

Constraints analysis and prioritization through PRA techniques in the agency area of East Godavari District, Andhra Pradesh

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ABSTRACT

A socio economic survey was carried out by using PRA techniques to analyze the tribal scenario of East Godavari district. In order to evoke their participation and to open ways in which these closed groups can participate better in assessment of opportunities, needs, priorities and constraints in project design and implementation. The constraints were identified through PRA techniques viz. social map, resource map, agro-ecology map, transect were used in agro-eco system analysis. Ex-post facto research design was used and a sample of 500 tribal families were selected on stratified random sampling procedure from two village panchayats viz. Peddageddada from Rampachodavarm mandal and Vattigadda from Rajavomangi mandal of East Godavari district based on purposive random sampling method. The major problems were identified and the interventions were proposed based on the analysis of PRA techniques.

Keywords: Constraint, PRA.

The tribal population in East Godavari district is concentrated mostly in the agency area covering 559 villages of nine mandals. The tribal communities are very primitive, indigenous and closed groups. Participatory Rural Appraisal (PRA) is a methodology for interacting with villagers, understanding them and learning from them. It is a method of collecting different kinds of data, identifying and mobilizing intended groups and evoking their participation and opening ways in which intended groups can participate in decision making, project design, implementation and monitoring based on objectives, purposes and resources. It provides supplementary and complementary framework for data collection and analysis in a visual format in participatory development process.

The most prominent tribal communities in the selected villages are Konda Reddies, Koya Doras, Konda Kammaras, Valmiki, Manne Doras, Konda Kapus. The tribes follow primitive methods of agriculture, which is known as 'Podu cultivation' and 'Shifting cultivation'. They clear away the forest lands on hill slopes by cutting and burning. They also depend up on the traditional occupations like Bamboo basket weaving, Mat weaving. They live in huts made up of mud and bamboo walls covered with thatched (Palm, Straw) roofs. They live in colonies (10 -20 families) locally called as gudems by constructing their huts very close to each other for protecting from wild animals like bandi sinduga (Cheetah) bear and wolf. They generally select their habitat near water source.

MATERIALS AND METHODS

Ex-post facto research design was used and a sample of 500 tribal families were selected through stratified random sampling procedure from two village panchayaths viz. Peddageddada and Vattigadda based on purposive random sampling method.

RESULTS AND DISCUSSION

A socio economic survey was carried out by using PRA techniques to analyze the tribal situation. The PRA techniques viz. social map, resource map, agro-ecology map, transect, mobility map, technology map, livelihood analysis, seasonal analysis, venn diagram, matrix ranking, flow diagram, impact diagram, ITK map, wealth ranking etc. were used in agro-eco system analysis and important among them are discussed below.

Agro-Ecology Map: Agro-ecosystem analysis was carried out for the villages for resource characterization, identification of prevailing systems and practices and constraints / problems. Problems were prioritized and technology interventions were prepared. Budget planning was prepared based on the technology interventions. The following tools were used for generating basic information. Hence, a survey was carried out to analyze the tribal scenario.

Major Crops: The staple food for tribal population is rice followed by minor millets like jowar, sorghum, pearl millet and tapioca. They also raise commercial crops like cotton, tobacco, chillies; pulses like redgram, blackgram, greengram, rajmah, cowpea; oil seeds like groundnut, gingelly; plantation crops like cashew, rubber, coffee and orchards like mango, banana, citrus, pineapple etc.

Crop Calendar & Cropping System: There is no strict calendar as such. But the tribal farmers follow certain series of crops as sequence. Important Cropping systems followed in this area are Paddy - Black gram/ Green gram, Sorghum-Vegetables, Gingelly/ Groudnut- Vegetables, Maize-Tobacco & Fallow Tobacco etc. The vegetables like Beans, Ridge gourd, Banana and tubers like Tapioca and forest tubers are generally used by the tribals.

Climate: Cool winter and summer with moderate temperatures are the characteristic feature of this area. The mean and maximum temperatures range between 24 - 32° C and the minimum between 14 - 24° C, respectively. The average annual rainfall varies from 900- 1400 mm with a mean rainfall of 1150 mm, most of which is received during the South-West monsoon. Evening showers are common in rainy season due to the existence of thick forests. Cloudiness and low light intensity prevail for a number of days during South-West monsoon period. Heavy rains are common in Kharif during the months of August to October. Day length ranges between 9 -11 hours. A high relative humidity of 70 to 80% exists in the atmosphere. High humidity and pleasant winters are characteristic of this area. Number of rainy days is more (around 45 out of 75) here. The temperatures are cool and may range between 15° to 40° C with a minimum temperature ranging between 15° to 20° C during winters and a maximum of 35° to 40° C during summer months.

Soils: The soils are light-textured sandy loams (Alfisols), except small patches of black soils. The soils are very fertile and support a variety of crops. With the mountainous terrain, the soils are subjected to severe erosion during heavy monsoon rains. To avoid soil erosion, horizontal contours are made on the hill tops. Both the soils at Pedageddada and Bandapalle are light soils and sandy loams. Thantikonda panchayath (Vattigadda) has red soils (80 ha) and black soils (114ha). Cheruvu Kommupalem (Bornagudem) panchayath has four soil types i.e. red soils (60ha), sandy loams, black cotton soils(40ha) and saline soils(33ha). The hill slopes are mostly of sandy loams. Contours are made on the hill slopes horizontally to prevent soil erosion. The rain water is allowed to drain out through small channels here and there.

Rainfall: The average annual rainfall varies from 900 to 1400 mm with a mean rainfall of 1300 mm, most of which is received during South-West monsoon (64%). North-East monsoon and summer showers account for 27% and 9%, respectively. The number of rainy days is 42 days. Cloudiness and low intensity prevail for a number of days during South-West monsoon period. Heavy rains are common in Kharif during September-October or cyclones during October, November leading. Cloudiness and low weight to prevent soil erosion.ack soils (114ha). to floods and inundation of fields with 60-90cm water for 2-5 days (some time extending up to 10-12 days).

Physiography: Majority of the tribal villages have 80% elevated terrains. On the elevated terrains, the tribes grow cotton, vegetables and tobacco by shifting cultivation.

Irrigation: Crops are grown mostly under rain fed conditions. To avoid soil erosion, horizontal contours are made on the hill tops. Excess water from the hill tops/slopes is allowed to drain out through small drainage channels. In addition to rainwater, ponds are also available in the villages. Small canals, borewells and tanks supply water to the

villages. The villages have no proper drainage facilities. The depth of water table is around 80-100 feet. Yeleru reservoir supplies water to the villages covering 20-25 villages.

Resource Map: The resource map shows different kinds of natural resources and its utilization among farmers. The labour resource is high in both the villages as all the farmers contribute for the labour requirement of their village. The cost of the labour extends is Rs.50/- to Rs. 100/- per day. The tribal farmers rear buffaloes, cow, goat and sheep. Animal resource is high with cows, goats followed by sheep, buffaloes and pigs. Green fodders like guinea grass and Para grass are available in plenty on the hill tops. Tree and fuel resources are the assets of the tribal villages. The goat population is high in Vattigadda village followed by cows 70. Apart from those engaged in agriculture, most of them depend on goat rearing, cattle rearing and minor forest produce. Pedageddada village has 180 ha of rain fed light soils (Alfisols), 60 ha of light soils under tanks, 90 ha under canals altogether constituting 330 ha of cultivable area and 5466 ha of total geographical area. The major crops grown are paddy, blackgram, bajra, jowar, Cotton. The vegetables like beans, bottle gourds, ridge gourd, bhendi, tomato and brinjal are also being cultivated. Water resources are canals, tanks and ponds. Vattigadda village has 194 ha of total cultivable land with red soils (80 ha) and black soils (114 ha) under different crops. The main crop is white burley tobacco which constitutes followed by Tapioca, Paddy, Cashew and Cotton.

Minor Forest Produce (MFP): Minor Forest produce have been traditionally sustaining the tribal economies significantly. The tribals collect forest products like roots, fruits, tubers, beedi leaf, mahua flower, honey, gum, tamarind, tannins, dyes, fibres etc. for major requirements like food, shelter, fuel, fibre and medicines. They earn a meager income by selling these to traders and government co-operatives. The commonly available MFP include Honey (Stick Honey, Ball Honey, Borra Honey, Ant-Hole Honey, Screen Honey), Tamarind(*Tamarindus indica*), Amla, Forest tubers (*Amorphophallus campanulatus*), Tapioca (*Manihot utilissima*) for food purpose. They use Mushti (*Strychnos nuxvomica*), Gachakayalu, Indugapicca, Chillaginja, Nallacheedi Picca, Musilikaya (*Curculigo orchiodes*), Karakkaya (*Terminalia chebula*), Naramamidi Bark (*Polyalthca longifolia*), Mahua (*Bassia latifolia*) Pongamia (*Pongamia pinnata*) Pepper (*Piper nigrum*) etc. for medicinal purpose. Sisal (*Agave sisalana*), Palmyrah (*Borassus flabellifer*) are being used for fibre purpose where as Vippa (*Bassia latifolia*), Jeelugu (*Ceylon piassava*) are used for brew purpose. Sirimanu, Tangedu (*Cassia auriculata*), Bamboo(*Bambusa vulgaris*, Teak (*Tectonagrandis*), Eucalyptus(*Eucalyptus globules*); Palm (*Borassus flabellifer*), Vegisa (*Indian kino*) etc. are used for fuel and agricultural implements. Shikakai (*Acacia concinna*), Soap Nuts (*Sapirdus trifoliatus*), Hill-brooms (*Kondachipurlu*), Gum Karaya (*Stercuilla urens*), Puthika Sticks (*Holoptelea integrifolia*), Tendu Leaves (*Diospyros melanoxylon*), Adda Leaves etc. are used for other economic purpose.

Fig. – 1 : Agro-ecology & Resource Map

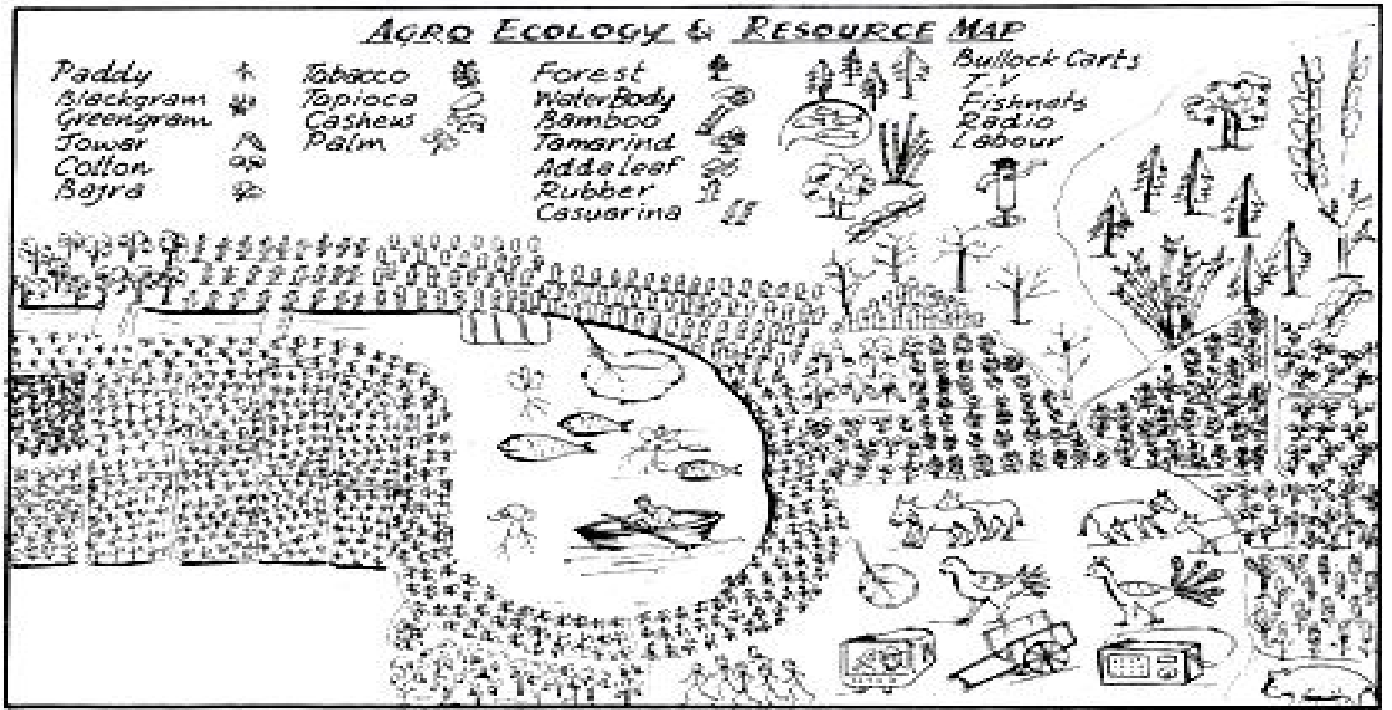


Fig.- 2: Social Map

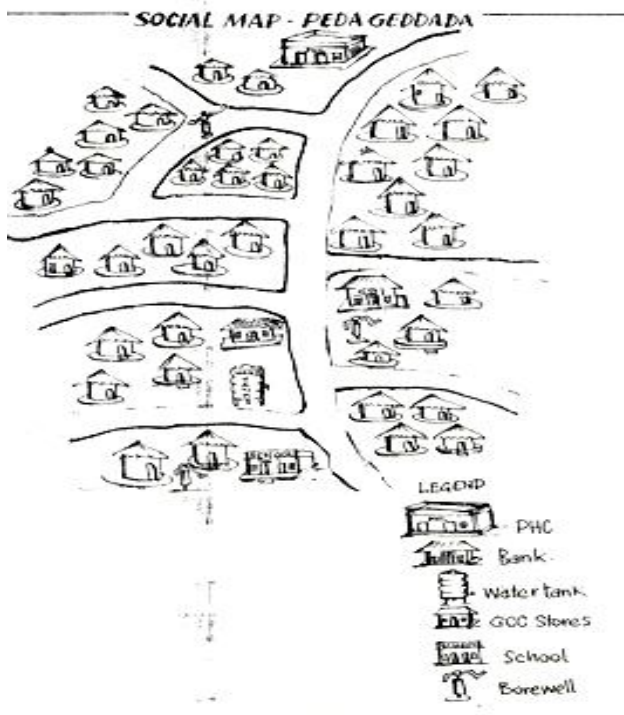
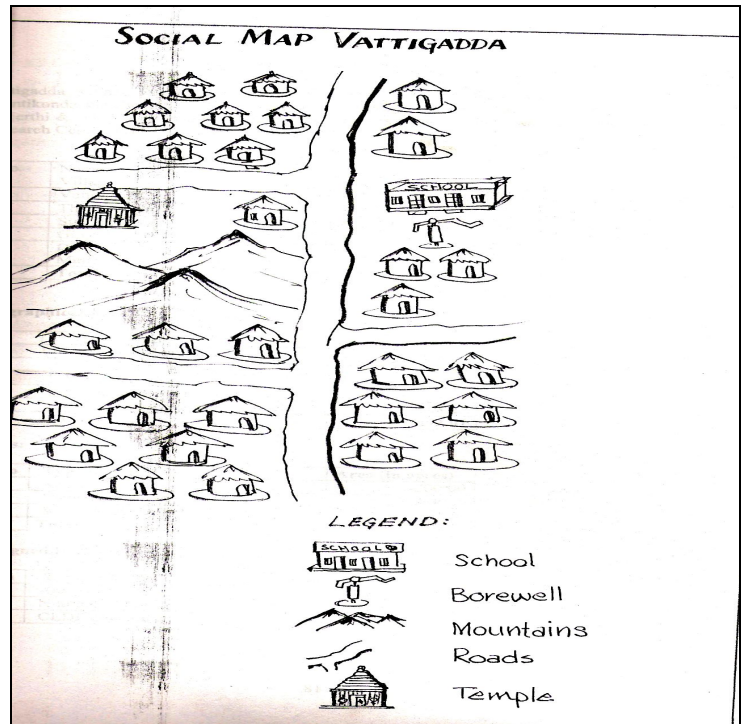


Fig.- 3: Social Map



Social Map: The social map is a symbolic representation of a social structure to understand and to simplify the location, social stratification and the availability of other social facilities in the context of village socio economic conditions. A transect was made in and around the villages viz. Pedageddada and Vattigadda starting from one end to another. viz. Schools, Hospital, Post-office, Bank, Village panchayat office, Youth club, Primary Health Center (PHC) and Temples. The map has attracted the attention of women folk, as it is colourful. All the tribal families are engaged in occupations viz. fishing, agriculture, horticulture and primitive hunting. Most of them are landless labourers with small holdings of 0.25 to 1.0 acre. Pedageddada village is situated 5-6 km away from Rampachodavaram Mandal. Smt.V.Lakshmi & M.Venkata Ramana have volunteered the group to draw and locate various social institutions Pedageddada. Social map of Pedageddada constitutes PHC, Bank, Girijan Co-operative Credit (GCC) Stores, Community hall, Primary School and 4 bore wells and one temple. Transport facilities are good with pucca roads. Drinking water facility was provided by Sri Satya Sai Trust through a water tank with a capacity of 500 lts. Pedageddada village has a total population of 844 representing from 221 households. Thatched houses are predominant in the village with 30 pucca houses. There are 15 Self Help Groups (SHG) s, two Vana Samrakshana Samithis (VSS)s and one water users association. Vattigadda village is situated in the jurisdiction of Thantikonda panchayat. The village is located 5 km away from Jeddangi towards Rajavommangi mandal. The social map of Vattigadda village constitutes Mandal Praja Parishad (MPP) School, Post-office, Bank, Temple and 4 bore wells. Transport facilities are good with pucca roads. Drinking water facility was provided by Sri Satya Sai Trust through a water tank with a capacity of 500 lts. Village has a total population of 1046 representing 260 households. Thatched houses are predominant in the village with fifty pucca houses. Village organizations viz. two Rytu mitra groups, 1 water users association, one Vana Samrakshana Samithi (VSS) and 7 Self-Help Groups (SHGs).

Identified Problems Through PRA Techniques :

Low productivity and low net returns in cereals (Rice, Jowar, Maize) pulses (Blackgram, Greengram, Cow pea) and tubers (Tapioca)
Lack of awareness and knowledge about high yielding varieties (cereals and pulses) and the latest technical know-how in crop production.
Lack of employment during lean period (March to July months)
Under/ non-utilization of natural resources like Minor Forest Produce (MFP).

Low income from alternative sources of livelihood
Low egg productivity in local chicks
Poor health and nutritional status in women and children
Occupational health hazards and drudgery in agro-based activities
Based on the problems identified among the selected villages in tribal area, the need based, location specific agro-based interventions and enterprising interventions were identified for the upliftment of the tribals.

Selected Agro-based Interventions:

Package of practices in cereals, pulses, millets and tobacco
Soil test based fertilizer application.
Introduction of indigenous, high yielding backyard poultry, sheep and goattery
Introduction of green manuring and vermicompost technologies.
Drudgery reduction by introduction of agricultural implements
Nutritional security through back yard kitchen gardening

Interventions through Micro enterprises and homestead units

Training and skill development in the proposed micro enterprises viz. adda leaf plate making, tamarind processing, bamboo products making and burley seedling production.
Homestead units viz. Natural dyes, Tannins & gums unit, Herbal products unit, garment making and value addition.
Value-addition in minor forest produces.
Introduction of floriculture - Firecracker plants- *Crossandra infundibuliformis* (Kanakambaram) in tribal backyards.
Development of marketing avenues to the finished products.
The proposed interventions will be carried out in the selected villages for the employment generation and sustenance of tribal families.
Need based vocational training programs which are technologically sound and economically productive help the tribal youth to sustain themselves through self employment and making them self-reliant over a period of time. The increased living standard will ensure the quality of health, education and employment leading towards empowerment. The proposed interventions are intended to bring desirable and qualitative change in the living system of the targeted group.
The productivity level of the agro based cropping system will be enhanced by dealing the local agro-based problems effectively. Adoption of appropriate technologies for on-farm value-addition of agricultural by-products and wastes will result in greater economic dividend.