *vaari* saari, Men: Pant shirts	26		

5) Seasonality

Many aspects of the village life vary seasonally to respond to the seasonal variations of the local ecology as shown in table 5. Health related problems (in terms of number of people contracted by the health problems) are at its peak in the monsoon. This is mainly due to the contamination of domestic water source and heavy work load of agricultural activities. There are some seasonal diseases/health problems in summer (due to increased body heat) and winter (joints and skin related problems due to cold weather).

Table 5: Seasonality table of a set of important elements in Kochepada

Particulars	Monsoon	Winter	Summer
Festivals	*Nagpanchami, Gauri-ganpati, Vatapournima*	*Diwali, Makar-sankarant*	Weddings, fairs, Padva, Holi
Health issues	Hepatitis, fever, malaria, cough, cold, diarrhoea	Cough, cold, body ache, head ache, tooth ache, itching of skin, skin dryness, dandruff	Eye problems, kidney stone, hepatitis, diarrhoea, fever, cough, itching of skin.
Food items	Rice, chapatti, crabs, fish, roots and forest vegetables	Rice, chapatti, jowar roti, dal, dry fish, river fish, chicken, vegetables bought from market, drum sticks, forest animals	Rice, chapatti, jowar roti, dal, dry fish, river fish, chicken, vegetables bought from market, drum sticks, crabs from river, *simple,* forest animals
Hunting (animals, fish, crabs, and birds)	Mainly crabs and fish, A few people also hunt frogs towards the end of the monsoon	Rabits and birds	Fish in the river, birds and animals
Sanitary habits (bathing, using toilets, water purification etc.)	2 baths, toilets	2 baths	3 baths
Liquor addiction	high	high	low
Fruits	*Kosam*, *alva*, custard apple, *kand*	*Ambora, bor.*	Mango, guava, sapota, cashew, jamun, indian mountain berry, *damna*, *petari* , *ambora*, *bor* (jujube), *avla*.
Water resources	Well, river, streams, hand pump	Well, hand pump, river	River, well
Daily time to fetch water	1 h	1.5 h	2 h
Time to fetch firewood bundle	0	2.5 hours per trip	4.5 hours per trip
Agricultural activities	Sowing, transplantation of paddy, harvesting, vegetable cultivation	Vegetable cultivation (sowing, tilling, weeding, foliar	Rab preparation

	(sowing, tilling, weeding, foliar spraying, harvesting, marketing etc.)	spraying, harvesting, marketing etc.)	
Livelihood Activities (other than agricultural activities)	domestic activities.	Harvesting, milling, vegetable cultivation, wage labor work at construction sites, wage labor work at local industries, firewood fetching, domestic activities, hunting, cattle raising	wage labor work at construction sites, brick kilns, sand collection, wage labor work at local industries, firewood fetching, domestic activities, hunting, cattle raising, cattle shed renovation
Social/cultural activities		Cricket matches, kabaddi matches (youngsters)	Attending or organizing Weddings

Rice is a staple food throughout the year. Crabs, fish, and the vegetables grown in the forest are usually consumed with rice during monsoon. Whereas roots, dry fish, drum sticks, and vegetables bought from the local market are usually consumed during rest of the year. Agricultural activities are mainly concentrated in the months of late summer and monsoon. Other activities such as wage labor work and firewood fetching are carried out during the months of winter and summer.

6) Daily activity schedule of women

Table 5 shows daily activity schedule of women in different seasons. It shows that women mainly carry out domestic and agricultural activities (water and firewood fetching, housekeeping, and cooking) and these are evenly distributed over the year.

7) Daily activity schedule of men

Table 6 shows daily activities carried out by men in different seasons. It shows that the activities carried out by men usually include agricultural work, animal raising, and wage labor work. Men are engaged in agricultural activities mainly during monsoon and late summer and are engaged in wage labor activities during winter and summer.

Table 5: Daily activity schedule of women in Kochepada

Daily timing	Activities during monsoon	Activities during winter	Activities during summer
Early morning	House cleaning, cattle shed cleaning, preparation of breakfast	House cleaning, preparation of breakfast	House cleaning, preparation of breakfast
Late morning	Water fetching, clothe washing	Water fetching, clothe washing	Water fetching, clothe washing
Noon	Agricultural activities, cooking the food items	Firewood fetching, agricultural activities, cooking the food items	Firewood fetching, agricultural activities, cooking the food items
Afternoon	Agricultural activities	Firewood fetching	
Evening	Water fetching, cooking	Water fetching, cooking	Water fetching, cooking
Night before sleeping	Washing utensils	Washing utensils	Washing utensils

Table 6: Daily activity schedule of men in Kochepada

Daily timing	Activities during monsoon	Activities during winter	Activities during summer
Early morning	Animal raising, agricultural activities, fish and crab catching	Agricultural work	Agricultural activities, wage labor work
Late morning	Agricultural work	Wage labor work, agriculture	Agricultural activities, wage labor work
Noon	Agricultural work	Wage labor work, agriculture	Agricultural activities, wage labor work
Afternoon	Agricultural work	Wage labor work	Agricultural activities, wage labor work
Evening			
Night before sleeping			

8) **Transect walk**: The agro-ecology in the village was studied by carrying out a walk across the village that covered various types of agro-ecological zones in the village. The learnings are discussed below. **(trees, soil type, grass lands, animals, birds, possible work to replenish the agro-ecology, forests, and water table)**

There are three types of farm lands in the village.

a) Red soil farms: These are encroached lands by the villagers. They call it plots. They have started to encroach the forest land since 1980s. They cleaned the place by cutting trees and started cultivating on the plots. It is more fertile than the black soil. Reasons for encroachment are increased desires and aspiration, and increased population that reduced the per capita farm land.
b) Limestone mixed soil: Most of the soil in the farms owned by the villagers is mixed with small (3-12 cm in perimeter) lime stones. It is less fertile than black soil. Average paddy yield in black soil is 10 quintal per acre, whereas, for lime stone mixed soil it is 6 quintal/acre. Earlier times, when there were a lot of cattle in the village, they would use organic fertilizers in this soil. At that time the land was as fertile as black soil. After the advent of industries in the neighbouring area, people in the village started getting wage labor in industries. This has increased labor cost in the village. Secondly, it has also reduced the availability of people at home to rear cattle. Cattle count has reduced drastically thereafter and so the fertility of the lime stone mixed soil. It is required to increase the cattle count to make the land fertile. A few farmers have small water ponds near their farms for the second crop. However, the water is available in small amount till the end of March. Therefore the locally available electric pumps or diesel pumps are not useful as they would drain the small amount of water in short span of time. They need small capacity pumps such as treadle pumps.
c) Black soil: It is present near the village. There are only a few farms that have black soil. It is fertile land.

Due to the reduction in cattle count, many farmers are dependent on tractors for ploughing their fields. Reduction in organic manure has reduced fertility of the land. Many youths go to the local industries to seek wage labor. They don't work in the fields and rear cattle. Agriculture is facing a vicious cycle. It is required to increase the cattle count and cultivation of second crop to

regenerate the agriculture. There are very less horticulture plantations in the village. Their yearly yield is also not significant to be counted.

9) **Work done by other volunteer organizations and Government in Kochecha pada**

1) **Prasad Chikitsa:** This organization has started SHGs in Kochepada. They offer seeds to the villagers. They also provide some healthcare facilities to the villagers.
2) **Learning space foundation**: This organization provides clothes, toys, and books to school children.
3) **Government**: Government has built two wells in the village for domestic water supply. A number of houses were built by using the grant received through Indira Avas Yojana. Toilets and school buildings were also built through government schemes. Healthcare services (aasha worker, PHC and rural hospital), preschool and primary education, various schemes for tribal development and rural development, LPG stoves. However, stringent requirements/delays/corruption?

Education

The tribal teenagers usually get education till SSC. Some of them further study till HSC. Only a few of them opt for higher education. The reasons perceived by the tribal are given below: 1) Due to the lack of money, they can't give further education above SSC, 2) there is a pessimism that even after getting higher education, the student doesn't get jobs in Government without heavy bribes which are too big for the tribal to pay, and 3) lack of awareness about higher education has also resulted in the drop outs after SSC, and 4) Instead of carrying out higher education, if the tribal youngsters would spend the time in learning a set of skills (such as masonry work, wage labour work, farming, carpentry etc.) it is useful to earn some livelihood for the family. Otherwise, the livelihood earning time period gets delayed and it also delays marriage age of both bride and groom. It is hard to find a suitable match for aged brides and grooms.

Traditional village level folk dances (costumes, instruments, songs at different occasions etc. and its correlation with the community building, folk dances are to be performed and not to be observed, these give utter joy when performed, whole community across age group dances and enjoys)

1. **Tarpa dance**: The tarpa dance is carried out with the instruments including tarpa, dolke, and dholkathi. Tarpa is a mouth organ made locally by the tribal. It comprises five parts (see figure 3), including, a bhopla (made from bottle gourd), jibli (valve), wax from the bee hive of katya bees (a specific type of honey bee), two flutes, and kok (a horn). The uppermost part where the player blows air acts like an accumulator. The wax ensures airtight joints between different parts of the tarpa. The wax of only the specific bee hive is durable. Flutes are made of bamboo. One flute is used to maintain a continuous sound, whereas, another flute is used to play the rhythm. There is no vocal song in the tarpa dance. The tribal make a regular common mouth-sound while dancing. The dance used to be carried out by men and women (around 15-20) from August (Ganesh festival) to November (Diwali) on daily basis. Due to the reduction in the tarpa players in the region, the tarpa dance is only played for a few occasions in a few tribal hamlets. The folk dance is not played in Kochecha pada for the last 25 years.
2. Gouri dance: This dance is carried out by singing songs by men and women and playing only dholke (an instrument). It used to be carried out from nagpanchami to Diwali (after completion of the transplantation to the harvesting of paddy). Presently, the gouri dance is carried out mainly during Diwali.
3. Dhol dance: This used to be carried out by singing songs with dholke, mainly by men. The tribal stopped carrying out the dance over the last two decades.
4. Tur dance: This dance used to be carried out by singing songs and playing two dholke by men (12-16 people). The tribal stopped carrying out the dance over the last two decades.
5. Chavli: This used to be a fun making programs organized by the tribal. A man would dress like a woman and would sing songs prompted by a

group of people to make a fun of either other group or a person belonging to different group. In return, the targeted person or the group would improvise and prepare a song to counter the fun and the mischievously entertaining program goes on. The chavli program became extinct three decades ago.

6. Dhumsa dance: This is similar to tarpa dance. Instead of tarpa, an instrument dhumsa (a big drum) is used.
7. Kambdi dance: After one to two weeks of the beginning of rains, tribal go to the nearby forest, cook meal, eat, and carry out kambdi dance. Forest vegetables are cooked. Steel plates are used as musical instruments. People tie wooden logs and grass bundles around their body while dancing. A number of folk songs are sung while carrying out kambdi dance.

Figure 3: A tarpa

Gods and festivals

Both Warli and Mahadeo Koli tribal share many common gods. Mainly, the Gods Hirva and Godess Himai are worshiped at home. Other than these common Gods, different households also worship various Gods including *Saldoli*, *Ghangli*, *Bairamdeo*, *Kaanveer*, and *Kansari*. The people worship the God *Kanveer* if there is a problem in the years of a member from their family. It is believed that the Godess *Kansari* is in the form of grain crops including ragi, paddy, *varai*, and Jowar. In every village, three gods including Gaondevi, Vaghoba, and Chedoba are worshipped. Khandoba is an additional God worshipped by Malhar Koli tribe.

Major festivals in the community include Nagpanchami, Ganesh Chaturthi, Dasara, Diwali, Sankranti, Holi, and Barshi.

Nagpanchami: tribal carry out fasting for the day, make small statues or pictures of snakes and carry out its pooja. There is a gouri dance in the village on this day.

Ganesh Chaturthi: Villagers would bring ganesha statues in the village and carry out its pooja for ten days. There is gouri dance during Ganesh festival.

Barshi: The festival is celebrated 3 days before Diwali festival. Tribal would carry out pooja of their Gods (Gavdevi, Chedoba, and Vaghoba). There is a village level gathering where the tribal would dance throughout the night and a common meal is prepared.

Holi: The villagers would burn dried trees from the forest

Warli paintings: Warli and Koli tribal draw paintings on walls outside and inside home at various occasions of weddings and festivals. Traditionally, the tribal would use wet rice floor to draw the paintings. Small sticks of *bamboo* and *tad* were used to make painting brushes. The paintings would depict the warli life style of carrying water and firewood from the forest, wedding events, farming

activities, animal raising activity, and various tribal Gods' in a particular style of sketching.

Social formations: Individual, families, hamlets, community, local society

Marriages

Households are one of the basic units of the social formation of the tribal communities. Marriage system is one of the most important building block of the household unit in the community.

(Details of practices- right from arranging the marriages, love marriages (recent trend), age, customs, costumes, who attend, expenditure and trends)

10) Problems Identification

Different problems felt by the villagers were identified in four different group discussions (with men and women by considering age-wise distribution of people) are listed in table 7. Most of these identified problems are inter-related.

(Elaborate every problem in brief)

Table 7: List of the problems perceived by the villagers in Kochepada

Drudgery	**Health**	**Knowledge, mind-sets, behaviour, and practices**	**Infrastructure**	**livelihood**
1. Drudgery in firewood fetching 2. Drudgery in domestic water fetching	1. Personal hygiene 2. Impure drinking water 3. Scarcity of milk 4. Malnutrition 5. Increasing trend of health problems 6. Lack of knowledge of suitable diet	1. Liquor addiction 2. Lack of higher education 3. Early marriages of girls 4. Reducing cattle population 5. Lack of knowledge about suitable agricultural practices	1. Lack of transport services to reach educational institutions and nearby market places 2. Lack of road network	1. Seasonal migration to earn livelihood 2. Lack of livelihood alternatives 3. Lack of skills and capabilities required to earn livelihood

	7. Lack of healthcare service in the village	6. Lack of planning for monetary expenses 7. Lack of social capital to carry out a number of village level activities 8. Lack of sanitation in the village		

The village lacks secured livelihood due to the lack of knowledge and practice of techniques to carry out agriculture, employable skills, distant market, lack of transport service from the village, and poor education. Many people cannot afford to buy private vehicles due to unsecured income earning sources. Lack of habit of planning for expenses aggravates the problem.

The nearest healthcare centre is situated at a distance of 3 kilometre from the village. Due to the lack of proper transport services, people cannot avail of health care services easily. Drudgery associated in the daily activities (especially in firewood fetching and water fetching) are the major reasons causing backache, neck-ache, and mental stress. Villagers suffer from a number of impure water borne diseases. Reduction in cattle population has resulted in the drastic reduction of milk in the daily diet reducing a nutritious food (due to the reduction in organic manure in the farm) for children. Changing food pattern (from ragi and traditional rice varieties, forest vegetables to hybrid rice and vegetables bought from the local market), cultivation practices, lifestyle, and liquor addiction are also the reasons for the increasing a number of health related problems.

Weak social capital in the village has been the reason for lack of planning and its implementation for a number of village level activities and projects that may address some infrastructural and health related problems. Liquor addiction has fuelled disputes in the village, thereby, has reduced social capital.

11) Problem ranking and perception of wellbeing

A set of personal interviews of the people were taken and the people were sampled by considering gender, age group, and community to arrive at the people's individual priorities of the identified problems and their perceptions of the concept of wellbeing.

Priorities of problems

The survey was conducted among twenty one men and women (15 women and 11 men) in 15 households (add age groups also). A pictorial representation of problems (see figure 3) was used to derive the priorities. Average hierarchies for different groups were found by assigning a weight to each problem equal to the reciprocal of its rank assigned by an individual, followed by a weighted average (see table 8).

Figure 3: Pictorial representation of a number of problems in Kochepad during problem ranking exercise

Table 8: Overall problem ranking

Serial number	Problems faced by the village	Women	Men
1	Drudgery in domestic water fetching	1	1
2	Liquor addiction	4	5
3	Seasonal migration to earn livelihood	10	6
4	Lack of livelihood alternatives	6	8
5	Impure drinking water	2	2
6	Drudgery in firewood fetching	3	3
7	Lack of transport services to reach educational institutions and nearby market places	5	4
8	Early marriages of girls	9	9
9	Malnutrition	11	10
10	Increasing trend of health problems	8	7
11	Lack of healthcare service in the village	12	11
12	Village level hygiene	13	12
13	Personal hygiene	7	13

12) Ideas of well being

Similar to the personal interviews in the problem ranking exercise, a separate exercise was undertaken among 14 people in 10 households (10 women and 4 men). It was observed that by and large many the interviewees shared similar ideas of wellbeing. It comprised of the following nine perceptions;

1) There should not be addict people at home
2) There should not be major health issues in a family
3) There should be sufficient food throughout the year
4) There should be sufficient money required for living.
5) There should be tranquillity of mind.
6) There shouldn't be quarrels in home
7) There shouldn't be disputes in the village. There should be adequate social capital in the village
8) Village should be clean
9) There should be adequate amenities at home. Drudgery involved in water fetching and firewood fetching activities should be less.

It can be observed that many ideas of wellbeing and the identified problems are related to each other. The additional aspirations are tranquillity of mind and no disputes in family and village to uphold the social capital. It is required to study the contextual realities and trends of the various problems that were prioritized by the people.

13) Festivals, gods, and village level social programs, marriage system (details)

14) Superstitions/ beliefs

15) Weekly market and centralized market: Villagers procure the following things from either weekly market or centralized market. Food items (oil, haldi, spices, vegetables etc.), floaters, clothes, utensils, blankets, mats, soaps, toothpaste, doctors, liquor, tobacco, smoking?

Government: electricity, ration, banking services, rural hospital and PHC,

**draw a diagram that would convey the transactions between forest, farms, local market, government, centralized market to the village. And the village itself to the villagers.

16) Ration: rice, wheat, kerosene etc.

***17) Interaction between tribal and non tribals (non-tribal villagers, government, local market, centralized market etc.) and how has it changed over the years.

18) Problems of plots, land holding, and land acquisition law for tribal and its implementation (thorough problems incurred by the tribal – with a brief history that predates to British raj)

How the situation of tribal changed from colonial era to modernization-cum-socialism based independent state era, to globalization era?

How generation of major livelihood alternative is a prerequisite for the development of tribal communities? Otherwise, they may lose their tribal entity to the outsiders and would be just emulators with inferiority complex and multidimensional deprivation and destituteness.

Pre british era (or pre 1864): Hunting and gathering and shifting agriculture

British era (after 1864): gradually more dependence on farming (mainly shifting cultivation)

British era in 20th century (after 1900): Gradually lost farming land to the forest department of British government and local land lords, bonded labourship, wedding labourers, indebtedness (khavti), and very low wages. Lost self-esteem and gained inferiority complex, homelessness.

Independence era (post 1947) Bonded labbourship gradually abolished, increasing the level of formal education, encroaching into the nearby forest areas, depletion of forests, migration to brick kilns.

Globalization (after 1991): Drastic depletion of the forest areas, wage labour work in nearby farms or semi urban areas, lost major part of various traditions including dances, wedding process, festivals, village panchayat system, reduction in superstitions, increased migration (seasonally and diurnally). Increased participation in the gram panchayat system, political polarization, liquor addiction. Social capital depleted due to the reduction in the local interactions (local folk dances, household level agricultural

activities, hunting, local system of justice and village panchayat, political polarization)

Summary and Way ahead

The present report documented outcomes of a number of participatory exercises carried out in the village to enable people to share, refine, and study their perceptions about the multiple aspects of the community life. This included social map, resource map, time line, trend line, seasonality, daily activity schedules, transect walk, work done by volunteer organizations in the village, listing of problems, problem ranking, and idea of wellbeing. The outcomes of the exercise are given below.

1) The exercise served as a medium to enhance people's involvement and interest in the process of development of the village.
2) The process helped to identify a number of key respondents in the village. These people would be the part of the village level organization to carry out the further activities.
3) The process could develop an understanding of various elements and their interrelationships that form the village life.

Further process involves the following

1) Sharing: Resource maps and social maps are already shared with the villagers by hanging them on the walls of school building for their further refinement. The remaining outcomes would be shared with the villagers through pictorial representations.
2) The prioritized problems would be further studied with the people to identify their contextual realities.
3) In a set of village level meetings the outcomes of the study would be discussed and a development agenda owned by the people would be selected.