GRAMA VIKAS IMPLEMENTED PROJECTS

- NUTRITION PROGRAMME FOR 1000 CHILDREN from 1980 till 2000
- TANK REHABILITATGION PROJECT from 1989 to 2004
- RAIN WATER HARVESTING
- WOMEN EMPOWERMENT from 1981 to 2002
- FINANCIAL LITERACY for children
- Grama Vikas has implemented SPIRULINA POWDER AND CAPSULES MANUFACTURING to supply to highly malnourished children, adolescent girl children, anemic women in it's project area villages. Due to resource crunch, GV had to close down the unit much before SUSTAINLABILITY aspect was thought of. GV has the INFRASTRUCTURE support to re-start the unit.

Women's Empowerment

Grama Vikas believes that development is possible only if women actively participate in the process of development. GV's experiences in integrated rural development over the last two and half decades confirm this belief. During the last decade, GV promoted the formation of 250 women's self help groups (SHG) in 145 villages where it operates. These groups were encouraged not only to engage in savings and credit activity, but also to emerge as grass roots women's institutions in villages.

While facilitating women's SHGs, GV experienced that issues that affect women's empowerment and have bearing on public policy can be addressed by apex organizations of SHGs with their greater numerical strength. Hence GV facilitated the formation of the federation of women's SHGs - Grameena Mahila Okkuta (GMO).

GMO today is an independent powerful women's organization of over 350 SHGs addressing problems and issues affecting livelihoods of communities and rights of women from a rights perspective. Besides being a dynamic organization at the district level, the federation is now networking other federations to address issues that involve policies. GV facilitated GMO initiative to network the federations at the State level. GMO address is:

GRAMEENA MAHILA OKKUTA, Honnsetthalli, Yalagondahalli P.O. 563 127, Mulbagal Taluk, Kolar District, Karnataka, INDIA. Mobile: Cell: 0-94480-84568. email: grameenamahila@yahoo.co.in

Community Seed Bank

Goal

Revive and protect biodiversity through by promoting indigenous agriculture practices.

Gamagadale

Objectives

- Strengthen sustainable agriculture practices
- Reintroducing indigenous varieties of seeds
- Storing quality seeds for distribution among farmers with the purpose of making farmers self-reliant in seeds
- Conserve the diversity of indigenous strain.

The seeds of despair

During its interventions, GV found that the farmers were now almost entirely dependent on seeds sold by multinational companies, which showed poor germination, required large doses chemical fertilizers and were vulnerable to pests. The earlier practices of keeping aside a part of the harvest as seed for the next crop had virtually vanished.

Further, the traditional varieties of seeds were drought-resistant, had low water consumption, a very high resistance to pests and possessed high nutrient content. They were also unique for high rate of germination.

These traditional seeds began losing ground in the wake of the drive for greater production in the early sixties when the government encouraged the introduction the so-called high-yielding varieties of seeds and promoted the application of chemical fertilizer. In course of time, the pest-vulnerability of the new seeds came to fore and the farmers were forced to apply increasing amounts of pesticides. This also pushed up prices of inputs and the overall cost of agriculture. The result was that today, the Indian agriculture is facing the crisis of sustainability. Many farmers are

Kari nellu

Committing suicide unable to repay debts incurred in order to purchase the ever-costlier inputs including seeds, fertilizers and pesticides.

Kanada tumba

In Kolar District that is located in the Eastern Agro Dry Zone of Karnataka, the crisis emanating from the new varieties was even more acute. With an average rainfall of 760 mm. the district is acutely water-deficient with no perennial rivers. Its main water sources are tanks and ponds.

Even as the new seeds began gaining a foothold in Kolar district in the sixties, the seventies saw farmers in the district being exhorted to go in for horticulture and mulberry cultivation. As the agriculture hinterland of Bangalore, Kolar District was gearing up to supply vegetables to the mega city.

Rajaboga

Red rice

Farmers in Kolar District began exploiting the fragile water sources in the district in order to satisfy the ever-growing needs of Bangalore. The new varieties of seeds required more water than the traditional ones, and this led to the sinking of thousands of bore wells. In the beginning of seventies, Kolar District had no tube wells. Today, there are over 50,000 tube wells in the district. Three decades ago, the sub-surface water level in the district was 30-40 ft. Today, the tube wells dug to the depths of 800 ft. have failed to spew water. Thousands of tube wells have gone dry.

Thus, the new varieties made Kolar District more water-deficient.

NATIVE SEEDS STALL IN A FAIR

GV joins hands with Green Foundation

GV realized that the farmer had to return to using the traditional varieties of seeds if agriculture had to become sustainable in the drought-prone region of Kolar. In that background, GV decided to focus on reviving the use of traditional seeds as part of its activities promoting sustainable agriculture.

In 2002, Grama Vikas began working with Green Foundation of Bangalore in the area of conserving indigenous varieties of seeds. Green Foundation has been working over the last decade in the area of conserving and reviving the use of traditional varieties of seeds. GV and Green Foundation decided to collaborate in reviving and conserving local varieties of food grain seeds.

Initially, GV with help from Green Foundation began conducting meetings of farmers in the four villages in order to survey the situation of seed use and availability in about 25 villages around. PRAs were conducted in villages to trace the history of seed use and how the seeds had vanished. It was found that every year, at least 4-5 varieties of indigenous seeds were being lost. This came as a revelation even to the farmers participating in the PRAs.

GV then facilitated the formation of committees of farmers in each of the villages. The members of the committees were tasked with collecting indigenous seeds from farmers who still stored them. Green Foundation supplied the varieties that had been lost irretrievably as also seeds that suited local conditions from its collection.

That is how the banks began...

These varieties were given to the farmers in the four villages for replication. The seeds were stored in small rooms in each of the four villages and scientific storing techniques were adopted with technical help from Green foundation. These were the Community Seed Banks. Two of the seed banks were set up at Yerajenahalli and D.Kurubarahalli in 2002. The next year, two more were set up at Yedahalli and Shettikal.

The seed bank is looked after and operated by the local rural women's Self Help Groups (SHG). At the beginning of every agriculture season, the banks supply the seeds to farmers. The seeds are not sold. They are supplied on the condition that the farmer, after harvest would return the twice the weight of seeds he/she received from the bank. This helps both promotion of the seeds and also their replication.

Members of the SHGs in charge of the seed bank test the seeds for germination qualities before distributing them among farmers. They also maintain details of the distribution and collect the replicated seeds from farmers after harvest for

depositing in the bank. The banks now have the following indigenous varieties of seeds:

- Eight varieties of paddy including dhaniya samba, kichadi samba, salem sanna, thella hamsa (white swan), bairu nellu, jeerige(cumin) samba, karimundada bhattha, neerumolagu bhattha
- Ten varieties of ragi (finger millet) including hasiru kaddi, eppatthu dinada ragi (70-day), benne mudde (butter lump), jenu mudde (honey lump), bonda, Uganda, bili thene (white ear), dodda (big) ragi, selva and jenu mutthige (honey bunch)
- 12 varieties of various grains including jowar (maize), haalu same, are same, red koralu (pearl millet)I, white koralu, greengram, wild gingelly, field beans, tooar (red gram) and sajje (cattail millet),
- 35 varieties of vegetable seeds. Beginning with a stock of about 50 k.g., the seed stocks now stand at two quintals. About 75 farmers utilized the seeds in the bank in the first year. Now about 350 farmers are accessing seeds from the banks.

The SHG members who are in charge of the seed banks are given exposure to various seed bank models and undergo trainings in techniques of variety selection, treating, testing and storing seeds. In order to promote sustainable agriculture practices and encourage organic farming, the SHG members are supported for kitchen garden, production of vermicompost, alternate pesticides and the members' families are supported for constructing farm ponds in their lands.

Farmers from elsewhere in the district as also teams of farmers facilitated by other NGOs have been visiting the seed banks on learning trips.

Seed bank activities

The main activities in the four seed bank villages during the period under review were:

- Review meetings
- Exposure visits for SHG members
- PRAs for seed selection
- Collection of indigenous varieties
- Seed storage
- Germination quality testing
- Selection of high quality local varieties
- Promoting kitchen gardens for SHG members
- Supporting SHG members' families for constructing farm ponds
- Soil and water conservation activities in lands belonging to SHG members
- Silt application in lands belonging to SHG members

- Compost production by SHG members
- Production of alternative pesticides as an IGP activity by SHG members
- Participation in Seeds Fest (Beejotsava) by SHG members
- Experience sharing among Green Foundation partners in its seed bank programme

In 2008, Smt.Kurubarahali Papamma was felecitated with RAAJYOTSAVA award for her efforts in conserving and promoting LOCAL SEED varities for FOOD SECURITY. Smt. Papamma's husband in the photo is very proud of her.

IMPARTING AWARENESS TO CITIZENS IN THE GRAMA PANCHAYAT VILLAGES AND INVOVING THEM IN PLANNING AN D MONITORING OF THE EMPLOYMENT GENERATION PROJECTS IN 5 GPs IN RAIHCUR TALUK. SIR DORABJI TATA TRUST, MUMBAI FUNDED THIS PROJECT. More information is available in Annual Report.

IMPARTING AWARENESS TO COMMUNITIES IN GENERAL AND TO CHILDREN, YOUTH AND WOMEN IN PARTICULAR ON BEHAVIOURAL CHANGE COMMUNICATION IN 164 VILLAGES IN 10 GPs IN RAICHUR TALUK IN RAICHUR DISTRICT WITH THE SUPPORT FROM ZILLA PANCHAYAT FOR WHICH UNICEF FUNDED THE PROJECT. More information is available in Annual Report.

The main goal of the above project is to empower communities to adopt and maintain range of critical behaviors to enhance young child survival and development of indicators like Right age of marriage, Birth Spacing, ANC and PNC care, new born care (Kangaroo care), Early initiation of breast feeding, Timely introduction of weaning food, promote growth monitoring, Use of Iodized salt, , hand washing and toilet usage etc., in Raichur taluka of Raichur district

in collaboration with BCC CELL-Raichur, Zilla Panchayath Raichur.

STRENGTHEING SCHOOL DEVELOPMENT AND MANAGEMENT COMMITTEES (SDMCs) IN 164 VILLAGES 10 GPs IN RAICHUR TALUK OF RAICHUR DISTRICT. THE GOAL OF THIS PROJECT WAS TO STOP SCHOOL DROPUTS AND ARRESTING GIRL CHILD MARRIAGES. THIS PROJECT WAS IMPLEMENTED WITH THE SUPPORT OF DISTRICT ADMINISTRATION FOR WHICH FUNDING SUPPORT WAS FROM UNICEF. More information is available in Annual Report.

The main goal of this project is to "Eradication of child labour & child marriages in all the 31 Grama Panchayaths of Raichur taluka of Raichur district in collaboration with UNICEF CHILD PROTECTION UNIT by strengthening the School Development and Monitoring Committees existing in at primary school level.

This project is initiated by GRAMA VIKAS during June 2010 with the financial assistance provided by UNICEF CHILD PROTECTION UNIT- District Administration, Chaired by deputy commissioner-Raichur. This project was completed in the month of March 2013. We did work to initiate a serious dialogue with communities to realize the GOAL.

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Rehabilitation of Traditional Water Harvesting Structure: Experience of Grama Vikas

PART I

INTRODUCTION

Kolar District wherein the Grama Vikas project is located lies in the Eastern Dry Agro-Climatic Zone of Karnataka. It is among the most backward in socio-economic and political terms. The district is dependent on agriculture, but has no perennial rivers and negligible canal irrigation. Irrigation sources are dug wells, bore wells and village water tanks, which are large water bodies, designed to harvest rainwater for agriculture and drinking water during the dry season.

Tanks were the chief source of water for communities in the Eastern Arid Agro-Climatic Zone of Karnataka in the past. Although tanks are viewed officially as sources of irrigation, they are in fact multipurpose water harvesting and storage structures. Designed to catch and store the run-off from catchment slopes, they were constructed by kings and philanthropists centuries ago and

were maintained by the local communities. Karnataka has 36,672 tanks and Kolar has 4,488. Mulbagal Taluk has about 620 tanks with about 400 in the GV project area.

In the post-Independence era, with the focus shifting to large-scale agriculture through mega irrigation, tanks were neglected. A majority of these tanks are silted up with soil washed down from the catchment area to the extent of 60 per cent in many cases. Most are in a state of utter disrepair, with dilapidated sluices and spillways and decrepit crest gates. While they used to supply water for two crops earlier, the tanks now can support only one, if at all. As many as 1,900 tanks in the State have been encroached upon.

Rains in Kolar District are insufficient and irregular. The average rainfall is 750mm a year. The region suffers a drought every alternate year. The quantum of the rainfall is less of a problem than its variation, not only from year to year, but during the year too. In the 50-year period from 1901 to 1950, the variation ranged from 175 per cent of the normal in 1903 to 52 per cent of the normal in 1923. In a similar period between 1959 and 1972, the annual rainfall recorded the lowest in 1960 (562.3 mm) to the highest in 1962 (1,215mm). This implies that there is drought in one year, while there are floods in the other.

The silting of tanks and the consequent lack of percolation has a disastrous effect on trees, plants, shrubs and grass in a large radius around it but the effect has been most pernicious on soils. Scanty rain and deforestation has reduced green cover, loosening and eroding the soil, which is loamy, sandy, gravelly and lateritic in structure. Increased wind velocity caused by lack of trees as arresters has led to soil being blown off in large areas, exposing bedrock.

Because of loss in storage capacity because of silting, non-maintenance and encroachment, tanks over the decades lost the capacity to support the second, non-monsoon (*rabi*) crop, forcing the better-off farmers to exploit of precious ground water through bore wells.

The proximity of Kolar District to the State Capital, Bangalore has made its agriculture commercially driven. Dictated by market forces emanating out of the metropolis, crop pattern has changed. In recent decades, the district agricultural economy has witnessed a 'Silk & Milk revolution' with growing of mulberry and mushrooming of dairies. Against the backdrop of low rainfall and silted-up tanks, this boost to the economy has been achieved by indiscriminate and high-risk exploitation of ground water through bore wells. **Sub-surface water levels have now gone down to below 400 ft. Most dug wells have gone dry and so have many tube wells.**

This has hit the poor and marginal farmers the hardest. Most farmers in the area belong to Scheduled Castes and Tribes and Other Backward Communities. Their average landholding is about two to three acres while about two per cent own no land. Although the feudal system is no longer in evidence, influential landlords owning large holdings (20-30) acres exist in almost all villages, and most poor farmers and landless farm workers work on the lands of the affluent farmers for a living during the *rabi* season.

While damaging the environment by lowering water table, bore wells increase the gap between the rich and the poor. Food Security of poor and marginal farming families who cannot afford bore wells and who mainly do subsistence agriculture by growing staple food grains, suffers as their open wells in the vicinity of the bore wells begin drying up. As a result, many sell their land to rich farmers with bore wells, and migrate to cities in search of wage employment.

This changes the land-owning pattern, turning the clock back. Those who migrate to cities can never afford to buy their lands back and thus never return to their villages. Such migration not only means definite degradation in the quality of life for the migrating family, it disrupts education of children and can be destructive to the values and integrity of the family as a unit.

Commercialization renders agriculture unsustainable, as it places intolerable pressure on precious and scarce natural resources like water and soil nutrients, as also non-renewable resources like stone and sand. It erodes traditional livelihood systems and introduces non-essential elements into agriculture like tractors that eliminate bullocks for transport and cultivation therefore reducing the amount of natural manure available. This in turn makes farmer dependent on agrochemicals. It also leads to endangering bio-diversity and depletion of the local varieties of seeds as farmers are seduced by the lure of high productivity. Drought-resistant, non-hydrophilic varieties of food grains are on the verge of vanishing, being replaced by high yielding, pest-vulnerable and hydrophilic varieties, which deplete water sources. This forces the farmer to borrow in order to meet the high cost of the inputs.

The shift in crop pattern in favour of cash crops has serious consequences on the fragile agriculture. Land under food crops is reducing, the production of ragi (e*leucine caracona*) which is the most important, high-nutrition, cheap and non-hydrophilic staple is going down, threatening Food Security for vulnerable and at-risk families.

Grama Vikas, which has been working in 150 villages of Mulbagal Taluk in Kolar District has been attempting to place on the public agenda through

sensitisation campaigns and actual desilting of tanks in order to create models and also to afford relief to marginalised communities.

Rationale

As you are aware, most tanks in the Grama Vikas area (except those taken up by GV for restoration) have been silted up and hold much less water than their original water holding capacity. Droughts lead to drying of even healthy tanks. While agriculture is affected, the worst affected are farm animals that are dependent on these tanks for water. The first casualties of drought in India are farm animals. Farmers, unable to ensure drinking water to their animals go in for distress sale of animals including, cows, oxen and sheep. Most of the cattle are headed for abattoirs, depleting a valuable source of milk, draught power and manure. Although the number of tractors in rural India have increased manifold, cattle continued to be the main motive power for transporting people and produce in rural India, particularly in areas of acute poverty. Farm animals make a large contribution to family food security in small and marginal farming families.

A major problem arising out of such depletion of cattle wealth is that farmers are forced to turn to tractors for tilling and transporting farm produce. This adds to the farmers cost and makes their agriculture operation costly. Second, tractors are an avoidable luxury in a petroleum-importing country like India that buys petroleum products worth tens of thousands of crores in a year. Third, the rising number of tractors also damages the environment in rural areas. Fourthly and crucially, depletion of cattle means less availability of manure, that force farmer to depend more on costly chemical fertilizers, making the agriculture unsustainable.

Rejuvenating tanks would be the ideal answer to the problems stated above, and it can offset the effects of droughts in semi-arid areas. But this is an extremely costly and time consuming exercise. With a State like Karnataka having about 36,000 tanks, enormous resources are required to complete the task. Therefore, is needed to look for cost effective and realizable methods of ensuring availability of water for both humans and animals.

One such cost-effective method is digging farm ponds on lands located in catchment areas. The ponds will also help recharge open wells in the concerned as well as the neighbouring farms.

Dimensions

The ponds are proposed to be of the dimensions 30ft x 20ft. The tank will be funnel shaped with steps on one side. The depth in the middle of the pond will be 8 ft.

Number proposed
Grama Vikas proposed to dig about 100 such ponds.

Labour
Employment generation about 20,000 person days. The ponds are to be dug by families themselves. No outside labor is proposed.

Grama Vikas is operating in semi-arid taluks of Kolar district. We do not have perennial rivers. The major and main source of livelihood is availability of water in the Minor Irrigation Tanks and micro irrigation projects such as Farm ponds and desiltation of open wells. These structure collect rain water and it will be available for a period of 8 to 9 months in a year for chiefly agricultural purposes and for other needs of community as well.

Grama Vikas very firmly believed unless WATER, SOIL and VEGETATION is protected and managed the future of rural India is very bleak.

Grama Vikas also believed that the rural marginalized farmers should be given support heavily in the form of subsidies to protect the water, soil and vegetation. Since farming is a risky proposition loans should be ruled out.

In Grama Vikas CCF programme operational area there are about 50 Minor Irrigation Tanks. GV has invested resources in 26 Minor Irrigation Tanks from very small size to moderate. In order to consolidate the previous investments to see a difference in the lived of the people, GV need to invest resources in 8 tanks to the tune of Rs. 32/- lakhs. From the 23 years of experience, GV strongly recommends that an average of Rs.25/- lakhs per tank need to be invested to complete the project. We need Rs. 12.50/- crores to make these water harvesting structures in to HEALTHY TANKS and SUSTAINABLE WATER HARVESTING STRUCTURE.

These structures were built 500 to 1000 years ago and they sustained till date. Meaningful Investment can sustain these structures for another 500 years and beyond.

The definition of a **HEALTHY TANKS** is:
“Availability of water during a good monsoon and also during a drought year”.

The benefits the members of the community derive from a Healthy Minor Irrigation Tank are shown in the Annexure I. If the benefits put together the individual family that owns half acre of land generates an income of Rs.9500/- per year. The healthy tank which gives plenty of green fodder and dry fodder motivate the farmer to for a dairy project which brings in another Rs.5000/- per month. A Healthy Tank can generate Rs.12,000 to Rs.18,000 per family per year.

ABOUT PALLIKUNTE

GV is working in Kilaholali village for the last 20 years with CCF support. Only two communities are living in this village and they are SC's (Adi Karnataka and Bovi stone cutting and earth work is the secondary occupation) and Backward Classes (Shepherds). Today the total number families dwelling in the village are 157. The main occupation is agriculture. This village has got 4 rain water harvesting structures in the form of Minor Irrigation Tanks. 4 years ago people in the village brought the status of the Pallikunte (Name of the one of the Minor Irrigation Tanks in the village) to the notice of Grama Vikas. 90% of the farmers in the command area of the tank are SC's who happened to be partners of the Project. Total land in the command are is 22 acres.

STATUS OF THE TANK IN 2000 THEN:

Sluice of the tank was in pretty bad shape and as a result all the collected rain water drains out and farmers could never harvest even the first crop of rice. Thank bed was silted up very badly. Waste weir was not in proper shape. Tank bund was very weak. Encroached by farmers.

.....AND NOW:

GV invested resources from CCF about Rs.2,00,000 during 2002-2003 and 2003-2004 to rectify the above mentioned problems of the tank. The major advantage was people did not migrate during 2003-2004 when there was severe drought hit the area. This year people started rice cultivation. If everything goes well farmers would harvest about 415 quintols of rice and the value of it would be approximately Rs.2,07,500/-. The value of the fodder is about Rs.22,000.

FUTURE:

This tank required an investment of about Rs.4,00,000 for excavation and transportation of silt so that people could get two crops a year and there will be water during summer for cattle and also fish can be reared which will give Nutrition to those 20 families for at least 6 months in year.

In the above tanks the second crop is always a question because of the problems listed in the above table which all together lead to the shortage of water. The World Bank support in the form if GRANT the People's Institutions is Rs.71,43,357. The investment for KARNATAKA COMMUNITY BASED TANK MANAGEMENT PROJECT in the above tanks will yield for one crop is Rs.39,66,000. The total value of the fodder is Rs.3,98,000. This means the investment from CCF will be recovered from the sale of hay.

Rs.3,00,000 will be utilized from CCF as margin money for tanks to raise funds from World Bank and this amount of Rs.3,00,000 will be released to the Village Development Committees (VDCs) as grant and it will be recovered from the

community by the VDCs.

Average amount available from World Bank per tank is Rs.7,14,335.

BIOMASS DEVELOPMENT:

It is an activity which has tremendous amount of scope for advocacy. Grama Vikas up this particular activity in a few villages and in the same year the saplings will be not give any revenue. The investment per farmer will be recovered to the Village Development Committees in installments. It is not CHARITY.

The famous organic farmer in Karnataka Sri Narayana Reddy says that a farmer without trees on his farm can never become a subsistence farmer.

Support for Biomass development gives farmers the following benefits:

- Promote Organic farming,
- Raw material for Vermicomposting which is also a Micro Enterprise Development activity,
- Reduction of application of Agro chemicals,
- Humus creation in the lands,
- Supplementing food security,
- Moisture retention,
- No wind erosion,
- Last but not least DRUDGERY REDUCTION for WOMEN.

This activity also brings in income in the families in the form of savings (reduction of application of agro chemicals). **This activity addresses GENER EQUITY.**

A CASE STUDY:

Smt. Chinnamma is a member of SHG in Chaparaballi village. This lady has two acres of land and an open well which was silted up to 10 feet. The original depth of well was 30 feet. Earlier the family used to grow staple food ragi on one acre of land and some vegetables like green chillies, onions, coriander seeds, brinjals and tomatos. After the siltation of the open well the family was going to town everyday for employment. After Grama Vikas invested Rs.5,000/- for desiltation the family is growing 15 quintols of ragi and vegetables. Ragi is 4 months crop.

The value of 15 quintols of Ragi is about Rs.9000/- and the value of the ragi fodder is about Rs.1200/-.

The value of the vegetables and the spices that they grow for the family will be

about Rs.5,000/-.

The total returns on investment is approximately is Rs.17,200/-.

MORTGAGED LAND REDEMPTION:

The mortgaged land redemption project releases the family from the clutches of the exploitative forces in the villages and help people to stand on their own feet. Farmers mortgage their lands when every other alternative fails to handle the problem. Because land carries a lot sentimental value.

RETURNS ON ONE ACRE OF DRY LAND:

On one acre of land the farmer produces 10 bags of ragi	
10bags @ Rs. 500/-	5,000
Ragi fodder	1,000
Pulses on one acre of dry land	
1. Field beans 50 kgs – 50 kilos @ Rs.10/- per kilo	500
2. Red gram 20 kilos @ Rs. 30/-	600
3. Cowpea 20 kilos @ Rs. 10/-	200
Sorghu (green fodder)	1,000
Total returns PER ACRE	8,100

SHEEP REARING:

This activity is planned for economic advancement of the 170 landless families. 2 sheep will be given to each family. For landless 10 plus 1 sheep unit (10 eves and one ram) is not viable because they depend on daily wages for their livelihoods. Our experience is when we give them one or two sheep when they go for work they take the sheep with them and tie them close to their working place. They do not need extra manpower for this.

Returns on investment:

Cost of Two conceived sheep with insurance @ Rs.1500 per sheep	Rs. 3,000
At the end of year the person will have four conceived sheep @ Rs.1500/- x 4	6,000
Total return on investment is	Rs. 3,000

LAND DEVELOPMENT

This particular activity supported with Silt application and soil conservation it fetches revenue as follows:
Returns on one acre of dry land:

On one acre of land the farmer produces 10bags of ragi		
	10 bags @ Rs.500/-	5,000
	Ragi fodder	1,000
Pulses on one acre of dry land		
a) Field beans 50 kgs,	50 kilos @ Rs.10/- per kilo	500
b) Red gram,	20 kilos @ Rs.30-	600
c) Cowpea,	20 kilos @ Rs.10/-	200
Sorghum (green fodder)		1,000
	Total returns PER ACRE	8,100

APPLYING TANK SILT ON DRY LAND FARMS FOR IMPROVING SOIL FERTILITY AND PRODUCTIVITY

Increase in yield, resistance to pests and diseases, improvement in quality of produce and retention of moisture in soil and saving of expenditure on in organic fertilizers due to application of tank silt to lands:

Crop	Average crop yield (quintals per hectare)		
	% increase	W/o Tank	With tank silt
Groundnut (protective irrigation)	9	14.4	60
Ragi (irrigated)	22	40	82
Ragi (rain-fed)	9	16.2	80
Maize (irrigated)	30	53	77
Potato (irrigated)	160	268	90
Tomato Hybrid (irrigated)	400	720	80
Mulberry lead yield (irrigated)	16	28	80

Chatrakodihalli 1997

(A M Krishnappa et al, 'Impact and Economics of Tank Desiltation in Southern Districts with Special Reference to Kolar', University of Agricultural Sciences, Bangalore).

The total crop production per acre according to University of Agricultural Sciences:

16 bags of Ragi - @ Rs.500/- per bag	
16 quintols x Rs.500/-	8,000
The investment per acre is about	1,000
(Tractor hire per day to transport silt from the tank bed to the land)	
Returns on ivestment	7,000

Grama Vikas is facilitating KARNATAKA COMMUNITY BASED TANK MANAGEMENT PROGRAMME in 40 tanks in the same number of villages. To facilitate the process we have a team of people consisting of a Social scientist, two civil engineers, one agriculture subject specialist and a R&R (Resettlement and Rehabilitation) officer. This particular project is almost implemented in CCF supported villages. This implies the same team facilitates the process involving CCF families in these villages.

TANK REHABILATION WORK - BEFORE

TANK REHABILATION WORK - AFTER

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