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Role of NGOs for Agricultural Development in Tribal Area with Special Reference to Mysore and Chamarajanagara District

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Abstract

Tribal agriculture is at cross roads in India today. The tribal farmers are gradually discarding shifting cultivation in favor of settled agriculture. Shifting cultivation is thus is low productivity and result in soil erosion and land degradation. Whereas the settled agriculture has the advantage of protecting the soil and fertility, land improvement, providing for irrigation and application of modern chemical and fertilizers pesticides etc,. Therefore settled agriculture practice improves the agriculture productivity and increase the rate of return on land. The jenukuruba, kadukuruba, Solig and Yarava tribes living in Chamarajanagara and Mysore districts have been gradually changing over from shifting cultivation to settled agriculture particularly after the rehabilitation and resettlement of the tribes. The state government and NGOs are supporting to development the agriculture in tribal area. But the lack of land holdings and title deed on their land, problem of irrigation, lack of agriculture finance through institutional sources, problem of marketing and transportation, problem of wild animals are the main obstacles for develop the agriculture in tribal area. For the sustainable development of agriculture in tribal area suitable along with the NGOs role, special state policy and programmes, private participation to motive and create awareness among the trines is also very important.

Introduction

Tribes are very backward and destitute. Agriculture activity is the back bone of tribal economy, because it is providing food and fodder including seasonal employment and small income. After shifted over from the dense forest for rehabilitation and reconstruction tribes are practicing the settled agriculture instead of shifting cultivation by the support of the government,NGOs and the influence of the mainland forming activities, but they are facing many critical problems in their agriculture sector than in general. So their agriculture sector is not improved up to the mark to the mark to include them into inclusive growth process and for the sustainable development. So to evaluate and for eradicate the main problems in the tribal agriculture sector is needed.

The main objective of this paper is to examine the developmental status of the tribal agriculture in the study region and to evaluate the role of NGOs in agriculture development of the tribes in the study area.

Present study purely based on the primary and secondary data. We have selected 350 tribal households in the case study region. Of which 160 tribal families from Chamarajanagara district and 190 tribal households in Mysore district have been selected based on the random sampling method. Jenukuruba, Kadukuruba, Soliga and Yarava tribes are selected for this case study. The study period was 2017-18. Simple average method and cross tables are used to analyze the data.

The four tribes namely Jenukuruba, Kadukuruba, Soliga and Yarava are selected for the present study have been gradually shifted out of the National Reserve Forest areas of the Ngarahole, Bandipur and B.R. Hills spread over in Mysore and Chamarajanagara districts in Karnataka State are also varying levels of socio-economic transformation. During the last fifty years, these four case study tribes like their counterparts, in other parts of India are undergoing two important changes in their livelihood and occupational Source.

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In the case study tribes from Karnataka are being shifted out of National Reserve Forest area. Thus these tribes now a day's depend more on agriculture for meeting their food requirement rather than forests from where earlier the tribes used to collect food by extracting honey, fruits, roots and by hunting.

Secondly these tribes after being rehabilitated in main land areas are encouraged and advised to take up agriculture. This second change has resulted in discontinuation of shifting cultivation and adapting to modern incentive small scale settled agriculture.

Let us now explain; (a) the land ownership and distribution pattern among the tribes; (b) the cropping pattern and economic viability of land holdings; and (c) the problems of tribal agriculture in Mysore and Chamarajanagara districts.

Table – 1: Land Ownership Pattern among Tribes:

In Numbers and percent

Mysore District					Chamarajanagara District			
Name of Tribes	Number of Families	Land holders	Land less	Percentage of Landholders	Number of Families	Land holders	Land less	Percentage of Landholder
Jenukuruba	7405	2988	4417	40.35P	271	123	148	45.38
Soliga	643	341	302	53.03	5356	1918	3438	35.81
Kadukuruba	418	147	271	35.16	150	89	61	59.33
Yarava	328	123	205	37.50	-	-	-	-
Total	8794	3599	5195	40.92	5777	2130	3647	36.87

Source: Office Records of the ITDP Mysore and Chamarajanagara districts.

Table 1 explains the land ownership pattern among the case study tribes in Mysore and Chamarajanagara districts. It may be observed that out of 14,571 the total numbers of tribal households in both districts only 5729 households are a land holder that means 39.31 percent of tribal households have land ownership. In other words 60.69 percent of the tribal households are land less in Mysore and Chamarajanagara districts. Kadukuruba(35.16percent) in Mysore district and Soliga(35.81percent) in Chamarajanagara district has least percentage of land ownership, whereas Soliga(53.03percent) in Mysore district and Kadukuruba(59.33percent) in Chamarajanagara district has highest percent of land ownership among the four case study tribes.

In Mysore district out of 8794 total tribal households the Jenukuruba households accounts for highest number of families. So the Jenukuruba tribe is in majority among the tribal population and other tribes are in small number in this district. It was noted that 40.35 percent of the Jenukuruba, 50.03 percent of the Soliga, 35.16 percent of Kadukuruba and 37.50 percent of Yarava tribal households in Mysore district have land ownership. That means 60 to 65 percent of tribal households among the Jenukuruba, kadukuruba, Soliga and Yarava tribes in Mysore district are landless.

Further it may be noted that the Soliga tribe is in majority in Chamarajanagara district. That means out of 5777 total tribal households 5653 families belong to the Soliga tribe. But out of 5653 Soliga households only 35.81 percent of the tribal households are own land whereas the remaining are landless. It may also be noted that 45 .38percent of Jenukuruba, and 59.33 percent of Kadukuruba tribal households have own land in Chamarajanagara district. The Jenukuruba and kadukuruba tribes live in Gundlupet taluk of Chamarajanagara district only.

On the whole 40.92 percent of the total tribal households in Mysore district and 36.87 percent of the case study tribal households in Chamarajanagara district have own land. In other words, the extent of landlessness

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among all the four case study tribes in both Mysore and Chamarajanagara districts is very high. Comparatively Chamarajanagara district has highest landlessness among the case study tribes than the Mysore district.

There are two reasons for the higher landlessness among the four case study tribes in Mysore and Chamarajanagara districts. They are; (a) even now fairly a good number of Soliga and Jenukuruba tribes live within the dense forests and they are not ready to shift to rehabilitation centers in the neighboring mainland region, and improper rehabilitation and resettlement programme of the State forest department. Therefore these four tribal families do not own any cultivable land; they are identified as landless and unwilling households to shift; (b) even among those families which have been shifted to rehabilitation centres in both the Mysore and Chamarajanagara district during the period 1980-2010 are not able to receive the land ownership title deed. This is partly because of the shortage of agricultural land closer to rehabilitation centre and partly because of the delay and inefficiency on the part of the forest department and as well as revenue department of the State government to properly plan and expedite implementation process of land distribution for the tribes.

Table – 2: Size of Land Holdings in Acres

In Percent

Districts	Chamarajanagara				Mysore				
Tribes	JK	KK	Soliga	Total	JK	KK	Soliga	Yarava	Total
Less than 2Acres	73	69	68	69	68	57	89	62	67
2 to 4 Acres	27	31	26	26	32	43	11	38	33
Above 4 Acres	00	00	06	05	00	00	00	00	00
Irrigated Land									
Less than 2 Acres	09	22	00	11	12	12	25	11	10
2 to 4 Acres	20	00	09	04	26	16	00	01	16
Above 4 Acres	00	00	00	00	00	00	00	00	00

Source: Compiled from Primary Data.

Table 2 shows the size of landholdings of dry and irrigated land among the four sample tribal households of the Mysore and Chamarajanagara districts. The tribal households in general own small size landholdings (both wet land is marginal and dry land on hillocks). The primary data on the size of land holding owned by the sample tribes show that 68 percent to 73 percent of the Soliga, Kadukuruba and Jenukuruba tribes own less than 2 acres of poor quality dry land in Chamarajanagara district. Further on an average 67 percent land owning tribal households in Mysore district own less than 2 acres of poor quality dry land. Of these 57 percent of the Kadukuruba households, 62 percent of the Yarava households and 68 percent of the Jenukuruba households and 98 percent of the Soliga households own less than 2 acres of dry land in Mysore district. About 26 percent of the selected sample tribal households in Chamarajanagara districts and 33 percen of the sample tribal households in Mysore district own agricultural land between 2 to 4 acres of dry land. Only 6 percent of the Soliga sample tribal households found owning more than 4 acres dry land in Yallandur taluk. Further a very small number of tribal households in the case study region own irrigated land; and about 9 percent of the Jenukuruba and 22 percent of the Kadukuruba houeholds own less than 2 acres of irrigated land in Chamarajanagara district. Only 20 percent of the Jenukuruba and 9 percent of the Soliga tribal households own 2 to 4 acres of irrigated land in Kollegal taluk and Gundlupet taluk. A similar weak wet land ownership pattern may be observed among the four sample tribal households in Mysore district. On the whole 10 percent of the sample tribal households own less than 2 acres of wet land and further 16 percent of the sample tribal households in Mysore district own 2 to 4 acres of the wet land. Totally in the study region the case study tribal land holdings are suffering from the lack of irrigation

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facilities. So it shows the failure in the implementation of the irrigation schemes like Ganagaklayana and

Districts	Chamarajanagara				Mysore				
Tribes	JK	KK	Soliga	Total	JK	KK	Soliga	Yarava	Total
Land Less Households	46	32	41	41	44	33	59	27	41
Land Holders	54	68	59	59	54	67	41	73	59
Land Rights (Land Records)	80	85	92	89	45	64	90	65	57
Govt. Assistance to get L. R.	66	91	86	84	70	33	55	90	77
NGOs Assistance to get L.R.	00	00	11	08	07	00	00	00	06
Ancestral L.R.	44	09	03	08	22	67	45	10	17
Land Near by Hills and Forest	100	100	100	100	45	28	44	35	47
Nearby House	00	00	00	00	55	71	55	64	53
Settled Cultivation	100	100	100	100	100	100	100	100	100

others in the case study tribal area. Naturally, in these two districts there is no distribution of the irrigated land to the rehabilitated tribal households.

Table – 3: Extent of Land rights among the case study tribes; (in Percent)
Source: Compiled from Primary Data. (Note: L.R. =Land Right or Land Record)

Table 3 shows the extent of land ownership and landlessness among different sample tribal households in Mysore and Chamarajanagara districts. About 41percent out of the350 sample tribal households in both the districts are found landless and our sample tribal households comprise 59 percent of the landholders. We have selected more number of land owning tribal households relatively with a view to analyze their agricultural practices, source of agricultural credit and extent of livelihood derived from agriculture. Out of the total sample tribal land holders, 89 percent of the sample tribal households have received land rights (title deeds) in Chamarajanagara district, where as only 57 percent of the sample tribal households have received land title deeds in Mysore district. Thus 43 percent of the sample tribal households in Mysore district do not have land record which has excluded them from the financial inclusion process by the co-operative credit institutions, regional rural banks and public sector banks.

We have tried to collect information about government assistance to obtain land title deed by the tribal in the case study region; 84 percent sample tribal households in Chamarajanagara district and 77 percent of the sample tribal households in Mysore district were helped by the State government. However the role of NGOs in helping the sample tribal households to obtain land records was negligible, only 8 percent of the sample tribal households in Chamarajanagara district and 6 percent sample tribal households in Mysore district have received land records with the assistance of NGOs. The forest and revenue department officials of the State government in general did not view positively the tribals approaching them seeking land records through NGOs. Because, NGOs in general, make an allegation about the indifference and corrupt practices of the officials. This attitude of the NGOs is published in local news papers which attract criticisms about government officials. Only 8 percent sample tribal households in Chamarajanagara district and 17 percent in Mysore district found processing land records for two to three generations. In other words the issue of land title deeds to the tribal farmers has been very slow and subject to delay and indifference on the part of the officials of the forest and revenue departments of the State government.

Further it may be observed that the entire sample tribal households in Chamarajanagara and Mysore districts have adopted settled agricultural practices gradually during the last two to three decades. The agricultural land holding of the sample tribal households is located on the hills and forest area in Chamarajanagara district. So the land located on hills is of low quality on account of soil erosion. Further, there is a difference

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in the location of cultivable land by the tribes in Mysore district; 4 percent of the sample tribal households owned the land in close proximity to hills and forests. Whereas the remaining 53percent of the sample tribal households own land closer to their rehabilitation centers. The quality of agricultural land found in mainland area is relatively better than the agricultural land used by the tribes in hill areas. Thus the poor quality of owned land by tribal is an important source of low productivity of agriculture in tribal areas.

Low Financial Inclusion among the Tribal Farmers:

"Financial inclusion means delivery of banking services and credit at an affordable cost to the vast sections of disadvantaged and low income groups. The various financial services include savings, loans, insurance payments, remittance facilities and financial counseling/ advisory service by the formal financial system. An open and efficient society is always characterized by the unrestrained access to public goods and services. As banking services are in the nature of public goods, financial inclusion should therefore be viewed as availability of banking and payment services to the entire population without discrimination of any type". Dr. C. Rangarajan Committee Report, (2008, PP-33).

The four sample tribes of Chamarajanagara and Mysore districts are at diverse and in different levels of socio-economic transformation. Therefore, their response to the programmes of financial inclusion both supply side and demand side is weak. Among the major tribes of the case study area, on the supply side, there is a total absence of the public sector financial institutions in the tribal areas. The Bankers are unwilling to open the branches on account of the absence of demand for Bankers financial products and services by the tribes. On the demand side the tribes do not need all the modern banking products and services, since they are at a very low level of subsistence economy. In other words both supply and demand side constraints are responsible for financial exclusion of the tribes in the case study region.

Table- 4: Source of Agricultural Finance, Crop Destruction, Crop Insurance and Crop Relief

In Percent

Districts	Chamarajanagara				Mysore				
Tribes	JK	KK	Soliga	Total	JK	KK	Soliga	Yarava	Total
Self, Friends and Relatives	93	92	62	71	85	86	90	90	87
Richer and Local Traders	07	02	30	22	08	14	00	07	06
Commercial Banks	00	01	03	03	03	00	11	03	03
Co-operatives	00	00	05	04	04	00	00	00	04
Crop Destruction by Animals	87	100	97	96	60	86	66	83	70
Crop Insurance	00	00	00	00	00	00	00	00	00
Crop Relief	13	08	02	04	05	07	00	00	04

Source: Compiled from Primary Data.

The data in Table 4 show clearly the wide spread financial exclusion among four case study tribal farmers. It may be observed from the above table

(a) about 71 percent of the sample tribal households in Chamarajanagara district and 87 percent of the sample tribal households in Mysore district obtain the short term agriculture credit from the self source, friends and relatives; further 22 percent sample tribal households in Chamarajanagara district and 6 percent of the sample tribal households in Mysore district borrowed short term loans from the rich persons and local traders of the main land villages. That means the tribal farmers do not obtain short term working capital credit from the organized financial sector.

(b) About 3 percent of the sample tribal households have opened the loan accounts in commercial banks, 4 percent of the sample tribal households operates loan accounts with credit co-operative societies in both

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districts. That means the tribal population is ignorant of the institutionalized financial inclusion process that exist in the country.

(c) About 96 percent of the sample tribal households in Chamarajanagara district and 70 percent of the sample tribal households in Mysore district have reported the periodic crop destruction by the wild animals. The crop destruction by the wild animals is more in tribal agricultural land which are located closer to the National Reserve Forest areas. Some of the tribes have complained about crop destruction with a view to obtain State subsidy.

(d) The tribal farmers have not enrolled under the crop insurance schemes. The tribal farmers are totally ignorant and absence of land record is not allowed to get crop insurance. NGOs are also not educated about the usefulness of crop insurance. Therefore only 4 percent out of 350 sample tribal households have received the compensation for the economic loss sustained by them on account of crop destructions by the wild animals.

Cropping pattern of the tribal areas:

Agriculture is the main source income and livelihood of tribes. They are currently cultivating different types of crops in a given land. The cropping pattern has changed among Soligas due to the market force and in earlier days they were used to cultivated agriculture and horticulture crops for self consumption and recently they had started sale of cultivated crops.(Madegowda and Usha Rao)

Table -5: Cropping Pattern of the Tribes

Cultivators in Percentage

Districts	Chamarajanagara				Mysore				
Tribes	JK	KK	Soliga	Total	JK	KK	Soliga	Yarava	Total
Ragi	50	63	61	58	39	61	41	73	49
Maize	50	37	51	49	25	21	19	42	27
Paddy	02	00	02	02	06	00	04	05	05
Cotton	12	10	09	09	25	53	27	28	28
Ginger	05	03	06	06	24	23	28	50	29
Turmeric	01	00	02	02	01	00	00	02	01
Coffee	00	00	13	09	01	00	00	01	01
Pepper	00	00	05	04	02	00	00	02	02
Groundnut	10	05	06	08	02	05	00	05	03
Cater seeds	03	05	05	05	03	04	00	05	04
Roots fibers	01	01	02	02	05	02	00	03	05

Source: Calculated from the Primary Data.

The Table 5 shows that the cropping patterns of the tribes in both Mysore and Chamarajanagara districts. In both these districts sample tribal households are concentrated more on Ragi cultivation because it is a major food crop among the case study tribes. Among the four case study tribes Yarava in Mysore district and Kadukuruba and Soliga in Chamarajanagara district are growing ragi than the other crops. Maize is another major crop among the case study tribes because it is used for both self consumption as well as income an earning crop. Relatively Soliga tribe in Chamarajanagara district is growing highest quantity of maize than the other tribes. In changing the way of the tribal agriculture pattern nearly 9 percent in Chamarajanagara district and 28 percent of farmers in Mysore district are growing cotton. Some tribal farmers are growing up

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to 20 quintals yield of cotton per acre of land. Ginger is another commercial crop grown by the tribal farmers in large scale and nearly 29 percent in Mysore district and 6 percent in Chamarajanagara district. In Chamarajanagara district 6 percent of tribal farmers and 29 percent of tribal farmers in Mysore district are growing ginger regularly. One of the tribal farmers in Nagapura rehabilitated block, growing ginger in four acres of his land has achieved nearly 40 quintals of yield per acre. But majority of the tribal farmers are growing ginger in small plot1/4or1/2 acre of their land up to 10 to 20quintals. Coffee, pepper, and turmeric crops growing tribal farmers are more in number in Chamarajanagara district than in the Mysore district. For instance Mutukadagadde, Nallikatra, K.Gudi and Hosa podu of the B.R. Hills area have nearly 70 tribal farmers, growing coffee in their own small size of land less than one acre in recent years from the influence of the mainland and Honnameti estate which belongs to Birla company in the B.R.Hills. These farmers are getting coffee yield from 20kg to 1000kg. Totally on an average, every year all the tribal farmers together are selling 10,000 Kg coffee at present. In addition to that the Soligas are growing pepper, roots, fruits and other horticulture crops in that area. For the purpose of coffee cultivation the government of India provides a loan of Rs; 16,000 per farmer. It may be helpful and motivate the tribal farmers to cultivate coffee in this area. A small percentage of tribes in both the districts are practicing the cultivation of the groundnut, caster seeds and roots and fibers.

Table – 6: Self Sufficiency for Livelihood from Agriculture and Marketing of Agricultural Products

In Percent

Districts	Chamarajanagara				Mysore				
Tribes	JK	KK	Soliga	Total	JK	KK	Soliga	Yarava	Total
For 3 Months only	13	38	39	35	67	29	33	48	54
For 6 Months only	87	62	61	65	30	71	67	52	44
For One Year	00	00	00	00	03	0	0	0	02
Marketing of Food Grains	15	00	40	30	40	35	40	70	53
Marketing of Commercial Crops	02	00	22	17	40	55	50	60	51

Sources: Compiled from Primary Data.

Note: Food Grain Marketing only Maize 2 to 20 Quintals only and Commercial Crops like Cotton, Coffee Ginger and(Coffee 20kg to 1000kg) others 2 to5 Quintals.

The table 6 shows the approximate duration of the self sufficiency in livelihood from the agriculture and marketable surplus of the food grains and commercial crops among the tribes in Mysore and Chamarajanagara districts.

Table 6 reveals two aspects agricultural production of the tribal farmers of the study region. They are (1) it shows the extent of self sufficiency of food grains production and (2) the extent of marketing of food grains and commercial crops by the tribal farmers in the study region. The output of commercial crops like cotton, coffee, ginger and pepper is sold in the market. The Kadukuruba, and Yarava tribal farmers are more efficient in the production of cotton and ginger in H.D.Kote taluk of Mysore district. Further it may be interesting to note that except 3 percent of the Jenukuruba farmers none of the other tribal families in the study region are able to produce food grains output required for achieving self sufficiency in domestic consumption for the entire one year. In other words the entire tribal case study tribal households are confronted from by the food deficit. It may be observed from the above table that 35 percent of the tribal farmers in Chamarajanagara district and 54 percent of the tribal farmers in Mysore district produce food grains sufficient for only three months period of a year, whereas the remaining 65 percent of the tribal farmers in Chamarajanagara district and 44 percent of tribal farmers in Mysore district produce a food grains to meet the domestic requirement of the 6 months duration in a year. Therefore it may be clearly said that the four case study tribes are not self sufficient in food supply through own agriculture. A majority of these tribal

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farming households face serious food deficits. So there is a great need for strengthening and proper working of public distribution system in tribal areas on one hand and promote wage employment opportunities on the other hand.

Role of NGOs in Agricultural Development in Tribal area

The NGOs in the case study region have not involved themselves the agricultural development of the tribal areas. Whereas the NGOs are involved in the field of education and health care services for tribes in Mysore and Chamarajanagara districts. Because of this NGOs are not receiving grants in aid from the Central or State governments for the development of agriculture sector in the tribal areas. However some NGOs like VGKK B.R .Hills in Chamarajanagara district and SVYM, DEED, BAIF NGOs in Mysore district are supporting the farming activities of the tribes in tribal areas in both the case study districts with the financial support of the NABARAD and CAPART and other development agencies.

Vivekananda Girijan Kalyan Kendra, B.R.Hills Yallandur taluk of Chamarajanagara district has implemented strategy for livelihood security among the Soligas is multipronged. It includes awareness rising, educational and skill development in the area of vocational training; sustainable agriculture and value addition and scientific harvesting of the forest produce.

For the sustainable agriculture development in the tribal area the VGKK has the following objectives;

1. To integrate farm seeds conservation through participation of the farming communities with soil and water management.
2. To establish sustainability by strengthening self-reliance of local farmers to improve their livelihood food security through community seed bank.
3. To conserve seed diversity through community seed banking.

Since the government allowed the Soliga to practice agriculture within the Reserve Forest, it was essential that the returns from the agriculture to improve their well being. Towards this end, a demonstration plot was started in the year 1984 at B.R. Hills by the tutorship with the help of VGKK. The school children and staff started cultivating horticulture crops for long term benefits. The vegetable garden was also cultivated. This had effects on the beginning the concept of kitchen garden to the tribes. Gradually with the propaganda among the tribes, the food grains and commercial crop cultivation was developed.

As on 2005 VGKK is setting up an organic coffee demonstration plot and coffee nursery to promote coffee cultivation. Further instead of a coffee monocrop plantation, multi-cropping is being promoted with shady fruits plantation. This will also help to retaining water, reducing soil erosion; produce more green manure for eco friendly income generation.

Organic farming is the form of agriculture that relies on techniques such as crop rotation green manure compost and biological pest control to maintain soil productivity and control pests on a farm. Organic farming excludes or strictly limits the use of manufactured fertilizer and pesticides, plant growth regulator such as hormones, livestock antibiotics, food additives, and genetically modified organisms. Organic farming usually involves mechanical weed control rather than herbicidal weed control.

Benefits of Organic Farming:

(1) Organic farming proves to be more profitable than the age old traditional farming methods.

(2) It has been found that organic farming reduces the production cost by about 25-30%, as it does not involve the use of synthetic fertilizers and pesticides which thus makes organic farming cost effective.

(3) Soil is the most important component in farming and organic farming preserves soil by reducing soil erosion up to a large extent.

(4) Organic farming also enables the farmers to use the soil for a longer period of time to grow crops as soil fertility is maintained for a long time.

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(5) Organic farming has a positive effect on the ecosystem, as it proves vital in supporting the survival of wildlife in the lowlands. It even provides safe pasture lands for grazing.

(6) Organic farming is not only beneficial for farmers, but it also has proved useful for the dairy industry. Cattle grazing on organic farmlands have been found to be less prone to diseases and they yield more milk. These are definitely good signs for a consumer of these dairy products from health perspective and for a dairy organization from the profit perspective.

(7) Products or foodstuffs produced from organic farming do not contain any sort of artificial flavors or preservatives nor do they contain any harmful chemicals.

(8) The original nutritional content of food is preserved due to the absence of synthetic fertilizers and pesticides.

(9) Organic products moreover are tastier than the products yielded from traditional farming.

(10) Consumption of products obtained from organic farming minimizes the risks of physical ailments such as heart attacks. Scientific studies have proven that organic foods are healthier than the inorganic ones.

In collaboration with German foundation, the VGKK implemented a project to conserve bio-diversity in rural and tribal areas through the seed bank and conservation of seed diversity. It involved rising awareness among the tribal farmers about the benefits of organic farming, indigenous seeds and natural fertilizers in both the kitchen garden and field agriculture.

To strengthen the seed bank and conservation of seed diversity the VGKK has arranged the training and awareness programmers which include; Beeja mela, Beeja Yatra, exposure trip for farmers, and training in different aspects of agriculture. The VGKK has formed the farmer community seed banks. These banks are helpful to preservations of local seeds and endanger varieties. The seed banks function as a place of exchange seeds among the local farmers. These types of farm activities are helpful to achieve agriculture sustainability. But high yielding seeds need far more farm inputs.

The project was implemented in two phases; that is 2001 -02 and 2002-04 in two ways as follows;

1. **Organic Farming:** VGKK has introduced the organic farming scheme with the assistance of Karnataka State Government in 104.24hectares at B.R.Hills from the year 2005-06.

Organic farming leads to sustainable agriculture which aims to:

1. Strengthen agro-diversity
2. Promote use of Bio-eco friendly manure replacing chemical manures and pesticides
3. Conserve seed diversity through community seed banking
4. Promote soil and water conservation practices; and
5. Seed bank on indigenous lines.

Organic Farming is being practiced on 104.24 hectares in Bangle podu, Yerakanagadde colony and Purani podu of B.R. Hills. Group certification for the organic farmers is facilitated by IMO. About 35 farmers are in the group. The types of compost making techniques are being propagated in the above Podus; 43 organic compost pits, 48 vermin compost and 01 pond has been constructed. Further plan include agro processing specific activities are carried out in the year 2009-10. For the sustainable agriculture activities the VGKK has undertaken 15 training programmes on various aspects of organic farming, constructed 10 water ponds, distributes 1875 forest seedling, 875 fruits seedling, 350 Kg seeds, 20 cows, 39 sheep, 10 honey boxes130 organic diaries and also arranged the 4 exposure visits, 6 exhibitions and constructed one market yard and open one organic library at B.R. Hills. These activities are helpful to sustainable agricultural development of the Soligas in Chamarajanagara district.

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Table – 7: Beneficiaries of Organic Farming

In Numbers

	2006-07		2007-08		2009-10		2010-11		2011-12	
particulars	Area in Acre	Families	Area in Acre	Families	Area in Acre	Families	Area in Acre	Families	Area in Acre	Families
Banlepodu	12.5	07	12.5	07	36.95	20	36.95	20	36.95	20
Yerakanagadde	25.5	09	25.5	09	96.93	36	96.93	36	96.93	36
Puranipodu	65.4	27	65.4	27	120.70	60	120.70	60	120.70	60
Total	103.4	43	103.4	43	257.8	116	257.8	116	257.8	116

Source: Annual Report of VGKK .B.R. Hills, Various Issues.

Table; 7.shows the number of beneficiaries of the organic farming scheme implemented by VGKK at B.R. Hills. A pilot project on organic farming was implemented Bangle podu, Yerakanagadde colony and Purani podu at B.R. Hills Yallandur taluk. The Soliga farmers of these podus have responded very positively to organic farming method. Since the organic farming culture was very close to their life style inherited for many centuries. The organic farming should be popularized among tribal farmers since it is ecofriendly.

The VGKK, SVYM and DEED shall be selected as a lead agency for implementing organic farming scheme, because they have been already able to enjoy the public confidence and respect from their tribal target group.

2. **Watershed Development Programme (NABARD)**

VGKK has initiated a watershed development programme in Budipadaga in the southern part of Chamarajanagara district. It covers four villages, i.e. Boodipadaga, Kullur, Chikkamudahalli and Doddamudahalli. This programme is funded by NABARD and technical support is provided by Hand in Hand

The sub-watershed mainly comprises of SC/ST and OBC families and the population is mainly dependent on agriculture, wage labour and collection of MFPs. Due to steep slopes and poor water harvesting practices, the water gets drained into rivers causing heavy soil erosion, making the land unsuitable for agriculture. This leads to low income from the land and migration of families in search of employment opportunities. This situation is further aggravated by poor infrastructure facilities.

Additionally, the erratic rainfall pattern makes agriculture unreliable. While the major crops are maize and ragi which constitute the staple food for the community, they get good yields only once in three years.

The area faces a lack of adequate water conservation structures. The early withdrawal of monsoon affects the crop due to which the community gets low market prices. It was to address all these factors that VGKK undertook the watershed programme in 2005 with the support of NABARD (WDF).

The project has been implemented in phases. In the first phase, capacity building has been completed in 73 hectares and 35 farmers have been covered. The village watershed committee formed to implement the phases of the project consists of 22 members among which women take active part from 4 villages. 14 SHGs have 239 members. The Full Implementation Phase (FIP) has been taken up in 848 hectares covering four villages and 354 farmers are covered under the project.

Activities include: (1) Area treatment (2.)Drainage line treatment(3)Training and exposure visit(4)Demonstration and productivity enhancement(5)Livelihood support(6)Community Organization.

The SVYM the well reputed NGO in H.D. Kote taluk of Mysore district has not made any progressive attempt on the agriculture development in tribal area. But it has made an attempt in the year 2000-01 til the day to arrange the training programme in agro forestry and watershed development activities in H.D. Kote taluk. As a result more than 1300 acres of soil conservation works carried out, 64000 sampling planted in

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various farmers fields, demo farm ponds created, training and awareness programmes on food securities are arranged and vegetable seeds are distributed.

Some of the important findings

(a) About 59 percent of tribal households in both the Mysore and Chamarajanagara districts are found landless, thus these tribal households working as agricultural labourer or work as tenants;

(b) About 89 percent in Chamarajanagara district and 57 percent of the total landholder of the total sample tribal households in the case study region have received the land title deed and

(c) Majority of the tribal farmers own up to less than two acres of cultivable land; and small number of Jenukuruba, Soliga and Kadukuruba tribal farmers own 2 to 4 acres cultivable land. These farmers practice both wetland and dry land agriculture.

(d) Over the years with increasing adaption to settled agriculture the tribal farmers have try to achieve more crop diversification.

(e) Today the tribal farmers in Southern Karnataka cultivable both food crops and commercial crops. The food crops include the cultivation of ragi, paddy, maize and vegetable, where as the commercial crops include the cultivation of coffee, ginger, pepper and cotton etc,.

(f) The negligible number of tribal farmers receives financial assistance for obtaining land records, purchase of agriculture inputs including small implements.

(g) The tribal farmers are predominantly small and marginal farmers. Thus the food crops grown are used for domestic consumption for the period of three months and some quantity food output is sold in the nearby market to obtain cash income and to meet personal needs, although the tribal farmers suffer from acute food insecurity. That means the tribal farmers purchase food grains under the public distribution system since being highly subsidized.

(h) The tribal farmers are experimenting with the cultivation of few commercial crops. A few Soliga, Kadukuruba, Jenukuruba and Yarava farmers are successfully cultivating zinger, pepper, cotton and coffee in some areas of both the study districts.

In conclusion this study also reveals that the Kadukuruba and Yarava farmers have emerged as relatively more efficient cultivators than jenukuruba and Soliga tribes. The Jenukuruba are not able to concentrate more on production of agriculture, because they still continue to be dependent on collection and sales of honey and other MFPs. However, the Soliga tribal farmers are lagging behind in learning the operation of the settled agriculture, but they seems to doing good dairying and unfortunately there is no proper programme to educate and train tribal farmers in modern agriculture either by State government or by the NGOs working in the region. The VGKK, SVYM, BAIF and DEED and other NGOs have played a marginal role in imparting vocational training in modern agriculture and animal husbandry to the tribal people. The VGKK and DEED have tried to devise and implement watershed development programme and promoting tribal awareness about administrative procedures to obtain land records and imparting to tribal men and women to collect and process MPFs and sell them to LAMPS. The tribal farmers have not entered the branches of public sector financial institutions in the region both supply side and demand side constraints are sited as factors responsible for the widespread financial exclusion among the tribal households in Mysore and Chamarajanagara districts.

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