Transfer of Technologies for Sustainable Development: *The Tumkur Experience*

for

BAIF Institute for Rural Development, Karnataka

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Transfer for Technology for Sustainable Development: The Tumkur Experience

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Executive Summary

The Transfer of Technology for Sustainable Development (TTSD) project began in 1996-97 in three clusters, namely Tumkur, Dharwad and Uttar Kannada. The objective is to bring 9,000 families above the poverty line, or approximately 3,000 families per cluster. The history of BAIF started with a dream of M.K. Gandhi, to create self-sufficient villages with abundance of food, cloth and shelter. Gandhi envisioned the future of the nation as dependent on the villages and dependent on making every village self-sufficient. From this dream began a relentless process of research, learning and working for the cause of rural development and thus BAIF, the organisation was born. The organisation currently works in seven states. The Karnataka unit, BAIF Institute for Rural Development-Karnataka (BIRD-K) was started in 1980 and currently functioning in Karnataka and Andhra Pradesh covering 24 Districts. This report is based on the work done for the TTSD in the Tumkur cluster.

BAIF in its quest to achieve sustainable development identified and prioritized the following key areas:

- Sustainable agricultural development through tree based farming systems.
- Upgradation and management of cattle and other livestock resources
- Soil fertility building, wasteland and watershed development, vegetative propagation, and development of sericulture and livestock through identifying and promoting appropriate technologies.
- Promotion of community health and safe drinking water.
- Micro-enterprise promotion
- Strengthening of women and other socially challenged sections
- Community management systems for natural resource management and common property management
- Human resource development
- Problem oriented research programmes to identify better solutions

TTSD Process

The TTDS project considers an individual family as a unit for development and designs appropriate intervention strategies to bring them above poverty line. The mix of interventions and activities depends on each family's specific needs. A multidisciplinary team of professionals based in villages undertake systematic micro planning exercises to understand the development needs of an individual family. Family members participate in designing and implementing the development plan. People's Organisation (POs) play a key role in channeling inputs into the process, in facilitating development interventions and promoting saving and credit among members.

For this project, a new approach was developed called the Jana Utthan approach because earlier approaches were found to exclude the poorest and because single interventions rarely sufficed to raise all families above the poverty line. Instead a more holistic approach aiming at improving agriculture practices and the productivity of all the assets of a family was evolved. Therefore, the Jan Utthan approach was evolved to ensure

flexibility, the inclusion of the poorest and that the project indeed tailors to the local needs and makes the best use of local skills.

First a carefully designed process which includes PRA and family surveys helped to estimate poverty and identify those who needed economic interventions. Together with a group process and support, families are helped to design their own interventions. These interventions include land development, water resources development, introduction of improved/new seeds, assistance in deep ploughing fields, assistance in preparing and applying FYM, other improved agriculture practices, horticulture, livestock activities, or any other appropriate income generation activity.

Training and capacity building is an intrinsic part of the process. Training takes place at multiple levels in multiple forms and is intensive for both staff and project participants. One very important aspect of training is exposure visits to established projects that serve as a motivational tool and as hands-on demonstration to farmers. During exposure visits, farmers to farmers interaction has shown more success in convincing farmers than if BAIF staff were to try to convince them. Training covers areas such as:

- Nursery raising.
- Aftercare of fruit and forestry.
- Plantation techniques.
- Soil and water conservation.
- Peoples organization.
- Water resource development.
- Kitchen or Herbal garden

Training includes classroom sessions and demonstration of various activities in the field. Feed back on the training helps staff to constantly redesign it.

TTSD Project Components

- Jana Utthan component (described above)
- Training for staff and participants of the program (described above)
- Women in development to address drudgery issues
- Water shed development where on a 600-acre area a model has been developed
- Livestock development on how to improve productivity of livestock
- Community organization or Manav Vikas Sangha
- Community health where health related issues are dealt with

Plantation:

Agro-Hortiforestry (WADI) continues to be among the most successful models not only in terms of the orchards established but also in bringing a new culture to the cluster area. Four concepts in plantation adhered to include fodder, fuel, timber and bio-mass for compost. Overall 363 small and marginal farmers initiated wadi activity in year 4. Through introduction of new crops, crop yields increased by 20 percent, crop diversity doubled from 2 to 4 crops, and crop intensity increased by 129 percent. A total of 9,100

fruit plants like mango, cashew and tamarind and 3.7 lakh of forest plants were planted in the year 4. Of these, 11,994 fruit plants and 2.5 lakh forest trees survived.

Women in Development

Women's participation and their empowerment are the most significant accomplishments of SHGs. SHGs represent a new space where women come together, share their common concerns, work, play and build their capacity together and go out on exposure visits together. Gender integration in development planning is essential to a sustainable process of development. BIRD-K's approach to address gender issues involves the following steps:

- Studying how a problem, situation, intervention affects women and men.
- Identifying context specific interventions to minimise negative effects.
- Ensuring opportunities to every family member of the family for capacity building.

This approach involves six basic areas of interventions such as creating an understanding and supportive familial and social milieu, education and information, health drudgery reduction activities, income generation for women and promotion of self-help. Special attention is provided to women without support such as widows, deserted women and women headed families. Through this component:

- Thirty-two women have been assisted with additional funds to build assets such as sheep, cows, buffaloes, petty shops, tailoring machines, teashops and so on.
- 507 improved chulas have been constructed in the project villages.
- Bathing platforms and toilets improved bathing frequency, hygiene and health.
- 15 women's self help groups have been linked to banks for financial assistance.

Water Shed Development

BIRD-K initiated an innovative approach to watershed development called Jeeva, Jala, Jaala model (The 3-J model). This model integrates the traditional concept of locating dug out structures at strategic locations concerned with farm bio-diversity and sustainable use of natural resources. The features of 3-J model include:

- Intensive vegetative cover to control soil erosion by planting mixed forestry species along the field bunds and boundaries at the rate of 500 plants per hectare.
- Dry land agricultural practices.
- Focus on catchment area treatment as against drainage line treatment.
- Excavation of dugout farm ponds at the rate of one pond for every two hectares. Ponds are linked to catch water overflow across the watershed area, reducing vertical run off of silt.
- Farm ponds with intensive vegetative cover reduce soil movement and decreases the risk of silting of tanks and check dams down stream.
- Livestock development, fishery, bee keeping, in-situ organic composting, interventions for drudgery reduction and capacity building have been integrated.
- Farm pond mounds are productively used by planting herbs, vegetables and fruits.
- Productive live hedge fencing prevents stray cattle grazing, acts as wind break, adds to bio-mass production, and promotes bio-diversity

- Ferro cement has been used for check dam construction for cost reduction and efficiency.

The impacts of water shed interventions include:

- More water indicated by a higher water table and eighteen recharged bore wells, and water in previously dry lakes, ponds and nalas due to which four farmers cultivated additional crops of wheat and banana.
- Farmers now grow more than one crop a year unlike earlier. Cropping yield and intensity has increased. Earlier people grew only ragi but now they grow paddy in at least 30-40 acres which gives more income than ragi.
- In a study done on Laxmanpura by BAIF it was found that in the watershed area now new crops are being grown such as watermelon and garlic. Local varieties of Paddy, Ragi and Tur dal have been changed to Paddy-Jaya, IR-64; ragi-MR-2, GPU-28, HR-911, INDAF-5 and Tur-Hyderbad.
- Increased Food Availability.
- Increased plantation: Coconut planting has also increased. Farmers have planted 1,565 coconut plants on their own because of the increased moisture availability.
- Increased Acreage: About 51 acres of uncultivated area was brought under cultivation. Cropping intensity has increased from 79% to 129%.

Live Stock

Two centres have been established, one each at Mankikere and Konehalli villages, to meet the needs of live stock development. In addition to regular breeding activity, artificial insemination, pregnancy diagnosis and follow-up for calving, cattle camps have been organised with the help of Gram Utthan Samithis and the local veterinary departments. Impacts include

- Improved Yields: The introduction of local breeds were found to be useful for both ploughing and milking.
- Increased Awareness: The Golla community started vaccinating sheep hygienically on their own due to increased awareness created on preventative animal health.

Manav Vikas Sangha or People's Organisation (PO)

Decentralised decision making in project planning and implementation is very crucial to successful project implementation and to sustainable development due to which POs became a major focus of the project. People's organisations consists of three tiers, at the first level are the self help groups, at the second or village level is the Grama Utthan Samithi with representatives from all sanghas in a given village, and at the third level is the federation. All participant families are members of the groups.

Self-help groups (SHGs), have been formed in all project areas whose objectives differ from location to location. Federation of these groups carry out development responsibilities and activities beyond the purview of SHGs, which span a large area. Planning, implementation and monitoring the programmes are facilitated such that in

time the responsibilities of project staff diminish in inverse proportion to the responsibilities of POs.

A total of 148 self-help groups have been formed together with a membership of 2,218 men and women. SHGs have become a platform to dialogue and solve problems, undertake thrift and credit activities, income generation activities, Shramadham for voluntary work towards community development, establish and maintain linkages with banks and other developmental agencies, and mobilize people for training, awareness raising and skill development.

One major impact of community mobilization is seen in the Green Festival or the 'HASIRU HABBA' which aims to be an annual festival that people celebrate at the onset of monsoon. It has spread like wild fire across the districts and resulted in the planting of more than 2.5 lakh seedlings of different varieties. Other impacts of POs include:

- Identification, selection and recommendation of JU participants for interventions.
- Planning and implementation of family and village level activities and events
- Replication of interventions
- Investments on scale: where there is a level of organization that can service the needs of the entire village and all the sanghas on scale.
- Information Access: Here people's organization can cater to a larger need which individual sanghas would find difficult to address.
- Linkages: One primary benefit of forming organizations at various levels is the increased capacity to link with different agencies.

Community Health

BIRD-K has distinct approaches to health management in rural areas which includes:

- Promotion of nutritional gardens and addressing issues of food security
- Promotion of herbal gardens and herbal medicines
- Training of villagers in use of herbal medicines for treatment of common ailments
- Health education
- Provision of safe drinking water
- Immunisation
- Spiritual orientation for mental health and personality development
- Revitalising local health traditions including training on preparation of Kashaya
- Organization of health camps
- Prevention and Control of Malaria through herbal decoction.
- Construction of soak pits through mass campaigns.
- Chlorination managed by people organisation.
- Promotion of Arogya Samithi to assist major health problems.

Health is defined broadly as community based and includes proper sanitation, herbal and natural remedies, as well as spiritual not just physical health. The achievements of the community health initiative include

- Establishment of 239 herbal gardens during year 4 and 950 gardens over four years.
- Safe drinking water is now available in all but two villages.
- Completion of 264 soak pits through mass campaigns.
- Construction of bathing platforms and boilers for hot water for 263 families.
- Four general health camps were conducted where 590 cases were screened and treated. 50 Herbal health camps were conducted to prevent malaria in which more than 700 people were given herbal decoction. Eight eye camps were conducted in association where 37 cases were identified and operated for cataract.
- About 50 medicated mosquito nets have been supplied to families at subsidised rates.
- Construction of 49 toilets in the year with contribution from Panchayats and families.
- About 15,000 medicinal plants were grown in the nurseries
- Training of 17 Village Health Guides to prepare simple herbal medicines.
- Sadhana Shibara (SSY), Sathya Vratha, Sath Sangha, and Hrudhya Samelana were conducted in the villages which helped in the integration of different communities.

Conclusions

Each of the seven components of BAIF weave together to form a system of development processes that is comprehensive and holistic. From the initial process which in its open endedness of the determination of a local poverty line, to each intervention being tailored to the family through the micro planning process and local community, the approach center stages people allowing both flexibility and maximizing the potential for community input. With the exposure trips and the group discussions the basis for the community interaction is cemented through the building blocks of trust and mutual accountability. The emphasis on group formation, working in groups from the onset and savings build the cohesiveness and strength of the groups upon which the success of all interventions lie. Finally building people's organizations at all levels brings the entire emphasis back to the community and away from just the individual, while the initial processes simultaneously ensure that the individual's needs are not sacrificed. Leadership promotion and training exists especially through the spiritual program but there needs to be more support for women leaders.

Overall the Jan Utthan approach is unique in that for one it emphasizes center staging the poor and does so in a way that is not standarized, but uniquely plans for each family. It also places equal emphasis on the role played by the family and people's organizations. The Jan Utthan approach offers much in the way of a new methodology to identify and work with the poor. This approach has been the most significant innovation and lesson of the TTSD project.

The TTSD project goes beyond other approaches in its very flexibility. This allows for each component to be holistic and broadly defined so as to feed into and integrate with other components and serve the needs of many populations. This moves away from the

old paradigms of looking at individual components such as watershed development as merely an initiative to increase the water table. Instead each components complements the others like agro-forestry helps provide fodder for the livestock and watershed provides easy access to water for women.

Recommendations

- The target number of 3,000 families, evenly distributed over the project time period for the staff to effectively meet this target.
- Human resources in the form of more field guides and staff continuity could better facilitate the meeting of project objectives.
- Any distinction between the treatment of APL families from village to village (especially for watershed and non watershed areas) should be made clear to the community at the outset.
- Neighboring villages should be selected to reduce staff travel time or more staff employed if villages selected are scattered.

Chapter 1
The Transfer of Technologies for Sustainable Development Project

1.1. Introduction

Weaving together elements of an environmentally sustainable natural resource management approach with livelihood concerns, the strategies used by the Transfer of Technology for Sustainable Development (TTSD) project are innovative because they integrate the perspectives of each family. Central to the project is the Jana Utthan approach that center stages the participation of the poor, particularly the landless. Hence this project addresses the nexus between poverty and natural resource management objectives, compromising on neither, to facilitate a holistic approach to development.

The TTSD project began four years ago in 1996-97. The objective is to bring 9,000 families above the poverty line, or approximately 3,000 families per cluster. There are a total of three clusters one each at Tumkur, Uttara Kannada and Dharwad. The two approaches used are:

- Family based programmes covering 9,000 families.
- Area based approach which include health, drinking water and sanitation programmes, open to all people.

1.2. History of BAIF

The history of BAIF started with a dream of M.K. Gandhi, to create self-sufficient villages with abundance of food, cloth and shelter. In an ever enriching environment, with members living in good health and forging livelihoods based on basic human values. Gandhi envisioned the future of the nation as dependent on the villages and dependent on making every village self-sufficient. Out of that determination, the Nisargopachar Ashram at Urulikanchan in Pune was born in 1946 and the responsibility of managing this and initiating a programme for sustainable development in nearby villages was entrusted upon Manibai, a young disciple of Gandhi. With this began a relentless process of research, learning and working for the cause of rural development. BAIF, the organisation was born a couple of decades later. With more than half a century of rich experience in the background BAIF believes that removal of poverty from rural India is possible with appropriate technological and social interventions.

The organisation currently works in seven states. The Karnataka unit, BAIF Institute for Rural Development-Karnataka (BIRD-K) was started in 1980 and currently functioning in Karnataka and Andhra Pradesh covering 24 Districts.

Salient Features of BIRD-K's Development Approach:

- A multidisciplinary, integrated approach
- Focus on creating sustainable livelihood Systems
- Stress on enriched environment
- Research based planning process

- Optimum and effective utilisation of locally available and natural resources
- Emphasis on scientific temperament and appropriate technologies
- Promotion of participatory technology development
- Promotion of self-help through capacity building
- Involvement of farmer participants in every stage of project planning, implementation and management
- Emphasis on farmer to farmer training and extension

Through the many years of learning that emerged from BAIF's vast experience in the field of rural development it was found that sustainable development would remain a dream unless the key areas are identified and prioritised and development interventions focused accordingly. The key areas include:

- Sustainable development of agriculture sector through promotion of tree based farming systems.
- Upgradation of cattle and other livestock resources and promotion of improved livestock management
- Soil fertility building, wasteland and watershed development, vegetative propagation, and development of sericulture and livestock etc through identifying and promoting appropriate technologies.
- Promotion of community health and safe drinking water.
- Micro-enterprise promotion
- Strengthening of women and other socially challenged sections
- Community management systems for natural resource management and common property management
- Human resource development
- Problem oriented research programmes to identify better solutions

1.3. Transfer of Technologies for Sustainable Development

To achieve self-sufficiency in food grain production agriculture production in rain-fed dry land areas must be promoted. Agriculture practices based on low external input is the only solution to ensure sustainability in agriculture but at the same time too much dependence on external resources such as power, fertilizers, seeds and pesticides make farmers vulnerable. Hence, BIRD-K designed and implemented several models of tree based farming systems in various agro-climatic situations over the past 10 years. The salient features of these models are:

- Providing vegetative cover to land in off season
- Optimum harvesting of sun energy and converting this into bio-mass energy.
- Boosting soil fertility through natural processes
- Increasing farm bio-diversity
- Reducing pest attack
- Establishing effective wind break system and prevent moisture evaporation
- Reducing soil erosion
- Integrating livestock component into farming system
- Increased net returns from a unit of land.

The BIRD-K models have been implemented in several locations, also providing employment to the farming community on their own land thereby reducing migration. However, these projects had certain limitations. For example, each intervention had been designed for a minimum asset base of one acre of dry land. This excluded the landless, those families who owned less than one acre of land and those without the capacity to invest labour. This in effect meant that poorest families did not qualify to receive the project inputs and could not participate. Hence, while the projects have been benefiting families below the poverty line they have not benefited the poorest. This called for a family specific development package and gave birth to the Jana Utthan approach. This approach consists of both farm based and off farm based income generation activities. Other non-economic activities such as health and hygiene and need-based training are integrated to help the family come out of poverty.

1.4. The Process

The TTDS project considers an individual family as a unit for development and designs appropriate intervention strategies to bring them above poverty line. The mix of interventions and activities depends on each family's specific needs. A multidisciplinary team of professionals based in villages undertake systematic micro planning exercises to understand the development needs of an individual family. Family members participate in designing and implementing the development plan. People's Organisation (POs) play a key role in channeling inputs into the process, in facilitating development interventions and promoting saving and credit among members.

1.4.1. Initial Orientation:

In the past BAIF would call a meeting with the village leaders, put their ideas to the group and then talk to everyone in the village. In this project a different approach was used. From the very beginning the focus was on a particular population, people below the poverty line, not the entire village.

The first step was to gather secondary data such as the village population, number of landholders from different sources. Then BAIF contacted village leaders and key people to collect information about the village, the people, their cultivation practices and livelihood systems. A community meeting is called where people discuss their problems and the opportunities they see for their own development.

BAIF staff lives in the villages. They organize meetings with different groups, Harijan, women, widows to brief them on what they can expect from BAIF and what BAIF expects from them. After this an exposure visit is conducted for the community to understand the context of the project, BAIF and its work. People from other villages are brought in to explain BAIF's work but exposure visits were found to be far more effective. Those people who have been on the exposure visit act as facilitators to mobilize others and as spokespersons for BAIF. This orientation process alone takes about 2-3 months.

After many interactions, meetings and surveys, individual families are told about the project and family information is collected. The briefings are different for different families. For example, briefings for women headed families are different from those for marginal landholders. There are ten to fifteen interventions not all of which are relevant to every family. Focus group discussions are held where the community discusses their apprehensions, raises questions and expectations and these discussions mould the project.

First a locally defined poverty line is used to identify families who need assistance. Government lists on people below the poverty lines were found to be not very useful as often the poor are not on those lists and sometimes the wrong people are listed as poor. Defining poverty and ensuring the poorest are not left out is always a challenge. Often times despite the best of intentions and screening mechanisms, organizations have found as a project progresses, they have in fact not covered the poorest or are actually only addressing the better off. Therefore BAIF evolved its own method and created a scoring system with a range of 20 to 80 points. People scoring less than 35 points classify as poor and are eligible for economic interventions. This screening mechanism initiated at the onset of any project is continuously redefined keeping the local context in mind.

BAIF has a Family Information Report (FIR) system for all families in a village to assess which family is below the poverty line (BPL) or above the poverty line (APL). Ten to fifteen parameters such as status of the house, landholdings, health status, education status, employment status, livestock status and migration factors are considered. Based on the FIR survey, the number of BPL families is determined. Families are categorized for different services, with different interventions for BPL families and APL families. To participate, people have to belong to self-help groups. Families are integrated in group processes to break existing barriers. Meetings are held in a temple or a public space where people can interact, sit together and develop a sense of oneness.

Based on people's potential, skill, land and labour, activities are planned. Land based activities include building orchards, sericulture and water shed development. Small alternative interventions are designed for income generation for the landless such as food processing, small trade, shops and hotels, which provide substantive outputs.

1.4.2. Group Formation

Group formation takes place at the beginning. Before any intervention begins people must demonstrate a willingness to work in groups. After the exposure visits and interaction with BAIF groups are formed. For the project's purposes the family is the unit. Male sanghas form on the basis of land based programmes. Women sanghas are formed regardless of the economic intervention. The project is very open ended and the process designs everything on the ground. Nothing is fixed.

Generating unity and group support is an integral part of the process. Even while BAIF works with individual families, group support is seen as a pre-requisite. The group would have separately assessed the family's potential. One of the eligibility criteria for the

family to participate is group certification of the family. A family may not be part of the project if there is no group support, but if any group supports them at a later date they can be included. As the group process and unity is important a family is not thrust or forced into a group. A great deal of time is therefore taken to stabilize the group.

To promote community ownership over the process, it is explained to the community that it is not a BAIF programme but a programme where both the perspectives of the community and the organisation are integrated. Unless the community gets a full picture of the program, things do not move forward. It is a misnomer that people will grab anything free. People suspect BAIF and other NGO intentions as they have been cheated before. Thus people's involvement cannot be taken for granted and must be fostered.

1.4.3. Gram Utthan Samiti:

All sanghas in a village come together to form the Gram Uthan Samithi which represents the village policy making body where counterbalancing of interests takes place. There are more women's sanghas than male sanghas. While it is easier to form women's sanghas BAIF also makes a conscious effort to organize men into sanghas. The sanghas are trained and start saving from the very beginning.

1.4.4. Micro-planning:

Family welfare micro planning is a process where the group enters into an intensive dialogue with the family to determine each intervention. The family has to justify the asset being requested, for example, if they ask for a cow, why it is being requested when the individual has land. In other words, when a family has an existing asset that it can develop, it is encouraged to first plan around that asset. While a family may want a cow marketing of the milk and availability of fodder has to also be considered. Therefore the choice has to be justified and thought through even if the sangha recommends the same.

The intervention, as determined by micro planning, comes as a grant from the project to the sangha, which in turn provides this money to the family on a loan cum grant basis. There are about 10 categories of interventions that 1,000 families can opt for. For example one group can take up mango cultivation and another, cross breeding.

Families are reassessed periodically. If found that income levels have not substantively gone up, the next intervention is planned. This intervention comes as a loan provided the group has a substantial common fund. Most groups have a common fund of one to three lakh rupees, which takes about three to four years to build up, to meet their requirements.

1.4.5. Training

Training takes place after the family is identified. Environmental aspects of an orchard, agriculture, chemical farming, banking, handling money, bookkeeping and accounts management, training empowerment processes, legal issues especially on land, skill training, health and medicinal (more recent) training take place in several modules.

Health and medicinal training are not restricted to BPL families. Technical training takes place at the center and at the family level on a one to one basis. There is no literacy program person but field guides or a school child is asked to facilitate the documentation process. (Refer to the section entitled *Training by Type of Intervention* for intervention specific training inputs and methodologies.)

1.4.6. Cluster Approach:

BAIF works with a cluster approach where at least 3,000 families of the target group are covered, which is approximately 20 villages. To reach 3,000 families 5,000 to 6,000 families are surveyed. Of these about 3,000 are identified as eligible for services towards poverty alleviation.

1.4.7. Leadership:

Sangha leaders are trained and leadership promoted through a spiritual program where the concept of responsibility is inculcated. The spiritual programme is new (two years old) and consists of teaching basic spiritual techniques and practices, initiating sath sanghs and conducting Hrudaya Sammelans. Spirituality is an important transformational tool. BAIF uses it to bring together people on a common platform with a common focus.

1.4.8. Hrudaya Sammelan:

For every five to six villages, a one-day program is organized where people from different villages come together. Each family brings food enough for themselves and one more person. All food is collected. Then the whole group is engaged in songs and games to allow people to be as free as children. This tool is of bringing people back to their childhood state where everyone participates in games together. Meanwhile volunteers pool the food together and distribute it as Prasadham after the Puja. Food is very powerful tool as it has a lot of spiritual value in Indian culture and represents a meeting point for people. Traditionally when families quarreled elders called and fed them together. This activity is an old tradition being reinitiated. Everyone sits in a circle and eats together and starts to relate to each other differently.

1.4.9. Wealth formation:

BAIF has redefined the very concept of wealth. Wealth is not seen as generated purely in factories where resources are transformed from one state to another. For BAIF, nature is an integral part of the process of wealth generation. People are empowered to understand the interrelationship of all elements, land, water and trees. Thus BAIF's concept of wealth is one where natural resources are central to wealth formation and where people, their ownership and control over natural resources and their management of these resources are essential elements. Wealth formation is based on sustenance of natural resources and tailored to servicing the needs of the poor and the entire community. More importantly it is in the ownership and participation of the community over the management of those resources wherein lies the future sustenance of these resources.

Thus wealth generation is not at the expense of the environment. Through generating community ownership and control, future environmental degradation is avoided.

1.4.10. Balance between the target and non-target group:

In the past BAIF has observed how NGOs create more problems by working with some sections thereby generating antagonism between different sections of the community. Certain program elements contain quality of life elements relevant to everyone including drinking water, health, and human resource development where rich and poor are both included. Certain program elements are however targeted specifically towards the poor.

1.4.11. Exit policy:

While initially the field officers are the focal point slowly the programme is handed over to the community. Groups are built up, local people are trained to maintain the books. Slowly BAIF field officers attend fewer meetings and by the fourth or fifth year people manage with or without the field officer. Thus there are projects where despite the withdrawal of BAIF the activities still continue. This is a lasting institutional impact.

1.5. Seven Project Components

- Jana Utthan component based on BPL and the FIR
- Training for staff and participants of the program
- Women in development to address drudgery issues
- Water shed development where on a 600-acre area a model has been developed
- Livestock development on how to improve productivity of livestock
- Community organization or Manav Vikas Sangha
- Community health where health related issues are dealt with

Chapter II
Jana Utthan Approach

In the Jana Utthan approach, families are selected to participate based on their estimated annual income. The village community is involved in defining poverty[1] and in the identification of the poorest families. In addition, families with incomes below Rs.6,000 per annum are also included in the project. The "gap" between the family's present income and the poverty line is estimated.

Village community representatives and each of the poor families together prepare a Family Micro Level Plan based on the family's assets. These micro-plans are designed to help the family increase its income, thereby bridging the "gap" within the project time frame. The Micro Level Plan aims to assure food security and raise the family's economic status above the poverty line on a sustainable basis. Micro Level Plans continuously evolve on the basis of each family's changing needs, successes and failures over time, building in an element of flexibility.

People Organizations are constituted by these families to manage input supplies, training, to provide services and to monitor progress. People's Organizations link with mainstream organizations such as government departments, banks, markets and so on to ensure future sustainability for the community as a whole.

The Jana Utthan approach was developed because earlier approaches were found to exclude the poorest and because single interventions rarely sufficed to raise all families above the poverty line. Instead a more holistic approach aiming at improving agriculture practices and the productivity of all the assets of a family was evolved. Therefore, the Jan Utthan approach was evolved to ensure flexibility, the inclusion of the poorest and that the project indeed tailors to the local needs and makes the best use of local skills.

Income is estimated in the following ways:

- Through Participatory Rural Appraisal (PRA) and individual interviews, a ready reckoner of economic projections for all economic activities in a village is prepared.
- Individual interviews help supplement this information on a per family basis. The ready reckoner acts as a validation tool for farmer's answers.
- During the micro-planning exercise, the field team sits down with each family for a good length of time and the figures for each participant family are estimated.

The interventions include land development, water resources development, introduction of improved/new seeds, assistance in deep ploughing fields, assistance in preparing and applying FYM, other improved agriculture practices, horticulture, livestock activities, or any other appropriate income generation activity.

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[1] The poverty line estimated in 1993-94, was Rs.11,200 per annum for a family of five individuals, above 5 years of age. When adjusted for real inflation, the present poverty line would be about Rs.15,000 and is recommended for use instead of any new line determined by the government.

2.1. Interventions Wise Family Coverage

Table 2.1: Income Generation Activities Initiated by the Number of Families			
Sl.No	Interventions	Number of Families in Year 4	Cumulative year 1 to 4 (No. of Families)
1	***Wadi***	363	1,228
2	Farm Development	1	1
3	Buffalo	10	11
4	ND Cow	5	9
5	CB Cow	26	32
6	Goat	1	1
7	Poultry	00	3
8	Sheep	70	112
9	Sericulture	5	39
10	Chain pulley	1	1
11	Provision store	3	3
12	Tea shop	2	2
13	Blanket making	11	11
14	Poultry Breeding	00	1
15	Seasonal Business	2	2
16	Broom stick Making	1	2
17	Tailoring Machine	5	5
18	Barber Shop	1	3
19	Cycle Shop	1	1
20	Garment shop	2	2
21	Arecanut Nursery	0	1
22	Coconut Nursery	0	1
	Total	510	1471

2.2. Salient Features

- More than 22 interventions meet the needs of different categories of families
- Interventions now have a smaller grant component and a larger credit component.
- Farm development converts unproductive coconut gardens into a diversified productive garden by integrating forestry, fodder, and vegetable cultivation.

Arecanut Nursery, Sripura Colony, Dhodikatte Village

- Sharing water among the families for sericulture, wadi and farm development.
- Training on pre plantation and post plantation activities.
- Introduction of Apiculture to increase the crop productivity.

2.3. Plantation:

Agro-horti-forestry (WADI) continued to be among the most successful models not only in terms of the orchards established but also in bringing a new culture to the cluster area. Four concepts in plantation adhered to include fodder, fuel, timber and bio-mass for compost.

One highlight has been the stress on plantation and use of different forestry trees. More than 9,100 fruit plants and 3.7 lakh of forest plants have been planted during the fourth year alone. The year end sample survey showed a survival of 11,994 fruit plants and 2.5 lakh forest trees after four years. The better survival during the year can be attributed to:

- Better rain fall pattern during the year than previous years.
- Continued effort in timely plantation.
- More rigorous culling of plants in the nursery
- Evolving technique of planting in trenches.

It is increasingly easy to motivate people to plant trees not only in their fields but also in common lands. People were also trained in after care measures such as basin preparation, mulching, pitcher irrigation, shading for new plants and plant protection.

A Coconut Nursery, Sripura Colony, Dhodikatte Village

An Orchard of Wealth…

For Shivamma, building the orchard was difficult, making the pits, putting the manure. Shivamma dug the pits and did all the work herself*, She used to carry the water on her head and go. Now we have a drum and a bullock cart. The field used to be far away but BAIF provided a bullock cart to the sangha. The cart is rented our and we pay the sangha Rs. 10 while non sangha members pay Rs. 20 for the use of the cart.*

Shivamma dug a pit, put leaves on top and created a basin. All wadi participants have done a day of community work to build orchards including mulching, shading and pruning. BAIF gave her saplings for forest trees, mango, tamarind, other fruit and medicinal trees. Her hard work resulted in an orchard of 10 mango, 15 tamarind trees and medicinal plants. She said *I grew watermelon and got 5,000 rupees for all the watermelons sold.*

Mixed forestry is practiced to retain a wide variety of local species. In Thimmarayanahalli village for example Kesher, eucalyptus, tea, dalbarja sesu (timber) and sasbima are grown. In the dry land agro-forestry system, plantation is done before

the first rainfall so plants have enough water to grow without the need for irrigation. Horticultural plants grown include mango, tamarind and cashew. Farmers are motivated through group meetings, campus training, video and exposure visits with regular visits made by the field staff.

2.3.1. Impacts of the Wadi

Shift to Own Cultivation: The first major impact is the shift in work patterns from working for other people while neglecting their own lands to now tending their lands and increasing the productivity of these lands. This helped stop migration and had increased yields and therefore income. Income is also earned in kind from horticultural plants.

From Dependence to Self Reliance…

In Dasanakatte village, there was not enough work. Men worked in Tiptur or other villages while women looked after the household and cattle. Families depended on coolie for income to buy food. Coolie work provided irregular income being available for only eight months in a year. Earlier they grew crops in their fields but the yield was too low and barely sufficed for family consumption. For the past three years men no longer do coolie work but work on their lands. Sangha members felt bad that working on others' lands for coolie where the land owners were making profits, not them. A sangha member said that, *when we were working on others land we got Rs. 50 doing coolie and the land owner got Rs.100 profit. Now we work on our land. If we put in Rs. 25 into the land, we get an output worth Rs. 75. We feel happy to work on our own field. There is lot of difference between our earlier life and present life*. Working on their land gives them immense satisfaction as well as income from sale of crops or vegetables.

Building People's Assets: Through horticultural cultivation and growing of forest species has increased the asset base and wealth of the people involved in wadi activities.

Trees are Wealth…

Sangha members from Dasanakatte village were taken on an exposure trip to Manjunathapura, Hullenahalli, Holalkere and Mysore to see wadi and sangha activities. After the exposure trip they began wadi activities. They realised that if they maintained a wadi, fruits would be an additional source of income. They also learnt that they could plant coconut trees along side the farm ponds. Horticultural plants were expensive and available only in Tiptur at Rs.30 per plant. Earlier they thought that shade from mango trees on the farm bunds would kill their ragi. Now forest trees planted on the bunds is being used as a fence for their farm. The leaves from the tree fall on the land turning into natural manure increasing land fertility. As the tree ages it provides timber. Earlier they collected firewood from the forest, which they now get from their own land reducing women's drudgery. Also people are not permitted in the reserve forest area people and cannot graze their cattle or cut trees. The whole forest area has been fenced.

Forest and horticultural trees are their future assets. A male sangha member said that BAIF provided inputs such as horticultural plants, turmeric plants and vegetable seeds. Some trees, planted on farm bunds, are yielding fruit. Sangha members say that they earlier ate mangoes only when they went to Tiptur. Now they grow their own mangos and can eat them as often as they want. Lakshamma, a woman sangha member said that, *we got 50 to 60 mangos from our mango trees and now we feel the taste of a mango*. They sell the trees. One of the oldest mango tree was sold for Rs. 50,000. Another village farmer sold a jack fruit tree for Rs. 50,000.

Now sangha members have coconut plantations. They drink tender coconut when the work on their farmland tires them. *Earlier if we wanted to drink tender coconut, the owner of the land used to make us work until 12 'o'clock before we got it. Now we drink tender coconut as much we want and are capable of offering a tender coconut to a guest who comes to the village.*

One sangha member said that, *if we go to our relatives house, our relatives tells us that after BAIF started working in your hamlet you have improved a lot and they ask us when BAIF will come to their village and start work.*

Self Sufficiency in Food: Another major impact has been increased number of crops and improved yields, which has provided more food and income for the family.

A New Life at Seventy!

Siddamma is the owner of a one and a half-acre wadi plot at Byadarahally village. She is an old widow, weak, poor and illiterate. There are as many as fifty pits for wadi dug in this plot which Siddamma dug herself. Her son is a drug addict and not interested in working on the land. Except for one crop of rain-fed Ragi cultivation the land has remained largely unutilised. She used to invest Rs.300 to Rs.400 per crop in chemical fertiliser and cultivated a variety called Dodda Ragi. The yield was three quintals per acre, insufficient to even meet the annual family requirement. Siddamma, at seventy plus, was forced to do coolie. Though Siddamma believed in hard work, she did not want to work on other's land because she wanted to make maximum use of her own land. But she needed investment in terms of money and labor. She utilized the opportunity provided by the project to realise her dream. She was the first to persuade and motivate other women to make use of this opportunity.

She began shaping her land through trench cum bunding activities, digging pits for forest trees and fruit bearing plants followed by plantation of seedlings. Initially some small assistance was provided through payment for labour and seedlings. She planted 40

horticultural species such as Mango, Guava, Sappota, and Tamarind, nearly 600 forest species of fodder and wood and Stylo Hamata, a hybrid fodder species and castor on farmland bunds. On the farm pond bunds she planted a hybrid variety of red gram and Kakada plants, whose flowers have good market value. She fenced her land with Euphorbia species and other species of plants for compost and fodder to protect the fields from stray cattle. She cultivated a hybrid variety of Ragi (HR911), Avare, Jowar and Castor (for oil extraction purpose) as inter crops. With BAIF's intervention, the University of Agriculture, came forward to supply hybrid seeds of Ragi and Stylo Hamata.

The farm pond in her land apart from in-situ harvesting of the rain- water has also been a source for protective irrigation. For the first year after the rainy season, the water in the farm pond remained for nearly three months and in the coming years, water is expected to be retained in the ponds for a longer duration.

In the second year of the project, Siddamma's land yielded 5 quintals of Ragi from one acre of land (as against the earlier yield of 3 quintals per acre). She grew 50 kg of Jowar, 15 kg of Redgram, 20 kg of Avare, 30 kg of Castor and 70 kg of Stylo Hamata.

Siddamma turned the one `gunta' ($1/40^{th}$ of an acre) of land in her back yard into a nutritional garden. She planted varieties of perennials, seasonal vegetables, fruits and spices in her backyard and uses the wastewater from the kitchen to water her kitchen garden. Siddamma and her family no more depend on the market for the basic nutritional food requirements.

Siddhamma in her kitchen and herbal garden

Siddamma used to worry about her two young grand daughters' marriages. Looking at the assets on her land she is now confident of a secure future. She had given up all hope of her son working on the land. However, seeing the productive changes taking place on her land, her son has now started to take some interest in working the land. This has been heartening for Siddamma to see. Her daughter-in-law was suffering from psychic disorders for last 10 years. The family tried both allopathic medicines as well as traditional treatment based on temple systems of treatment. Nothing worked. However, for the last one year there has no psychological symptoms frequently expressed earlier once in every few weeks.

Siddamma is enthusiastic to learn new things. She learnt the scientific method of planting and sowing, the techniques of vermi composting and its advantages and is aware of the impacts of chemical fertiliser on the soil. She is happy that a door has opened for her to get such information. Earlier no one ever spoke to her or discussed with her anything other than the routine household affairs. Nor was she considered worthy of anything more. People in her own and nearby villages now look at her with respect and Siddhamma feels increased social recognition. The awareness that she has the capacity to initiate a positive change in

the family economy and living conditions makes her more confident and happier. All she needed was an extended hand of support and guidance.

Increased care for the land: More visits to the land by farmers and a shift in cultivation techniques used show this care. Staff has described other benefits below.

Venkatesh Patil, field staff working in Ghatanikere village with a population of 140 families. Of which 96 are BPL families and 72 families including 7 landless families are covered. There are eight SHGs, four men's and four women's SHGs. Members with land developed wadis and constructed farm ponds. Discussing the impacts of wadis, Patil said one impact is that members now visit their land frequently while earlier they visited the land only eight months in a year. Increased frequency of visits occurs because they know that if they look after their wadi for four to five years it will generate income. Due to the construction of bunds and planting trees on the bunds moisture level and soil retention has increased. More moisture has increased the yield. Earlier members were growing local variety of crops. Now yield has increased due to two reasons. One is because of the wadi-related activities and another is because of improved seeds. Wadis are now fenced to protect them from stray cattle. Members get bio-mass and fire wood from the wadis. Another impact is the increased greenery, also during summer months.

Increased bio-diversity: In Mankikere village, land based activity began in 1999. After exposure trips and PRA exercises, cultivation of mango, cashew, horticulture, tamarind and jack fruit trees began. Forest trees such as Teak, Acacia, Subabul and Cajurina were grown over a period of 4-5 years to provide fuel and fodder. In Mankikere alone 400 horticultural plants and 5,000-6,000 forest plants were grown.

Landscaping her Plot…

Byadarahalli, a small village consists of 40 houses and is located in the watershed area of the project. Puttamma's family consists of Puttamma, Thimmaiah her husband, and two daughters, belong to Uppar community. The couple was illiterate. They had one bullock and leased five goats. Earlier they cultivated ragi, green gram and cereals on their land mainly for self-consumption. About 7-8 years ago her husband was badly injured on the head due to which he was unable to work in the field for extended periods of time. Her two daughters are school dropouts. They had studied up to 4th standard. They dropped out mainly because they had to look after the goats taken on lease. The eldest daughter was working as a laborer in Tiptur while the second daughter was helping the parents.

This family joined BAIF's programme in 1998-99. Initially they hesitated to join the programme since the husband was not able to work very easily on digging the pits and other such activities but later they were convinced. Puttamma encouraged her husband that she would support him. All the family members were involved in shaping up the wadi into a beautiful landscape. They planted 2,000 forest species and 45 horticultural plants. They also built bunds, a gully plug and a farm pond on their land. Yield from the land is expected the next year. She says that forest plant leaves are converted into bio-mass and used for fuel as well. Daily the land now yields heaps of fodder for their livestock.

Although Ragi is their main crop and nutritious, Puttamma wanted to cultivate Hurali as an inter crop between the horticultural plants instead of Ragi since she expected very low yields from Ragi. Ragi is being cultivated separately in another piece of land. She now plays a key role in the field and outside the field. Due to family presence in the land daily today the land is looking well taken care of. She is now an active member of the group and every week she saves money in the self-help group (SHG). Her group is expecting a bank loan from which she hopes to buy a bullock cart and sheep. Her family is being appreciated from all villagers for their outstanding formation of wadi.

Increased knowledge: Men and women from Mankikere and other villages were involved in digging pits, watering and taking care of plants for which training and exposure was provided. They were given training on pit dimensions, number of plants in a given area, methods of planting, distance between plants, fertilizer to be used and watering of plants. This training takes place a day prior to plantation and a day after plantation. The training also includes demonstration in the fields, in schools and exposure visits to previous BAIF work to create trust. In Lakshmanpura village, initially people were scared that BAIF would take away their land, especially when BAIF started distributing free saplings and implements. They went to Manjunathpura village on an exposure visit to see water shed development, after which they decided to take it up. They saw mango tree plantation, nurseries, use of manure and grafting. After a year, people said that *profit or loss, they should take a deep breath and jump in*. They were inspired because the trees had grown well and the environment improved. They visited a forest based tribal community who cultivated excellent orchards. They then grew fruit trees on the land including pomegranate, guava, tamarind and mango and are now eating and selling the fruit. In the previous year neighbors stole their fruit.

Integrated approaches: Wadi activities are integrated with other interventions such as nurseries run by women that provide saplings for the wadi and watershed interventions such as farm pond construction. At Sathemaranahalli village, there are 50 families out of which 25 are APL and 25 are BPL families. There are two sanghas in Sathemaranahalli, one women's sangha and another sangha consists of both men and women. According to Ambikamma, field staff at Sathemaranahalli, there are 21 fenced wadis. About 80 percent of the plants have grown well. One plot consists of 40 fruit plants and 500 to 600 forest plants. All 21 wadis are fed by 15 farm ponds. People use water from the farm ponds for washing clothes and to water the three nurseries looked after by three women. Among the three nurseries, two are forest plant nurseries and one is a medicinal plant nursery.

Live Hedge Fencing

While in some villages plants are still young, and have not yielded, in more than 25 wadis trees such as mango and cashew have started yielding fruit. In more than 50 wadis, people are getting firewood for cooking. The orchards provide a lot of value to the village community besides just improving the environment. They provide fruit, fuel, fodder, manure and serve to meet nutritional needs of the family. Furthermore by producing diverse crops on a small piece of previously unutilized land, this provides the family the means to sustain itself by utilizing their own resources.

2.4. Sericulture

Sericulture is one of the main land based activities. Mukund, one staff person works in Thimmarayanahalli, Laxmanpura, Gollalarahatti, Doddikatte, Kenkere, Muddenahalli and Chowlihalli villages mainly looking after sericulture activities. Earlier sangha members were not interested in sericulture. Those involved in sericulture get Rs.5,000 per crop and grow 5 to 6 crops in a year. It takes 60-65 days for one crop to harvest. In a year they earn Rs.25 to 30 thousand. The input into sericulture costs about Rs.1,000 per crop.

The Silk Route…

In Thimmarayanahalli, Malliappa began sericulture in 1997 through BAIF. In the first year he planted mulberry sticks. In the last three years mulberry leaves have grown. Due to water shortage only three crops are cultivated in a year. He buys water from people with bore wells to irrigate his land. Currently only 20 guntas of his land is being cultivated under mulberry. He received no formal training, as he did not go to Lakkihalli due to illness. However he has learnt from the work of people with 20 years experience and from sangha members who were trained. Through an exposure trip to Kolar and Hassan he saw dry land farming of mulberry. He started by buying 25 silk worm eggs. Now he can afford 50 eggs from which 36 kgs of silk is produced and sold in Bangalore. At a minimum price of 200 rupees per kg (or up to 400 rupees per kg depending on the market), his income is about 7,200 rupees a year. According to Malliappa, *If this were not to have happened I would still be growing ragi. I am happy with this work. I want to grow mulberry on another 20 guntas on land.* Till now he has not failed in sericulture and his worms have never got a disease as they are protected with mosquito nets.

Silkworms

Marketing is not a problem. Members sell cocoons in different markets including Hassan, Bangalore, and Channapatna. Price of the cocoon depends on quality. If it is bivoltine, price is more. Sericulture methods used here are different from elsewhere. Here members make trenches and fill the bio-mass in their field. A total of 44 families

are engaged in sericulture covering 50 percent of the four villages. In Doddikatte seven families, Kuriyarapalya six families, in Kenkere eight families and in Thimmarayanahalli nineteen families are engaged in sericulture. Recently six new families were introduced to sericulture. Of these families engaged in sericulture 40 percent are doing well. Recently BAIF deputed a special technical sericulture officer to provide technical support. Community assets like chandrike (shelves), trays, mulberry plant cuttings, mosquito net and chemicals were given to the Gram Uthan Samithi.
Families are taught dry land farming techniques to produce more crops and to shift cultivation practices to producing mulberry and thus increase their incomes. With existing land and different cultivation practices families are able to grow a variety of crops which they either sell or consume themselves. Papayas, lemon, bananas are the other species grown other than mulberry and used for self-consumption.

Through alternative cultivation practices, increasing the yield of existing crops while also diversifying by growing new crops increased income. Women benefited through jasmine cultivation and marketing of jasmine but to a lesser extent than men. Training provided by BAIF is key for the success of sericulture through which families are made aware of how to get high yields as well as how to handle diseases that can affect the worms.

Reaping Silk from Barren Lands…

Seven families live in Dhodikatte village, Sripura colony, each with three acres of land engaged in sericulture. Though they have requested it, the government has not yet given the land title deeds in their names. After a farmer cultivates the land then automatically he or she can get the land in his or her name. Giriappa used to collect betel leaves for a living. Some people told him about land available in this area, which he could cultivate. He got authorization in the form of a letter from the village accountant. When he came to Sripura colony, there were only bushes and it took him nearly five years to just clear the land. After which, they started cultivating ragi, tur dal, chilli and jowar. As this was not sufficient to provide for the families, they had to do coolie work for the government in the nearby forest in summer. They alternated between coolie work and field work. Confusion arose as one lady claimed that four acres of their land was hers and took them to court. The case is still going on and they paid Rs 16,000 towards the case. The village accountant had given her a letter with the land in her name. The local MLA assured them that as they had been cultivating the land it belongs to them. Nonetheless they fear being evicted. When BAIF came they were scared to begin sericulture in case they got evicted.

There are very few water sources. They travel three kms to get drinking water with one cart and one man Bheeranna fetched water for all seven families. Gita from BAIF came here four years ago and held a meeting with all the families. At this meeting they decided they needed a bore well and six months later it was installed. They use the bore well for drinking water, not for sericulture. According to Giriappa,

Giriappa on his Mulberry field

After BAIF came we do not feel like going anywhere else since we now have water. The rains come and now all we need is the land in our name. Men formed a sangha and started saving Rs.5 each accumulating about Rs. 5,000 which they intend to use for repairs if the motor or generator breaks down or alternatively to get their daughters married.

They were given a choice to cultivate mango, tamarind or do sericulture. As they were familiar with sericulture from their village they decided on sericulture. They went on an exposure trip to Tassar. Seven women were trained for a month and a half in Lakkihalli on care of worms, cocoons, and how to weed the plots who then trained the men. After training they were given 300 rupees, a pump and mulberry saplings to start. They began mulberry cultivation using drip irrigation and their first harvest of silk was good. They built special houses for the cocoons with project funds. They grew coconut trees along the sides and several fruit trees and crops such as cashew, banana, sugarcane and cassava.

The Sericulture process starts with buying eggs, which they put on a sheet of paper and then cover with another sheet of paper. They dig a trench of about 2-3 feet, put water and a mud pot in it. Inside the pot they stack the eggs and sheets to keep it cool and away from the sunlight for three days. After this the eggs turn into worms. The worms are transferred onto a bamboo tray with mulberry leaves, which they eat. These trays are put on a platform. After a while the worms start spinning cocoons. These cocoons are put in boiling water to kill the worms after which strands of silk are extracted from the cocoon. In summer they cannot grow cocoons because the mulberry leaves dry up. They get four crops up to December till the rains last. They normally have two monsoon and two summer crops but this year because of power cuts there were no summer crops. Due to power cuts they used a generator run on diesel which is far more expensive than electricity, which has consequently led to losses. A disease called Seperoga can affect the cocoons. If the eggs are attacked by disease the entire lot of cocoons can be affected so they have to stop the disease in time. To treat the cocoons they dig a pit and use bleaching powder and chunna or Sodium bi-carbonate to kill the diseased worms.

Last year they got four crops and sold 17,500 rupees worth of silk and 3,600 rupees of ragi. Over three years they have made an estimated profit of 20,000 rupees. Before sericulture they grew ragi and other grain for home consumption. The four acres of ragi produced a total of five bags, used only for home consumption. Therefore till they started sericulture there was no income from agriculture. They had a cash income only through coolie work they did outside. Now the land fertility has increased and they are able to produce nine bags of ragi instead of five. *Having done all this is a benefit and we now have a house, a bore well and land.* The children are not educated, as they cannot afford the fees. The families grow mulberry and market cocoons individually because their mulberry crops harvest at different times and timing cannot be coordinated.

Women cook, plant saplings, look after the eggs, deweed the land, graze the cattle and grow the ragi. They planted the jasmine two years ago and in the first year they did not get any yield. But this year they put a lot more water so they got a good crop of jasmine. Only in March-April they do not get a crop but for the rest of the year they got yields.

They sell the jasmine cultivated and make 20-25 rupees every day, earning between 200-500 rupees per month from jasmine sales. Women go to the market for sales of lower value while men handle marketing for larger sums of money. One man, Dharmayya made 2,000 rupees from the jasmine over the year because he has irrigation facility.

2.5. Improved Cultivation Practices:

To increase crop intensity and productivity, improved ragi (GPU 28), was introduced to 163 families, watermelon seeds were distributed in winter for 239 families, Sunhemp seeds for green manuring was given to 129 families and tank silt to 60 families. As a result yields increased by 20 percent, crop intensity by 129 percent and crop diversity increased from two to four crops. Other improved practices include vermi-composting taken up by 39 new families and excavation of farm ponds in 74 wadi plots. Pot irrigation and drip irrigation are practices used in drought prone areas to conserve water. The most significant impact is the replication potential where non-participant families have started using improved cultivation practices.

Pot Irrigation

2.5.1. Organic Compost

Waste to Wealth…

Under a Tamarind tree with a large canopy on her land, Siddamma began vermi composting and NADEPP composting units. . Siddhamma received training on vermi compost from BAIF. Earlier she used chemical fertilizer. Now she prepares vermi compost by mixing cow dung and water into thick paste in a pit covering it with leaves. Previously unutilised agricultural products burned and wasted now gets composted in these units. She no longer invests in chemical fertiliser and instead uses self-produced vermi compost and NADEPP compost on her land. She planted 300 Aloe Vera (a plant of high medicinal and cosmetic value) plants in the Tamarind tree canopy and vegetable creepers such as Pumpkin and Ridge gourds. Her composting units produced 1,800 kgs of NADEPP compost and two quintals of vermi-compost. This year, Siddamma earned an additional income of 1,400 rupees from selling earthworms with which she bought a pair of cattle. Due to financial problems she sold two bags of the vermi compost for 250 rupees. Otherwise she uses the vermi compost. She said, *we should salute that manure. It is of very superior quality*. When she used chemical fertilizer yields were low and the crop did could not withstand the sun. Now with vermi compost, the crop is stronger and yield has increased. Now she grows vegetables for family consumption and flowering plants to sell flowers.

Garden flowers raised for making malas

Various composting techniques have been taught to sangha members including vermi composting and NADEPP composting units (refer to section on training for a description of these techniques). Vermi-compost is an alternative to chemical fertilizers that the farmers can produce in their fields with very little cost. Simple composting techniques were also used by sanghas.

Sangha members in Dasanakatte use leaves for preparing compost. In the rainy season they collect the leaves from the tree and in the evening they spread these leaves in the cattle-shed and they make cattle sleep on the leaves. While cleaning the cattle shed in the morning they collect the leaves and the dung and put them in a compost pit. In the rainy season all the leaves will decompose and they are using these compost for their crops.

2.5.2. Dry land cultivation practices have been used for sericulture and other crops. In the example below, dry land cultivation was used for coffee and vegetable plantation.

Dry-land Cultivation with a Difference…

Eshwariah lives in Mayagondahalli village and belongs to the Lingayat community. His family consists of four members with two children both of whom are going to middle school. He is able to write and read to some extent but his wife is illiterate. He has three acres of dry land, and no water source to cultivate any crops during the off-season. In his land as is commonly the case, ragi and green gram was being grown.

Eshwariah, became a part of the Wadi program in 1998-99. In his Wadi plot he now has grown around 800 Forestry, 25 Horticultural plants with strong fencing all around, small builds are established to hold water and help in the conservation of soil. This cultivation of the other plants was done to give shade to coffee and pepper, which he planted. On his own he put FYM and red soil on his land. In February when his crops first yielded produce he was afraid of marketing. However once he went to Tiptur with his bumper crop he realized there was a huge demand for his crop. Now he is selling his produce both locally and in surrounding villages. Last year he dug a farm pond in his wadi plot. For some time he did not utilize the farm pond properly, even though water was available there in December. He was advised to cultivate vegetables like snake gourd using the farm pond water. He was provided additional support like seed and vermi-compost and started vegetable cultivation in six guntas using only organic manure. He and his wife were involved in watering, weeding and basin preparation activities. The total support from the project was 120 rupees while his contribution of FYM and red soil was worth 150 rupees. Vegetables sold for 750 rupees yielding a total profit of 480 rupees.

He is producing healthy vegetables through using only FYM and vermi-compost manure. This has served as a model by which other people have begun to cultivate vegetables by using techniques such as the farm ponds and vermi-composting.
The family is now the proud owners of a Crossbreed HF cow. Recently it gave birth to a female calf, which got inseminated through the BAIF program. Feed support was provided by BAIF to the calf. From the crossbreed cow he is earning some decent income daily and he is providing milk to the milk dairy.

Through BAIF's program participants were able adopt new techniques of dry land farming which increased their income and their assets. Here it is demonstrated how farmers are provided an incentive to change their practices and also gain ownership over the work through contributing some part either in cash or labour to the work.

2.6. Nurseries:

Other land based activities included cultivating small nurseries. In nursery maintenance there are two types namely centralized nursery and decentralized nursery. The purpose of the decentralized nursery is to raise the seedlings for supply to sangha members while the centralized nursery has to raise seedlings for the BAIF project. The main idea behind maintaining centralized nursery is to meet the future demand of the project.

Women Sangha Members Managing their Nursery, Bydrahalli village

In every village a nursery is initiated and women trained to fully run and manage the nursery to provide saplings for tree plantation. In this cluster eight lakh plants have been planted. A woman farmer can typically raise 5,000 plants. More than 100 to 150 women are running such nurseries in the Tumkur cluster. In Byrapura village alone, 100 families are involved in plantation activities and have planted about 500 plants per acre, and all these saplings are provided from the nurseries run by women. Otherwise BAIF would have to buy saplings from the Forest Department. Through nursery raising, the project money goes to the participants and does not flow out of the community. One woman in Byrapura who is looking after in nursery has to carry about 150 pots of water every 3-4 days to water the saplings. One result of her involvement in the nursery is that she has not been able to do much household work, which her daughters are now doing. From the nursery she makes about 4,000 rupees a year.

In Thimmarayanahalli village, women's groups and not individual women farmers are raising the nurseries. In the third year, 50,000 plants were cultivated from undulating areas. Gully plugs were created for stopping the run off of water to irrigate the nursery saplings. Earlier individual families were given the help and resources to start the nurseries but now a group raises a larger scale nursery of about 10-15,000 plants. Now through the sanghas handling the nurseries, monitoring the work becomes easier both for BAIF and for the group.

Tending to their Growth…

Sundaramma sangha of Byadarahalli village is three years old and consists of nine women members, who are landless and poor, and dependent on coolie for their livelihoods. Initially, BAIF told them not to go for coolie and to work in their village. They were reluctant to leave coolie because they did not have any other income source. BAIF convinced them that if they started nursery they can make money out of raising nurseries. The sangha members started nursery maintenance two years back.

Centralized nursery run by Sundaramma Mahila Sangha, Bydrahalli village

Earlier the sangha members did not know about nursery maintenance. Once they were taken to Lakkihalli for an exposure trip. In Lakkihalli they saw nurseries and were trained on sowing seeds in a plastic bag, growing plants, and maintaining a nursery. Kenchamma, sangha member said that, *After visiting the Lakkihalli campus we got confidence that even we can maintain a nursery.*

Since the sangha members are landless they leased land in their village with the agreement from the landowner to supply water to the nursery. Veeranna (a participant of the project) constructed the water tank. Material and cost of construction for the water tank was given by the project. After the tank was constructed, they cleaned the soil and separated pebbles, mixed soil and manure and filled the plastic bags. They planted the seedlings in a plastic bag and watered the saplings. They were trained by Prabhu, a field officer, on the quantity of water required for the saplings. The first year all the plants grew well. The next year it rained heavily. As the nurseries were situated in a low-lying area, some bags were flooded with water and a few plants died because of excess water. All sangha members worked together and transferred the whole nursery to a new area. They leveled the old area by filling it with soil.

It takes 12 hours to water the whole nursery. Once they faced a water problem because of power cuts. All sangha members worked together to water the plants by bringing the water from a source 200 meters away from the nursery. Sangha members said, *we water our plants without missing a single day. In the future if there is a power problem we will water the young plants first. Now we know which species requires more water and which species requires less water"*. Now they have grafted some plant species.

Tending to their Growth… (continued)

Kenchamma, Sundaramma Sangha tending the nursery plants

In the first year, they raised 30,000 plants. Initially their wages were paid by the project. Now they are paid according to the number of days they work in a month. They get 75 paise per bag and they have sold all the plants to the project. Now sangha members have stopped going for coolie because they get regular income from the nursery. When they did coolie work they earned up to Rs. 1000 per month. Through the nursery though they have regular work, they cannot earn Rs.1000 per month. Though the income is less now they still prefer to work in the nursery because they can work in their own village. Earlier they were getting free time only on Sundays, when they washed clothes and cleaned the house. If they wanted to watch a movie they had to wait for a festival. Now they get more time and they say they can watch movies often. Sangha members said that, ***Now we feel that maintaining nursery is as easy as drinking water. Earlier we never knew anything. We feel happy working together in the nursery because we can work together and can be with each other.***

After forming sangha other than nursery maintenance women have also learnt to sign and can manage on their own when they travel. Now they can conduct bank transactions independently. Earlier it was very difficult for them to get loans. They got loans either from moneylenders or their relatives with a high interest rate. Now they get low interest loans easily from their sangha. Earlier they were scared to talk to their neighbors because their husband scolded them. Now they can stand up to their husbands.

Sangha members attend meetings regularly. Earlier it was difficult for them to get the money because they were depended on coolie. They had to wait for their husband to give them money. Now they have their own money, which they sometimes give their husbands in emergencies. Now they can spend their money on buying sarees, on their children and to buy household commodities. Earlier they did not have enough money to save. Now they can save money.

2.7. Income Generation

Several income generation activities have been initiated through the sanghas including:

- Nursery
- Preparation of vermicelli
- Establishment of chilly pounding machine
- Plastic business
- Vegetable cultivation

Besides this through micro planning families have been identified for several other income generation activities (see Table 1). Among these a few detailed cases have been described below including poultry raising and cattle rearing.

Brooding, A New Way Of Livelihood

A small intervention of income generation activity can bring remarkable change in the family as well as in the village. In the third year poultry brooding was introduced to five landless families. These families were dependent on agriculture labor and during the off season they migrated to near by towns for work. When poultry brooding was introduced to them at Lakkihalli farm the participants were eager to begin. All families were provided 200 day-old birds, bird feed and other requirements to begin brooding. The day old birds grew well with participants taking good care the care of them. From day one all precautions for the healthy growth of the young birds were taken. After 25 days, the acceptability of birds and the marketing skill of the participant were judged. Marketing began with participants using different modes of transportation such as head carriage, cycle, service and goods vehicle, carts and so on. One participant used his child's cradle to carry birds because of no other alternative. The birds were taken to different markets, fairs, villages and houses. All families were successful in marketing the birds at a rate ranging from Rs 18 to 22 per bird. They received a substantial income to meet their house hold expenditure. The results were satisfactory since with this income they were able to buy feed at their own cost for the second batch of birds. Now they are in the process of brooding another 200 birds with only partial contribution from the project.

Through training, participants were provided both an increased capacity to undertake a new activity as well as successfully market their products. This example also illustrates the sustainability of the activity where only initial inputs are provided and participants are slowly encouraged to take on the responsibility of providing inputs for the second round.

For the landless, options such as poultry and cattle rearing provided space exists can increase living standards. Where milk cannot be sold the family can at least consume it.

2.8. Achievements

- Overall 363 small and marginal farmers initiated wadi activity in year 4.
- Through introduction of new crops, crop yields increased by 20 percent, crop diversity doubled from 2 to 4 crops, and crop intensity increased by 129 percent.
- A total of 9,100 fruit plants like mango, cashew and tamarind and 3.7 lakh of forest plants were planted in the year 4. Of these, 11,994 fruit plants and 2.5 lakh forest trees survived.
- 39 families initiated vermi-composting.
- 74 farm ponds were created.
- 47 families with female cross breed calves have been provided feed supplement to rear the calves and overall people are better informed about rearing the cross breeds.
- In more than 50 wadis, families now have firewood for cooking.

- People have adopted improved practices such as green manuring, improved seeds, and are more frequently visiting their lands due to increased greenery and plants that can provide fruit and fodder.
- More than 25 orchards have started yielding fruits such as mango and cashew.
- Livestock assets have increased with more breeding leading to more animals.

Barren to Beauty

Ramesh, from the Banajiga community lives in Thimmarayanahalli village with his wife. Both husband and wife are illiterate. His two children are studying and staying in a hostel in Tiptur. On his barren land Ramesh was cultivating ragi and green gram but the yields were low. His land was in poor condition with lots of pebbles. Besides this, the land was at an inclination, and because of the slope, water and soil use to runoff from his land. He joined the BAIF programme in 1997-98. It took time to motivate his family. They were taken on an exposure visit for training. Through BAIF he planted 800 forest species and 40 fruits plants. Later he built bunds, a gully plug, a boulder bund and a farm pond on his land.

The yield from Ragi tripled compared to earlier yields. This is mainly due to the bunds, the gully plug and subsequent control of soil erosion. Leaves from the forest trees are being used as bio-mass for crops and also for fuel consumption. Today his mango plants are yielding fruit but a clear marketing plan is not in place. For his land ideally cashew plant is the most suitable as it is a drought resistance plant. In addition, Ramesh now has two cows and nine sheep.

Before the BAIF intervention he was forced to work as a laborer on someone else's land in Tiptur. Now, this has stopped and he is able to work on his own land only. As a result of higher yields, more fodder, more livestock his income levels are sufficient for him not to have to work for other people and instead work himself. Today his land looks green and plush.

Ramesh's case is a classic example of how the BAIF project has achieved several goals simultaneously of improving the environment, enhancing natural resources and increasing the living standards of the poor.

Chapter III
Training by Type of Intervention

Training takes place at multiple levels in multiple forms and is intensive for both staff and project participants.

3.1. Officers Training

For the cluster staff, training is for a period of 61 person days. Training is conducted both at Lakkihalli training centre, MDMTC Pune and outside institutions. Topics covered in the training includes:

- Financing SHGs.
- Documentation.
- Different compost techniques.
- Documentation of Basic Vesicular Arbascular Micoraza.
- Sustainable use and conservation use of medicinal plant
- Fruit processing and preservation Techniques.
- Advanced technologies for improving Horticulture products.
- Mathrumandhir Training.
- Organic farming system.
- Reproductive child Health.
- Innovative approach to Watershed development and tree based farming.

3.2. Participant Training

Training is conducted for participants at both campus and village levels. During the year 1,509 Women 1,734 Men attended various training programmes. Some of the training includes classroom training, videos and exposure visits to different project locations. The different topics covered in the training include:

- Poultry Brooding.
- Post and pre-plantation techniques.
- Tailoring Training.
- Masonry training.
- Grafting.
- Spiritual Development.
- Bee Keeping.
- Reporting and record keeping at POs.
- Use and conservation of medicinal plant.

See Table 3.1 at the end of the chapter for the number of participants trained by subject.

3.3. Training and Exposure Visits:

One very important aspect of training is exposure visits that serve as a motivational tool and as hands-on demonstration. A group of people is taken for two days to visit established projects to convince them of various aspects of the current project. During exposure visits, farmers to farmers interaction is fostered which has far more success in convincing the farmers than if BAIF staff were to try to convince them.

3.4. Farmers Training:

Training for the farmer is one of the important components in the project. Two kinds of training are conducted in the project i.e., village level training and training at the campus level. Following are the details of training conducted at village level over two days. The subject covered in the training includes:

- Nursery raising.
- Aftercare of fruit and forestry.
- Plantation techniques.
- Soil and water conservation.
- Peoples organization.
- Water resource development.
- Kitchen or Herbal garden

Training includes classroom sessions and demonstration of various activities in the field. Sessions are conducted to get the feed back on the usefulness of training. Based on the feed back future training programmes are redesigned to suit the participant needs. Training varies based on the type of intervention as shown below.

3.5. Agro-Horti-Forestry Training

Once farmers join the program, training is based on the types of interventions BAIF provides. Training is given 2-3 days at campus and village levels and consists of:

- Preparation of land for horticulture plantation
- Post plantation activities like mulching and plant protection measures

There are also field demonstrations on these activities, which teach mulching and plant protection techniques. Farmers are taken to old project areas on exposure visits. There, farmers interact with those who have already undertaken these activities and get first hand information on these activities. They are also shown films produced both by BAIF and by other institutions on these subjects. For example there are films on after care of fruit and forestry and on orchard development.

Post and Pre-Plantation Techniques

Pre-plantation: Before plantation, necessary activities like marking pits for pit digging, how to dig pits, dimensions of the pit, filling of the pits with soil and manure are taught.

Plantation: Participants are taught how to sow different horticulture plants consisting of drenching (soaking plants in water to get moisture for the plant) and planting it in the pit.

Post-plantation: Training includes basin preparation, mulching, fertigation (putting fertilizers), watering, weeding, plant protection measures, pruning and sanitation (cleaning plants).

3.6. Nursery Raising and Grafting

Training is conducted over a two day period at the campus. All forest tree seedlings required for the village and family is raised by the concerned family or by the village community. To meet this objective intensive training for participating families is necessary.

This training includes selection of nursery sites, facilities required for nursery raising, selection of species, mixing of nursery inputs such as soils, sand, manure, and filling of bags, arrangement of bags, seed treatment, sowing of seeds, transplantation, weeding, watering, grading[2], and hardening[3].

Nursery Raising, Lakkihalli Campus

3.7. Fruit Processing and Preservation Techniques

A 2-3 days training which normally includes demonstration of different processing methods for mango pickle, mango jam, ragi malt and jack fruit chips takes place. During training, information is provided on selection of quality raw material, cleaning, cutting, preparation of different ingredients, mixing, proportions, recipes, hygiene to be followed through processing, packing, labeling, marketing, stock keeping and accounting. During this training participants are taken to small home based processing units for practical demonstrations. For example, some people have visited home based processing units run by SHGs or by BAIF. To help marketing, they are taken to agro exhibitions, where they meet different institutions and put up their stalls for sale or demonstration.

3.8. Family Based Income Generation Activities for Landless: Poultry, bee keeping, cross breed rearing and sheep rearing

Poultry: Normally training is on vaccination, feeding, different breeds of birds suitable for backyards, marketing and the economics of the enterprise. Backyard poultry does not require big infrastructure and can be done with very little care, investment, and through

[2] Bags without germination need to be separated and resown

[3] In the nursery the seedlings are grown in partial shade and before moving them to the plantation area it has to be hardened by placing them in the sun, reducing the quantity of water received, so that when it is planted in the actual field it can withstand higher stress.

use of local resources. The importance of preventive care and training people on vaccination without involving the use of technicians of any kind helps them take care of diseases such as ranikat. Certain breeds are more resistant and can feed on existing resources and in the existing climate and not much sophisticated infra structure needed. People are trained on how to provide a balanced diet for the healthy growth of the bird.

Bee-keeping: The training covers various aspects. These include the importance of bee keeping, role of apiary in increasing crop productivity, medicinal value of honey, history of bees, different methods of bee keeping, feeding, role of bees in efficient pollination, catching of bee colonies available in nature, domestication of bee colonies, identification of the queen bee, roles of queen bee, drones, and worker bees, and diseases. It also covers the extraction, processing,[4] bottling, labeling and marketing of honey.

Cross Breeding of Cows: Poor families are trained on how to maintain cross breed cows and the importance of cross breeding. Farmers know how to look after the local cow but cross breed cows need extra care. Training is therefore provided on proper feeding, importance of breeding, preventive care like vaccination for foot and mouth disease, HSBQ, and Rinderpest, milking, hygiene, cultivation of fodder and marketing. Local cows can be given whatever is raised in the fields as fodder but for cross breeds, green fodder is needed in equal quantity in addition to other fodder. Training on how to become a member of milk procurement societies run by KMF is done to sell the milk. The importance of insurance against disease and accidental death is also stressed.

Sheep Rearing: Poor families are trained on how to maintain sheep. This being a traditional activity there is not much training needed. Training is required on hygiene to prevent disease, how to keep the shed clean and on shearing. The importance of preventive care like vaccination, marketing and insurance against disease and accidental death is taught.

Masonry Skills: The objective of the masonry training is to develop skilled personnel to do construction work in water shed development. People are trained on the construction of check dams, embankments, low cost housing, toilets, bathrooms, chulas and so on. Resource personnel from a Bangalore-based NGO conduct this training consisting of a one-week course, which includes hands-on training, on-site training for 3-4 days and a few days of classroom training. The idea is to increase the capacity of each village such that some skilled personnel can take on these activities after BAIF withdraws.

3.9. Cost Efficient Composting Technique:

In this training different types (NADEPP and vermi-composting) of composting techniques are covered. The importance of composting as an alternative to chemical fertilizers, the role of compost in maintenance of soil health, and bio mass production for composting is taught. Farmers are trained on two to three methods and then they can decide to use the method that best suits them.

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[4] Purification, boiling and preservation

NADEPP composting: Small structures are constructed of 1-1.5 meters width, 4-5 meters length and 1-1.5 meters height. A layer of soil, bio mass, and slurry is then put in the pit and participants are trained on how to maintain the moisture regularly for promoting fast decomposition of the bio mass into compost. This technique can be used for large scale compost production with little technology.

Vermi-composting: Here in addition to the NADEPP, composting worms are released into the pit. This is a simple technology but cannot be done on scale since more space, care and management is required. Here worms are a live material, which requires the right kind of care and therefore is more labour intensive.

Table 3.1: Training By Subject by Gender

Subject	**Women**	**Men**	**Total**
Nursery Training and Plantation Activity	0	9	9 x 2
Mango Processing	5	--	5 x 2
Activities of GUS	9	8	17 x 1
Herbal Preparation	17	--	17 x 1
Health Guide Training	55	--	17 x 1
P.O.Members	88	43	131 x 1
Bee Keeping Training	49	43	92 x 2
Sericulture Exposure	6	17	23 x 2
Farm Development Exposure	--	48	48 x 1
Poultry Brooding Training	53	43	96 x 1
Video Show Training	746	520	1266 x 1
Training on Financing, Reporting and record keeping for P.O.Members	39	36	75 x 1
Spiritual Development	119	168	287 x 17
Tailoring Training	20 14	--	20 x 21 14 x 14
Preparation of Fruit, Forest in Wadi	23	173	196 x 1/2 Day
Grafting Training	20	16	36 x 1
Watershed Demonstration	17	17	34 x 1
Wadi Training (Kenkere)	2	11	13 x 1
Sericulture Training (Kenkere)	--	5	5 x 1
Off Farm Training (Kenkere)	14	4	18 x 1
Health Guide Training	12	--	12 x 1
Field Guide Training	--	4	4 x 1
Slide Show (Health)	107	22	129 x 1
Medicinal Plants and Uses	18	24	42 x 1
Mason Training on Construction of Latrines	--	12	12 x 1
PRA Training	22	14	36 x 2
Exposure CEC and DANIDA Project	48	201	249 x 2
Exposure to Sericulture Plantation	--	19	19 x 2
Exposure to DANIDA, II CEF and Water shed	27	43	70 x 1

Chapter IV
Women in Development

Women's participation and their empowerment are the most significant accomplishments of SHGs. SHGs have become a forum where women come together, share their common concerns, work, play and build their capacity together and go out on exposure visits together. This is a space they have not had before. Here they expressed themselves in varied ways that brought colour, emotions and laughter to the project. The groups identify, discuss and plan appropriate development measures to help and strengthen deserted women, widows and women in other challenging situations. There are incidences of women sanghas working to stop alcoholism, school drop outs, child marriages, and malnutrition among children. Several such efforts have been taken up by the SHGs spontaneously on encountering an issue that they face in the community. Exposure to development trends taking place outside their village combined with well designed capacity building measures have resulted in initiating a slow but sure process of emerging self-awareness and confidence among women.

Gender integration in development planning is essential to effectively continue a sustainable process of development without deterioration. BIRD-K's approach to address gender issues involves the following steps:

- Studying how a problem, situation, intervention affects women and men.
- Identifying context specific interventions to minimise negative effects if any, on the affected groups.
- Ensuring opportunities to every member of the family for capacity building through awareness generation, exposure and training.

This approach involves six basic areas of interventions such as creating an understanding and supportive familial and social milieu, education and information, health drudgery reduction activities, income generation for women and promotion of self-help. The project aims to provide special attention to women especially those women who are without support such as widows, deserted women and women headed families.

For rural women lack of privacy is a major problem. Privacy is affected by the lack of toilets and bathrooms. In case a woman is menstruating she would wash her clothes in the dark behind the hut, not to be seen by anyone. Bathing again is done at night or early mornings. Health of a woman is affected by this lack of basic amenities. Food intake is linked to this problem where women reduce their food intake so that they could wait till the next morning before going to the fields to defecate. Open defecation has other consequences. Fields may contain glass pieces, snakes and rodents that add to the health risks a woman faces. Lack of toilets and access to water are two of the major problems faced by women.

Now bathing platforms and toilets have been constructed. Other interventions include safe grain storage at home, introduction of smokeless chulas, forestry plantation, construction of soak pits, sump tanks to harvest waste water and other sanitary measures.

These interventions reduce women's drudgery. Women have been involved in Shramadhan for forest plantation in their own fields and avenue plantation in their villages.

The construction of chulas, bathing platforms and toilets has helped reduce women's drudgery is a variety of ways. For instance, less fuel wood is required for chulas and they are smoke free. This itself reduces the time spent by women in obtaining firewood and in cooking and reduces their inhalation of smoke. The inclusion of species for fuel and fodder in the wadi has reduced the time spent by women to collect fuel and fodder. Several project interventions including the health, watershed and wadi initiatives have benefited women. In M.G. Halli construction of a bore well has improved access to drinking water saving women time otherwise used to collect this water.

Hand pump constructed for easy access to drinking water, M.G. Halli

Implications of Various Interventions for Women…

Umeshappa, field staff in Muddenahalli, B. Rangapura, B.Hosahalli and Honnenahalli villages facilitated a 100 percent sanitation program. Here 25 soak pits, 25 chulas, 8 toilets and 20 bathing platforms were constructed. There are six sanghas in these villages with 90 members. There are 50 families in Muddenahalli of which 25 are APL families.

Chulas were provided for sangha members. 25 families have maintained wadis. They have fenced their wadis and grown horticultural and forest plants. Five families are getting fodder and fuel from their wadis. Earlier women spent an hour and a half covering a distance of 3 to 4 kilometers in search of firewood. Earlier women were getting fodder from forestland and open fields. Now fodder is available in the wadis. Sangha members are given grass seeds. Fenced wadis prevent stray cattle from wandering into the wadis allowing grass to grow thus providing sufficient fodder and reducing women's drudgery.

Earlier people of Muddenahalli were always suffering from malaria. For three to five houses, one soak pit was constructed reducing water stagnation, keeping the villages clean and reducing cases of Malaria.

Earlier there was only one hand pump, which went out of order twice a year. While the hand pump was being repaired people carried water from three to four kilometers away. So 25 members did Shramadhan for 10 days and constructed an open well for which Rs.5,000 was given by the project. The people of the Muddenahalli tanda like to drink water from the open well whose water quality and taste is good. Now villagers chlorinate the open well regularly. The well has reduced the time taken by women to collect water.

4.1. Chulas:

A total of 507 improved Chulas have been constructed in project villages. In Byrapura, chulas have been installed for each of the 18 members and the sangha contributed a fourth of the cost of the chulas. In Mankikere village more than 60 chulas were provided. Each sangha member contributed 25 rupees out of a total of 125 rupees.

Earlier women cooked in mud stoves. They used a lot of coal and the heat dispersed easily. There was a lot of smoke, which besides affecting the health of the women, the soot collected on the roof and on the clean vessels. Benefits from the smokeless chulas are many including:

- Smoke levels have reduced
- Cooking time has reduced
- Less firewood is needed
- Heat is retained so even after cooking the food is still warm 2-3 hours later.
- Women were able to save a total of 2 hours a day or ½ an hour to an hour of cooking time per meal.

Earlier women used mud stoves. Mud stove gave off a lot of smoke and soot. The smoke made their eyes red while cooking and the house and vessels used to become dark and soot laden due to the soot. Earlier they used to spend two-three hours cooking and used a lot of firewood. Also their hands hurt because it took a lot more time to clean the vessels. In three villages, Satheramanahalli, Gollaharahatti and Halkurke women reported the impact of the chulas.

Cleaner Quicker Cooking…

In Halkurke village as well sangha members gave similar reports. Latha, a sangha member said that, *After the construction of the chulas the smoke in the house has reduced. Walls of the house are clean. Food can be cooked easily using chulas. In the mud stove, three hours was needed for cooking. Now food can be cooked in one and half-hour. Vessels can be cleaned easily. Cobwebs in the house reduced. Burning of the eyes has reduced. Heat retained in the Chula is used for boiling a pot of water. Earlier to the construction of the Chula we were white washing our house four times in a year. Now we white wash our house two times in a year. When we were using mud stove for cooking, the food was smelling of smoke. Now our food does not smell of smoke. Now the food tastes good. When we were using mud stove we were cooking rasam and rice separately. Now we cook rice, rasam together. Time saved in cooking is utilized in looking after our farmland. Earlier most of the time has*

Smokeless Chulas, Halkurke village

taken for cooking. Now we visit our lands more often. Robbery in the farmland has decreased. Now we get time to sleep in the afternoons as well.

In Satheramanahalli chulas were provided to all sangha members. Now they cook their food in just one and half-hours. The food is smoke free, they use less firewood and the taste of the food has also improved.

In Gollaharahatti as well, women sangha members got chulas constructed in their houses which are used for cooking, which gives less soot. Women say that they can clean vessels easily, that burning of the eyes has reduced because of no soot, that the requirement of fuel wood is less for chula and that the food does not smell of soot. Girijamma, a sangha member said that, *earlier our coffee smelt of soot and we could not even taste the coffee and now nobody even knows that we are cooking.*

4.2. Reduced Drudgery and Improved Health

Bathing platforms has helped to improve bathing frequency and personal hygiene. When there were no toilets sangha members used fields and roadside platforms to defecate. Open defecation on village roads made them dirty. Since people and children were walking barefoot they got diseases. Women also bathed outside their houses in a shelter thatched with coconut leaves in evenings or late at night and were embarrassed to bathe outside the house due to the lack of privacy. Bathing frequency was also less at about once or twice a week. Especially for pregnant women, teenage girls and elderly ladies it was very difficult to bathe. During winter and rainy seasons they often got colds and other health problems. Because of the open space and lack of privacy, women were embarrassed and could not urinate or defecate when they wanted. Sometimes men would be standing on the roads or in nearby areas. Women waited to defecate at certain times, early morning or late night. Since women could not defecate when they needed to, they faced a lot of health problems like stomach pain and others because of fermented stool.

Gollaharahatti is a small hamlet with 35 families, including 30 BPL families and 5 APL families. Now every sangha member has a bathing platform. Latha, a sangha member from Halkurke village says that, " *bathing platform was constructed six months back. Water in the brass pot can be boiled easily. Smoke has reduced. Earlier we were buying three pots in a year, which was costing 30 rupees each. Now every member of the house can take a bath. Before only one member was able to take bath. Bathing frequency has increased. Before we were bathing once in two days. Now we bathe daily. Heat retained can used to boil extra water. Now our house is clean.*

Duggamma, a sangha member of Halkurke said that, *our toilet room was constructed one-year back. Earlier we walked half a mile to defecate. We went early in the morning or late in the night for defecation. People use the roads for open defecation. Children and others were getting diseases because we were walking on dirty roads barefoot. Now our village roads are clean because every one has toilets. After defecation we could clean ourselves only after coming home which was very unhygienic. Now we feel clean and healthy because we can wash ourselves immediately. We were embarrassed to*

urinate or to defecate because men were sitting or standing on the roads. So many times I have returned without defecating because men were standing on the roadside. Now not only women are benefited, men have also benefited. Men were feeling uncomfortable to urinate or to defecate because women were washing clothes or cleaning vessels near the stream. In the rainy season we got wet in the rain and sometimes have fallen sick.

Availability of safe drinking water around the year and in near by places has reduced drudgery for women by saving them time. *We used to drink water from the lake and fall sick. Now we use the hand pump and now we do not fall sick or anything. Earlier we used to spend one and a half to two hours to get water. Now we can use this water for drinking and it is all much quicker.*

Construction of farm ponds has also benefited women. Gangamma, a sangha member from Laxmanpura said that, *we had a drinking water problem as we have to carry water from a long distance. During summer we were going to Halkurke, a village situated at a distance of four and half kilometer from our village to collect water and the whole day was spent collecting water. To irrigate ragi, we carried water from our village bore well to our farm, a distance of two miles*. Women walked long distances to wash clothes, clean vessels and for their cattle to drink water. Due to water scarcity farmers depended on monsoon rains and cultivated crops like ragi. Since they were not getting enough yield women were forced to go for coolie to support their family.

In Bydarahalli there are two sanghas, Maruthi sangha and Sundaramma sangha. Siddhamma is a member of Maruthi sangha. Sangha members get loans from the sangha for their needs. Sangha members also got chulas, bathing platforms and safe grain storage facility constructed from the BAIF. Earlier sangha members stored their grain in gunny bags and rats made holes in the gunny bag and ate all the grains. Now in the safe grain storage system the grains can be stored for longer period and the rat problem has reduced. In safe grain storage facility rats cannot make holes and ragi, paddy, groundnut can be stored safely.

4.3. Skill Building:

Women were trained in various skills including nursery raising, grafting, tailoring, sericulture and running small enterprises. Apart from building their self-confidence, it also opened up additional and alternative livelihood opportunities for poor women. Women have been trained in sericulture using techniques such as classroom teaching, video-films and exposure to the plots of progressive farmers in other areas. Twenty-five women have started backyard sericulture. Some are engaged in mulberry plantation. By this activity they are expected to earn Rs.300 per month.

Kenchamma, Sundaramma Sangha, Bydrahalli village managing a centralized nursery

4.4. Asset Building

Women are encouraged to build their asset base through livestock initiatives. The main outcomes of these types of livestock initiatives is the increased income and increased assets that can be sold at any point of time to provide women additional funds. Thirty-two women were assisted to build up their assets including sheep, cows, buffaloes and a tailoring machine. In addition, women have been assisted to set up petty shops and teashops.

Building Assets for the Landless…

Noorjhan lives in Manakikere village and is part of a large family with four children. She is Muslim, landless and identified as BPL. Her husband, a mason earns 60 rupees a day. Noorjhan is a member of a SHG. She regularly attends meetings. Her family looks after their relative's land so she requested a crossbreed cow. From the project she got an HF cow which was 7 months pregnant which cost Rs. 10,750. She paid Rs. 750 while the project contributed Rs. 10,000. From the cow over the year she sold about 1,050 litres to the cooperative society and earned a total amount of Rs. 8,000. She purchased KMF feeds and ragi fodder. On a small piece of land they cultivated maize to provide fodder for the cow. The net profits she made were Rs. 2,220 and at present two tractor loads of FYM is ready for sale. They are now constructing a Janatha house. They have purchased household items like aluminum boxes and bowls.

The project encourages the contribution of the participants initially as in the case of Noorjhan, or later on.

4.5. Income Generation

In the year 2001, 71 women's self help groups (SHGs) were formed. Formation of SHGs exclusively for women has created awareness, provided women the space to share ideas, problem solve and plan for their development. Additionally some groups initiated savings and credit and began income generation activities. One successful initiative, is food processing described below.

From the Mango Tree to the Table:
Food Processing by Women

In yrapura women were involved in building a community work-shed, which cost 1.2 akh, of which they contributed Rs. 32,000 worth of their labour. From each sangha three people worked every day. It took one and half years to complete because seasonal work came in the way. There are five sanghas in the village. When they decided to build this building and when BAIF offered to

Sangha Building, Byrapura village

pay for it the women wanted to do it and the men laughed at them. One woman got the bars from Tiptur, got it cut and brought them back in a tractor. BAIF provided two male labourers, about two to five people worked on it and it took a whole year to build. The president managed to get whoever she could to come everyday and help. She said, *This building is like our home here, we sweep it, we sit here and talk and no one troubles us. If we are talking here and anyone asks us what are you people doing we say this is our office so you cannot tell us anything here.* The building is for tailoring, training and food processing.

Initially there were no sanghas in Byrapura. In neighboring villages there were sanghas growing mangos. The women from Byrapura visited them. BAIF came and told them about the work and how to form sanghas. After this, 18 of them decided to form a sangha three and a half years ago. Each woman saved 5 rupees a week and the sangha accumulated about Rs. 37,000. BAIF gave them a revolving fund of about Rs. 10,000. The money is loaned out at a rate of interest of 3 percent to members and to other poor people to start sheep rearing. Before, when outsiders came women used to stand far off, listen but not talk. Now they have no problems talking to outsiders. Initially they had problems at home, forming the sangha. They tried to explain to their families that they were not going to meet men only women. The president was the only one who attended the first meeting the rest were too scared. Now if their families say anything to them they talk back. The families now say that because of BAIF you people have come forward. Now the family encourages the women to go and attend the meetings. If they are late the families say *Go go… all the rest will be there talking. You go and make your point and come back*. They charge a fine of 2 rupees for not attending a meeting.

According to sangha members, *Earlier we did not have too much experience.* Pickle was one thing they wanted to do as some women had prior experience in pickle making. Since there is a difference between how pickle is made for the village and how it is made for the city they have been trained to cater to the city.

SHGs have started a processing unit in their building with mango jams and pickles being produced, labeled and packaged. They produce 360 kgs of pickle in a month. The project began in 1997. First processing was initiated at the family level at a small scale and then at a project level. It started with processing of ragi malt and papad units. Then it was decided to have one big central unit in one village to address marketing since at the family level they could not sell the goods.

Labeling and Packaging Pickles

At an exhibition held in Dharwad, 25 kgs of ragi malt and 1,000 ragi papads were successfully sold but production stopped mainly because marketing possibilities were few. They have been selling pickle in small amounts and are trying to tap marriage functions. Earlier one woman with some experience used to make

pickle and sell it in town for Rs.5 per 100 grams. Now it is hard to go all the way to town for just 100 grams. They sell in 10 kg amounts, taking it to town by bus. They make a profit of Rs.8-10 per kg including labour and all costs.

Byrapura Village

They need people to cut the mangos. They tried to convince other sangha members to work. The women said that we get paid 50 rupees in the city and here you give us 30 rupees and no food as well. They told the women that even if it benefits the sangha it is okay ultimately t his money will all come back to the sangha later on. Basically a few sangha members did the work, chopped the mangos and made the pickles. Only afterwards did they realise that the profits were going to be shared equally by all the sangha members regardless of whether they worked or not. This resulted in the issue of coolie being raised since only three women worked for it instead of all 18. Four to five women initially said they could not let go of their work in Tiptur but told the rest *whatever you people want to do, you go ahead*. Varying members come and work. According to the president *You cannot stop an activity just because some people do not want to work on it. It is better to get as many people as possible to participate*.

4.6. Linkages

Fifteen women's self help groups are linked to banks for financial assistance to begin income generation activities like sheep rearing, coconut business, cross breed cows, oil business, sale of plastic items, tailoring, mobile hotel, purchase of agriculture inputs and so on. Ten women SHGs have been assisted by providing revolving funds to meet their immediate credit needs

4.7. Achievements

- Thirty-two women have been assisted with additional funds to build assets such as sheep, cows, buffaloes, petty shops, tailoring machines, teashops and so on.
- 507 improved chulas have been constructed in the project villages.
- 15 women's self help groups have been linked to banks for financial assistance.
- World rural women's day was organized on 16th October 2000. More than 200 women from different villages participated which provided an opportunity for women to interact.
- 10 women's SHGs have been assisted with revolving fund to meet the immediate credit needs of women

According to BAIF the effect of sangha formation on women are several including:

- Participation of women is more in different people's organizations. The performance of women groups in terms of attendance, discipline and recovery is good.
- Active involvement of women is observed in organizing different social events.

- Response for herbal treatment is more from women.

Benefits from the Sangha in Byrapura

Unity and Productivity: Women now spend their time productively and feel that their work is constructive. They are united in their purpose of improving their lives together as a sangha. According to one SHG member, *Before going to the sangha we used to fight but after forming the sangha we meet weekly and plan our activities. We do not have the time to fight as we are all active. Now we are all friends and live in harmony. For the next ten years we will not leave the sangha. We used to have enmity for a long time now even when we fight we still have to meet and talk to each other in the meeting. So we cannot fight and stay angry with each other.* The sangha showed a strong sense of unity. *Even if we have to work with government schemes later on we will work as a sangha. We are now a Stri Shakti sangha for which we have a separate account and a separate account for BAIF.*

Access to Resources: One woman started a nursery after joining the sangha, educated her daughter up to the bachelors level, bought clothes and a buffalo. Her husband is jealous as she does not give him money but spends it on the children and on her daughter's education. He feels at least she is spending it on the family. She is happy looking after her orchard.

Plantation: Tree planting started in 1999. This required them first to dig pits of 3x3 feet dimensions and put a powder to prevent termites. First medicines are put, then the bio-mass. After the bio-mass decomposes, manure and neem cake is applied. Tree saplings are planted such that the grafts are exposed above the earth. After plantation they have made basins for watering and put green bio-mass, for milching and to prevent water from evaporating. One member planted 30 trees of which five perished. It has been two years since they planted the trees. They have removed the flowers to help the trees grow before it bears fruit so the benefit will be later. The previous year the president planted trees, all of which were cut down by miscreants. This was because she wanted to stand for elections for the BJP but was pressured not to run and after the elections the other candidate cut down the trees anyway.

Training and Improved Skills: The sangha women were trained by Kulkarni, BAIF staff and in Lakkihalli on pickle making. They were also trained by a resource person from CFTRI, Mysore. The president of the Mahila Mandal has also been trained in herbal medicine and fishery, not the rest of the sangha members as she is the only one who can travel.

Savings and Access to Flexible Credit: Right now they are accumulating funds in the sangha and have not yet distributed it. They buy materials from the sangha savings. According to one member, *Earlier we sat at home and did our housework and nothing else. After BAIF has come we now do a lot of work but we are happy. Earlier if you wanted a loan it was a long process and we used to spend half the money trying to get the loan getting all the signatures and so on. Now we have easy access to loans.*

Increased Exposure and Capacity to Participate: From the sangha, women said they get peace of mind and happiness. *We are smarter now and are more courageous. Earlier if NABARD people came we would not talk to them. Now we do. We take part in cultural activities*. According to Girija, the President, Sharda Society Mahila Sangha, *Earlier we were not even the kind to go to Tiptur and now we happily go.*

Chapter V
Water Shed Development

In various watershed programmes, it is a normal practice to construct water-harvesting structures such as check dams in the drainage line. These structures in addition to being costly require community participation for maintenance. Moreover, these approaches do not benefit farmers in the upland from where water has flowed down carrying fertile soil. This has repercussion in terms of equity in watershed investments. BIRD-K initiated an innovative approach to watershed development called Jeeva, Jala, Jaala model (The 3-J model). This model integrates the traditional concept of locating dug out structures at strategic locations concerned with farm bio-diversity and sustainable use of natural resources.

Under this project, a sub watershed of 600 hectares spanned over six villages was undertaken. Of the 493 families in the watershed area, 313 families are families below the poverty line (BPL), 140 families are above the poverty line (APL) and 40 families are landless. Villages in the watershed include Bydrahalli, Halanhalli, Laxmanpura and

Thimmarayanahalli.

<u>Innovative features of 3-J model</u>

- Intensive vegetative cover to control soil erosion. Mixed forestry species are planted all along the field bunds and boundaries at the rate of 500 plants per hectare.
- Dry land horticulture to increase returns from the land and provide insurance against crop failures due monsoon failure.
- Focus on catchment area treatment as against drainage line treatment in the conventional model.

- Excavation of dugout farm ponds at the rate of one pond for every two hectares. Each pond with 300 cubic meter capacity is linked with a trench cum bund with another pond in the same horizontal line for carrying the water overflowing from one pond to another across the watershed. This reduces vertical run off carrying silt and decreases chances of creating gullies. About 10 to 15 such ponds are linked horizontally in a chain which finally discharges water to a natural drain.
- These ponds coupled with intensive vegetative cover reduce to a great extent the chances of soil movement from the fields to the drainage line. This reduces the risk of silting of tanks and check dams down stream.
- Other systems such as livestock development, fishery, bee keeping, in-situ organic composting, interventions for drudgery reduction and capacity building through various training programmes have been integrated.
- Farm pond mounds have been productively used by planting herbal, vegetable and fruit species.
- Productive live hedge fencing
- prevents stray cattle grazing
- acts as wind break
- adds to bio-mass production, and
- promotes bio-diversity
- Ferro cement has been used for check dam construction for cost reduction and efficiency.

The success of this model has invited large-scale attention from farmers, government, voluntary organizations and research institutes. Some of the recently designed projects by other development agencies have heavily drawn from this watershed model.

Features of the watershed include:
- Coverage of each hectare of treated area by at least 500 forest trees of more than 15 varieties and 40-100 fruit plants including Mango, Cashew and Tamarind trees.
- All bunds are covered with grass seeds such as Stylo Hemata and Scabra for bund stabilization and fodder production.
- Completion of various soil and water conservation activities through mass campaigns.
- Improvement of technical skills of local people.
- Monitoring of watershed impact at regular intervals.
- Monitoring of water level in open wells and farm ponds at different ridges.
- Monitoring of coconut yield in specific coconut gardens
- Monitoring the flow of identified streams.

Table 5.1: Profile of Watershed

Particulars	Total
Total geographical Area	950 hectares
Treatable area	600 hectares
Total Target Families	353 families
Total Non target Families	140 families

Decentralised water-harvesting systems such as farm ponds or percolation ponds and ferro-cement core wall in earthen check dams was adopted to reduce construction cost. Treatments were initiated both at drainage line and area treatment. In the area treatment, trench-cum-bund was initiated to harvest soil water. *Trench cum bunding* is used where plants are cultivated in the trench. Similarly another technique is *gully plugging*, a local technology, where rubble stones and boulders are used. Small gullies have been plugged, using locally available material and skilled labour, reducing soil erosion. *Boulder bunds* have been erected at 12 places where there are steep slopes. Trench-cum-bunds have been strengthened with sowing of stylo-haemata fodder seeds. Each hectare of land treated with bunds also has fruit and forestry planted. If a farmer has an acre of land,

Check Dam

bunding is designed based on the slope of the land and the soil quality. *Farm ponds* are built of 30 x 30 x 10 feet dimensions depending on the land. Water and fertile soil is stored in the farm ponds. A farm pond can hold about 2,00,000 litres of water. Forest trees are planted along the side to strengthen the bunds of the farm pond. During times of excess rains this prevents run off and the water can thus go back to the land. Check dams are much bigger and used for even more water storage.

More Ponds, More Vegetables…

Ishwarya from M.G. Halli started growing snake gourd and that has worked very well. He learnt about planting snake gourd from an exposure trip to Mysore. He also cultivates coffee, pepper and drum stick. *Before that I never grew vegetables, only near the house. But after the farm pond we grow vegetables in the field.* In 10 guntas he harvested 700 rupees worth of snake gourd. Vegetables earn more. Chilli is grown for home consumption. This demonstrated clearly the shift in cropping patterns and increased income possibilities as a result of water shed development activities.

In Thimmarayanahalli village currently five SHGs are engaged in watershed development and plantation. In Halanhalli, 75 percent of water is provided by bore wells built with project assistance, increased this year to 84 percent. Earlier there were 70 bore wells, some of which had no water and there were gaps in the water flow. These gaps have been closed where water flow is now continuous.

Lakshamanpura is in the heart of the water shed development area and activities. Initially people did not respond to BAIF. There is a small tank called Bhutankati, which was damaged. It was decided that if this tank was repaired it would serve the entire village. BAIF offered to provide the material if the village was willing to do shramadhan. People

came together and began work. They did shramadhan for 15 days where every day 20 people worked and broke the stones, and built the embankment. In the beginning some people questioned the need for their involvement as they felt it was not useful for them. But later they too joined in, as they did not want other people to say that they did not put in an effort. Some people worked all 15 days while others worked only for two days. One member from each family worked and an embankment the length of 137 feet was built in the year 2000. Due to the damage, earlier the water used to seep out, but not any more. It was after the tank was repaired that people's participation increased. Due to this participation, technical skills of local people improved.

Table 5.2: Progress of Different Treatments

Activities	**Total**
Farm pond	411
Boulder Bunds	12
Gully plugs	633
Check Dams	5
Area Treated in hectares	406
Agro Forestry in hectares	262
Agro Hortiforestry in hectares	144
Ferro cement, Check Dam	01
Earthen Check Bund	01

9.1. Impact of the Water Shed Development Initiatives

The impacts of water shed interventions are many:

- More water: The water table has risen. Before the water shed development there was not enough water in the bore wells but after the water shed development, the bore wells have been functioning well. Earlier there was not enough water for farming now some water is being retained. Today, even after March, lakes and ponds have water, which never used to be the case. One of the main nalas, which used to dry up by December now was flowing till March. Livestock now has water to drink in the summer and there is sufficient moisture for plantation. Monitoring of water levels in farm ponds indicate retention of water is more in the lower ridge than in the upper and middle ridges because of the subsurface flow of water from upper catchment.
- Recharging Old Bore wells: Eighteen bore wells were over flowing till November. Due to increased bore well output four farmers have cultivated additional crops of wheat and banana in the summer. Most of the bore wells in the watershed shows increased output even in summer.
- More Crops: The lands were fallow for certain seasons. Farmers cultivated only the Kharif crop namely ragi and used the land for open grazing the rest of the time. Now they are able to grow more than one crop. There is also an improvement in crop yield. 51 acres of uncultivated area have been brought under cultivation. Cropping intensity has increased from 79 to129 percent. In a study done on Laxmanpura by BAIF it was found that ragi production has increased from 2 to 4 bags.
- Change in crop patterns: Earlier people grew only ragi but now they grow paddy in at least 30-40 acres, which gives more income than ragi. Paddy yields get 5-6 rupees compared to ragi, which is 2-3 rupees. Four farmers have grown additional crops of wheat and banana in the summer. Due to increased moisture availability 22 acres have been brought under paddy cultivation. In a study done by BAIF it was found that in Laxmanpura, the number of paddy growers increased from 22 to 40 percent.
- New Crops: In a study done on Laxmanpura by BAIF it was found that in the watershed area now new crops are being grown such as watermelon and garlic. Varieties of Paddy, Ragi and Tur dal have changed from local to Paddy-Jaya, IR-64; ragi-MR-2, GPU-28, HR-911, INDAF-5 and Tur-Hyderbad.
- Increased Food Availability: In a study done on Laxmanpura by BAIF it was found that 74 of the participants produced enough food for 12 months, 20 percent of the participants produced enough food for 6-9 months on their own land and 6 percent were landless. Participants also expressed confidence that in the next two years everyone would have enough food round the year.
- Increased plantation: Coconut planting has also increased. Farmers have planted 1,565 coconut plants on their own because of the increased moisture availability. Each hectare of treated area has been covered by at least 500 forestry trees of more than 15 varieties and 40-100 fruit plants such as Mango, Cashew and Tamarind. A total of 9,498 fruit plants and 1,01,200 forest plants have survived in the watershed area. All bunds are covered with grass seeds such as Stylo hemata and Scabara for bund stabilization and fodder production.

- Increased Acreage: about 51 acres of uncultivated area brought under cultivation. Cropping intensity has increased from 79% to 129%.

To overcome the water problem BAIF took up watershed development in Laxmanpura. Sangha members insisted on constructing farm ponds on their lands. Now everyone has a farm pond on their land. After constructing the farm pond BAIF gave them horticultural plants like cashew, sapota, sweet lime, guava, jack fruit, pomegranate and forest trees, which sangha members planted on the bunds of the land. Some members also planted medicinal plants like ashwagndha, lamancha, and bayibasale on their land.

After farm ponds were constructed villagers started crop rotation. They grow paddy, ragi, vegetables and flowers. Jayamma, a sangha member said that, *we have grown five bags of paddy. Before we were going to coolie for Tiptur*. Due to an increase in the water

Farm Pond, Thimrayanahalli

table the village bore wells are recharged. Now women wash clothes, clean vessels and their cattle drink water from the farm pond. Forest trees planted on their land has made their land shadier. They never visited their land during the summer. Now because of the increased shade and the availability of water they go to their land in summer. Due to the availability of green fodder their ND cow yields more milk. Now they do not go for coolie. They say that they are much happier than before, since they work in their own land. Women get more time to spend with their children and enough time to sleep. Their children are happier because they spend more time with their mothers. A sangha member says, *now we eat freshly cooked food. Earlier we were eating food that was cooked previous night, as we went for coolie and we did not had enough time to cook the food.* Earlier they bought vegetables from the Tiptur market now they grow vegetables on their own land. They have grown vegetables like tomato, beans, cluster beans, ladyfinger, chillies and have also grown flowering plants. They have started eating more vegetables

because they grow the vegetables. Earlier they ate vegetables only once a week. Now their nutritional levels have increased and are healthier than before. One sangha member said, *earlier we were eating sweet lime only when we fell sick. Now we eat more often*.

Dasanakatte is a hamlet situated close to Thimmarayanahalli village. Earlier farmers depended on the rains for their agriculture. Initially BAIF selected ten villages for watershed development and work started first in Dasanakatte hamlet. Kariayappa, a sangha member said, *in the beginning we were very scared when BAIF came to our village and asked for our khata and documents of the village. We thought that they were going to take our land. We told them that we were not going to give our documents. BAIF people told that if we don't give our khata, they would continue to work in our hamlet and help us. They sat with us for hours and explained to us. After a long time we started work.* It took BAIF nearly three to four months to convince people to take up construction farm ponds. People thought that if they construct farm ponds they would lose their land. When the watershed project started BAIF personnel made sangha members fence their land, dig pits and plant forest and horticultural plants on bunds of the land. BAIF provided them forest and horticultural plants and also gave manure.

Farm ponds have benefited both men and women. Women walked two to three kilometers to the forest to collect firewood and had to go two to three times in a week. They also collected Tendu leaves along with firewood for their livelihood. Tendu leaves are used to wrap beedis. Women sold Tendu leaves for 50 paise per leaf. Due to the non-availability of water in a nearby area women washed clothes in a tank which was far away. Now water is available on their land and they wash clothes with water from the farm pond.

After harvesting ragi they prepared the ground to separate ragi from straw in an area where water was easily available. Now they prepare the ground on their own land using farm pond water. Earlier they grew vegetables such as brinjal, cluster beans, ridge gourd, snake gourd and greens in the middle of the chilli season depending on the rain. Now they grow vegetables often by using farm pond water. Cultivation and consumption of vegetables has increased the nutritional value of their diet. Earlier they ate vegetables once in a week or fortnight. They bought vegetables from Tiptur market. Now they eat fresh vegetables grown on their land. Sometimes they get additional income by selling vegetables. Since they grow paddy now they eat rice along with ragi. Now women prepare different varieties of food. Kariyappa, sangha member of Dasanakatte said that, *Now women prepare whatever they want. They prepare idli, dose and uppittu often. Earlier they were preparing special dishes only during festival or fair time. We had no money to even buy rice. How can we buy other things*? Due to financial constraints they were not able buy new clothes and were wearing old clothes. Now they have enough money to buy new clothes five times in a year.

Dasanakatte farmers were dependent only on rains for cultivation. They did not have any another facility to hold rainwater. When BAIF took up the project they constructed more than a 1000 farm ponds to hold rainwater. Now rainwater collects in the farm pond. The moisture level of the land and the fertility of the land has increased because of the

percolation of water from the farm pond. Trees have grown well. Every sangha members has two farm ponds on their land. Now they are not facing water problems. If they experience water shortage they are ready to share water among themselves.

Gully plug construction resulted in uneven lands being leveled. Bund construction has led to the retention of both the fertile soil and the manure applied to it. Earlier when there was no bunding, during heavy rains fertile soil and manure was washed away with rainwater to the Halkurke tank. Due to water scarcity the sangha members could not cultivate all their land and cultivated only a few acres. The unused land remained as wasteland where stray cattle and goats roamed and ate away the crops on the cultivated land as well because there was no fencing. Now every cent of land is cultivated and fenced. This has prevented stray cattle and goats from eating the crops.

Narasimhaiah, a sangha member said that, *after the construction of the farm pond I am also growing paddy on wastelands, unused earlier because there were many ditches where only green grass grew and cattle grazed. Now that wasteland is leveled and filled with soil. In two and half acres I grow ragi and in a rest of the land I grow tur dal and in one acre I have a coconut plantation. Earlier I grew six bags of ragi and last year I grew three bags of paddy and 28 bags of ragi. Earlier I grew 40 kgs of arca and two bags of horse gram in what was pebble filled land, which I used to feed 40 members of my family. Earlier I was not selling ragi as it was sufficient only for family consumption. Last year I sold eight bags of ragi at a rate of Rs.350 per bag and sold 100 ridge gourds for Rs.500. Last year I earned Rs 3,000 by selling tomatoes. Earlier we needed Rs. 1,000 to purchase three bags of doddibatta for family consumption, which I now grow on my own land. After cultivating paddy on my land I have stopped growing arca.*

Chapter VI
Live Stock

Two centres have been established, one each at Mankikere and Konehalli villages, to meet the needs of live stock development. In addition to regular breeding activity, artificial insemination, pregnancy diagnosis and follow-up for calving, cattle camps have been organised with the help of Gram Utthan Samithis and the local veterinary departments. During the camps, vaccination i.e., FMD, HSBQ, ET, supply of mineral mixture, de-worming and primary treatments were provided.

Table 6.1: Achievements of the Livestock Initiative

Measure	Number
Membership (families)	886
(I-AI) Animals bred	3871
Participating families	2076
BPL families participating in breeding program	935
Total AI animals	4539
Conception of animals	938
Female calf born	386
BPL Families with newly born female calf	167
Women beneficiaries	26
Fodder kit (families)	604
Mineral mixture (animals)	2696
Mineral mixture supplied in kgs	2328
Animals Vaccinated	16098
HSBQ (number)	13524
FMD (number)	5562
E.T (number)	2812
Calves Dewormed	1327
Camps conducted	3
Animals treated	2277
Training programs held	3
Farmers trained	125

10.1 Sheep and Goat Rearing:

In Mankikere, 130 sheep were provided to 29 families. The group decides which family is eligible and the family requests it from the group. As cows and buffaloes need land to cultivate fodder sheep were given instead. Sheep only have to be grazed and this does not require that the family own land. Goats instead if sheep were given only to one family since goats tend to destroy land-based activities and this goes

against BAIF's basic philosophy. Before sheep are given to families, an exposure visit is conducted and the pros and cons of sheep rearing are discussed in the group. After the sheep are purchased they are vaccinated and all live stock is insured (at the rate of 2.7 percent of the animal's cost) for a year. Eight sheep are given to a single family of which at least 4-5 are pregnant and after 3-4 months kids are born, thereby increasing a family's assets. The number of sheep increased and wool is sold every 3-6 months. The next step of whether to sell the sheep or not is being considered but the important thing is that their assets and the output from this activity include wool and manure have increased. Manure is accumulated and used in the fields or sold by tractor loads at 600-800 rupees a tractor.

Income Generation through Livestock…

Chikkanna from Konehalli village has a small family, a small house and low income. They are landless laborers. Both were illiterate. Both children attended school regularly. They have one ND Cow. The milk yield was too low and thus used only for consumption not sale. Before joining BAIF they had some experience with SHGs. Their relatives were in Mylanahalli and belonged to some groups in their village and were part of this project. Laxmidevamma learnt the value of belonging to a group when she used to meet her relatives. This motivated both husband and wife to join the groups in their village. Through the SHG, Laxmidevamma used to save some money.

Chikanna's Goats

As they were landless they were eligible to get funds for any off farm activity. Normally most participants prefer sheep and CB cow. She instead preferred six goats, which surprised every one in the group. Her experience in rearing the goats was good. She was given six goats (five female and one male). Goats were reared for one year during which the number increased to 14 goats. They sold two goats for 3,000 Rupees. With that money they purchased one pregnant ND Cow.

They were able to sell one load of organic fertilizer for 500 rupees. Chikkanna purchased an ox for Rs 2,000. He made 2,500 rupees by ploughing other people's land. With all this money Chikkanna hired land and he is growing ragi, vegetables (beans, greens). On this land he was able to grow fodder for the cattle and the goats.

Chikanna's Oxen

Before they used to spend Rs 300 per month for buying ragi. He says that *I spend 3,000 rupees for two children for buying shoes, books and the geometry box*. Now they were able to make 4,000 rupees per year. With this intervention their lifestyle changed. They were able to purchase a tape recorder. This family serves as a role model for

other landless families.

By actively participating in the project, the family was able to improve their lifestyle. More importantly their assets increased over time. Additionally they invested income earned in increasing their assets.

10.2. Cattle Breeding:

The cattle breeding program is in the fourth year of the project. After this cattle breeding will be handed to one person. Other activities like Wadi, Jana Utthan will be handed to people's organizations. Sudhindra, BAIF staff, discussing the livestock initiatives said that *One of the biggest milestones in the livestock component is para-veterinarian training*. From March 2001 BAIF trained para-veterinarians for six-months on artificial insemination and pregnancy diagnosis. Now these para-veterinarians independently handle all the work. One para veterinarian is stationed at Mankikere and another para veterinarian is stationed at Konehalli. One para veterinarian is independently handing 37 villages while the other is looking after 35 villages. BAIF works on the basis of a hand-over and take-over policy.

Increased Yields…

Siddhamma, a sangha member from Bydarahalli has two acres of land and two non-domestic (ND) cows. Now she rears a CB cow and its year old calf. She did not know about rearing crossbreed (CB) cows. The BAIF crossbreed program began in 1997 where she learnt about the advantages of rearing a CB cow. She learnt that a CB cow yields more milk than a ND cow and can generate more income by selling its milk and dung. ND cows yields two litres of milk while a CB cow yields ten litres of milk. She along with sangha women were taken on an exposure trip by BAIF to Holalkere village where a women's group ran a dairy. Here they learnt how run a dairy, when and where to inseminate a cow and how to get sangha loans to buy a cow. Earlier she fed her ND cow with a local grass grown on wasteland, ragi straw grown on her farm, husk of grains and left over food. However a CB cow needs more green fodder than a ND cow.

Siddhamma's Calf

According to Siddhamma, the landless can make a profit by selling dung and milk. They can also get loans from the sangha to buy cattle feed. Siddhamma grows green fodder (green grass called stylo hamata) to feed the CB cow and calf. In the summer she uses ragi straw as fodder. She feeds the calf green leaves from the forest trees, jowar and subabul from her land. BAIF gave her the subabul to plant on her land. She feeds the CB calf with boosa (cattle feed) and a white powder given by BAIF. BAIF staff from Mankekere also gave her worm tablets to de-worm the calf.

A local cow or buffalo is a potential resource that most families in the rural area, even the landless, have. However, due to their poor productivity they have become more of a liability than an asset. The dairy cattle development programme initiated in Karnataka and Andhra Pradesh has been successful in using these local resources effectively to produce high yielding crossbred animals.

This programme focuses on the use of state-of-the art-technology with high quality semen of proven bulls of exotic dairy breeds like Jersey and Holstein-Friesian for the Artificial Insemination (AI) programme. The services are delivered at the doorsteps of farmers to ensure timely service and reduced work load on farmers. This also provides an opportunity to understand the farmers' situation better. Integration of breeding services with fodder resource development, health care for enhancing the productivity of the cows, close monitoring and effective transfer of technology are also given due attention. Capacity building of the farmers, particularly women through motivation, training and formation of people's organisations at the village level has helped ensure peoples participation in programme implementation.

Training of local youth to take over the operational responsibilities of the programme after the withdrawal of BAIF has been a successful strategy adopted in places like Andhra Pradesh in order to ensure the sustainability of the programme. The benefits of this unique development programme reach 64,500 families through its 130 centers spread in 24 districts in Andhra Pradesh and Karnataka. Dairy development is providing a good opportunity for women and small farmers to earn a sustainable income. BAIF has demonstrated that a family maintaining three crossbred cows can come out of poverty with an average earning of Rs.18, 000 per annum. As these animals are highly priced and sensitive to harsh environments, farmers prefer to stall-feed them. This has reduced the pressure on forest resources and facilitated regeneration of overgrazed pastures. Thus upgrading of livestock has a positive impact on the ecosystem and environment.

Cattle breeding is basically about improving local breeds through cross breeding. Livestock increase is also for short-term income generation as after a short period of 2-3 months a higher income is obtained. The local cows which give a low yield of half to one litre is crossed by a foreign breed namely Jersey or Heifer and the off spring gives 5-6 litres of milk if it is a female. Cross breeding results in a new breed that balances yield and resistance. It thus results in off-spring that is lower yielding but more hardy than the foreign breed and simultaneously higher yielding but less hardy than the local breed.

Cross breeding is for the rich and the poor. The cost of semen is 15-20 rupees plus half a litre petrol for mobile services. Therefore the total cost of a single injection is 28 rupees. The charge per visit paid is Rs. 10 and the rest comes from project funds. The ZP funds this project and runs 98 centers. The ZP funds cattle centers all over Karnataka. One such center is in Manakikere village. Each center is manned by one person and covers 30 villages. The person is trained on how to inseminate, about pregnancy and diagnosis. Two para- veterinarians, mainly villagers, work in and run the centers, are trained by

BAIF. The para- veterinarians provide these services for a fee, Rs. 75 for every pregnancy, and this serves as an income generation activity for them.

In Byrapura there is a service for cattle breeding. When a cow is in heat the sangha informs one woman who in turn informs the para- veterinarian. The para- veterinarian injects the frozen semen into the cow. Cross breeding has resulted in the birth of five calves in Byrapura.

Live stock based activities such as sheep rearing, cross breed cow and buffalo rearing are successful because people are aware about animal maintenance and management of these animals is easy. A total of 47 Jana Utthan families having female crossbreed calves have been assisted with feed supplement to rear the calf for better growth and productivity.

10.3. Impact of the Live Stock Initiatives:

The main impact according to Sudhindra, BAIF staff, of this live stock component is the increase in milk production. In the year 2000 dairy was started at Halenahalli. In the beginning the dairy was getting 75 litres of milk per day. In Halenahalli there are more crossbred cows. There are some of the restrictions from the Karnataka milk federation to sanction the formation of a dairy. They sanction only one dairy to the area. Halenahalli is a center place for six villages. Now Halenahalli dairy is getting 200 litres of milk per day at the rate of Rs. 7.50 per litre of milk. Family income and nutritional level has increased in the families. Three to four villages were benefited from the cattle breeding activity, which was started in the year 1997. Totally 10 families were benefited. All 10 families are getting six to seven litres more milk. Now each family is making 35 rupees per day in selling milk after deducting expenses on fodder. Monthly family income is Rs. 1000 from selling milk and 13,000 rupees per year from selling manure.

- Improved Yields: The introduction of local breeds such as Hallikar and Amruthmahal were found to be useful for both ploughing and milking. The usefulness of the cross breeding has attracted more people to participate in the breeding programme.
- Increased Awareness: The Golla community started vaccinating their sheep hygienically on their own due to the awareness created on preventative animal health.

In Bydarahalli they are two sanghas. A woman from Maruthi sangha got a CB cow from BAIF. BAIF gave them cattle feed. They have not received any formal training to rear a CB cow. BAIF provided them the following information. A CB cow has to be bathed daily while an ND cows may be bathed only weekly. Feed should be given twice a day. If they feed the CB cow germinated horsegram daily, it would go on heat quickly. A calf should feed on its mother's milk to get strength and build resistance against diseases.

Chapter VII
Manav Vikas Sangha or People's Organisation

Decentralised decision making in project planning and implementation is very crucial to successful project implementation and to sustainable development. It is in this context, that POs gained importance and became a major focus of the project.

People's organisations promoted in the project consists of three tiers, at the first level are the self help groups, at the second level or the village level, the Grama Utthan Samithi which has representatives from all the sanghas in a given village, and at the third level is the federation (Table 7.1). All participant families are members of one or another group.

Self-help groups (SHGs), have been formed in all project areas. However, the objectives of each SHG differ, location to location. Federation of these groups have been formed at different levels to carry out development responsibilities and related activities beyond the purview of SHGs, which typically span a larger area. Planning, implementation and monitoring the programmes is facilitated by the project. This is done in such a way that over time the responsibilities of project staff would diminish in inverse proportion to the responsibilities of the POs. The impact on the people, their thinking, on other villages and development agencies can be seen by the reduced skepticism in the minds of both people and development workers. This was attested by visitors from NGOs, government departments and farmers from inside and outside the state.

Table 7.1: Profile of People's Organizations

Type of People's Organization	Number	Members			Total Amount Rs.
		Male	Female	Total	
SHGs	207	1,345	1,571	2,916	19,36,635
GUS	16	108	142	250	1,74,729
Children Club	1	6	8	14	1,018
Arogya Samithi	1	12	8	20	40,000

Note: About 80 percent of the funds in the SHGs are in circulation for various income generation activities. The fund in the Arogya Samithi is utilized for Health activities. The fund in the Grama Utthan Samithi is being used for village development. In the future it will be used for financing different SHGs.

Mobilizing for Change…

Discussing the process of organizing the people's organizations Veeranna staff in charge of M.G.Halli talked about the changes in attitudes that took place through mobilizing the community.

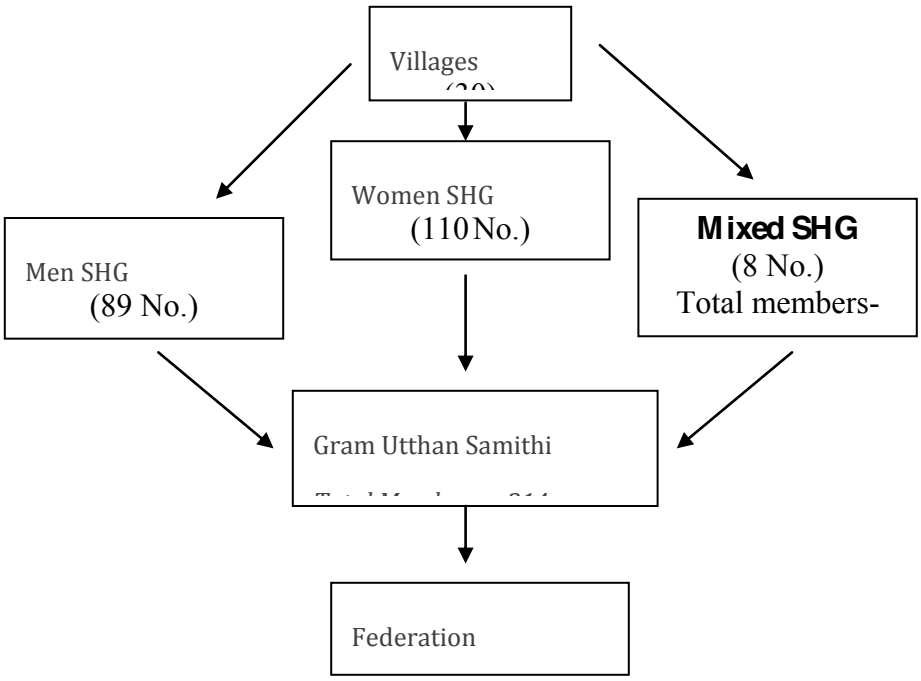
M.G. Halli which includes Kuriyarapalya, Gollaharahatti, M.S.Palya, Basavaraajpura, Kodigehalli and Gowdanakatte. The villagers were getting water from a distance, which was polluted. One bore well was drilled under the BAIF project and a hand pump was fixed from the project. Now the villagers are getting sufficient water from the bore well. The sangha members constructed the platform and contributed Rs. 500 rupees, inclusive of labor and cement, jelly and sand. The total cost was Rs.20,000 and given by the project. In M.G. Halli both sangha members and non-sangha members worked together and cleaned the old tank, Kalyani by Shramadhan for 15 days. BAIF gave them a generator to lift the water. Thus the water problem was solved and also the old Kalyani was repaired. People were facing problems regarding drinking water and were carrying water from a long distance away. They were using stagnant and polluted water. Veeranna, staff, feels his work is an achievement because the cleaning of the Kalyani was done through community work. After this people are more confidant and now people feel that by mobilizing and through community work everything can be achieved.

After cleaning the Kalyani sangha members constructed a flourmill building in M.G.Halli for which only a small amount of money was given by the project. The machinery cost Rs. 50,000 and the building cost was Rs.74,000. This cost was split where Rs. 37,000 came from BAIF and Rs. 37,000 was people's contribution. Earlier people expected everything to come from the project. Over time, people's contribution has increased. Now there is lot of difference. People are taking initiative themselves. Now two Gurukulas have started and they are government schools. One is at Kenkere and one is in M.G.Halli where 100 children are studying. The villagers arrange food for the teacher. Teachers are students from the program called ILRD (Inspirational Leadership and Rural Development) and are not paid. Students get free education. Teachers from ILRD give tuition to the students studying in the school during mornings and evenings. Students are trained on Pranayama and Bhajans. One student from Gurukala was suffering from a tumor and was given money from the sangha for his operation. Many sangha members have taken loan from the sangha for health problem like prolapsed uterus and for others.

The green festival was celebrated in this village. More than 400 sangha members attended the green festival. Food was arranged by them where each member contributed rice and other commodities from their own house and 40 kgs of rice remained after the function. The people never used GUS money for food arrangements.

The school playground was cleaned and stagnant water in the playground ditches removed by filling the ditches with soil. All the SHG members worked together to clean the play ground. Sangha members were invited to participate in a Pada Yatra organized to create awareness on the green festival.

Organogram of Different Peoples Organisation and their Relationships



The role of the people organisation is the organisation of Shramadhan programmes, the selection of participants and input distribution and development of maintenance and management of different Common Property Resources (CPRs).

7.1 Self Help Groups

A total of 148 self-help groups have been formed together with a membership of 2,218 men and women. SHGs have become a platform to:

- Discuss individual and community problems.
- Plan for appropriate solutions.
- Undertake thrift and credit activities.
- Establish and maintain linkages with banks and other developmental agencies.
- Undertake income generation activities to improve livelihoods of the families.
- Undertake Shramadham for voluntary work towards community development.
- Participate and mobilize people for training, awareness raising and skill development.

Three kinds of self-help groups namely women's, men's and mixed SHGs have been formed. All participants are members in one or the other groups. These groups are involved in regular meetings (once in a week or fortnight), regular saving, identification, and selection of participants who are recommended for different interventions. They help in the recovery of contributions and credit and in planning and implementation of family and village level activities or events.

Sangha Activities

Satheramanahalli consists of two sanghas namely Doddamma Mahila Swasahaya sangha and Plagamma Mahila Swasahaya sangha and consists of 6 members and is two years old. One member said that they never used to talk with men in their village. Earlier the women used to quarrel a lot and they never talked to each other after a quarrel. Now because they are members of the sangha and quarrels have reduced because they have to meet and talk to each other in the sangha meeting.

After joining the sangha women sangha members were encouraged to save and now every month they save Rs. 20. Earlier it was difficult for them to get loans and they took loans from moneylenders at exorbitant interest rates. Now they get loans easily from their sanghas at a low rate of interest of two percent. Loans are obtained for health problems and for many other purposes. Nagarathnamma, a sangha member said that, *I took Rs 1,500 loan from the sangha for my banana plantation for manuring banana plants. Now I expect to earn Rs. 15,000 from selling the banana fruits.* Gowramma of Doddamma sangha took a loan of Rs 1,000 for her plastic business, where she sold plastic items. She did this for two years but has stopped because she was facing a loss. Kalamma, another sangha member got a loan of Rs 10,000 for her sister's son, who had a heart problem. Women sangha members say that now they are now able to conduct bank transactions. Nagarathnamma says, *I never visited the bank. Now wherever I go I can see the sangha members.* They use the money in the bank as a revolving fund among sangha members. They are also happy interacting with other sangha members.

Various other activities have take place. Last year the sangha went on exposure trips to Tumkur, Beechanahalli, Hullenahalli and Tirumakodalunarasipura. All sangha members were given horticultural plants like cashew, tamarind and mango saplings and two sheep. The sanghas do bhajans every Monday. In Satheramanahalli 12 number of soak pits were constructed through Shramadhan and participation of sanghas.

The sangha members celebrated the green festival. They planted 9,000 plants a day. The sangha members arranged food. Each member contributed rice and other ingredients. A green thread was tied on everyone's wrist and they celebrated the day like a festival.

Rangoli was drawn in front every sangha member house and house was decorated with tender mango leaves.

The purpose of sanghas are many. At the most basic level, sanghas are formed to address development concerns and problems faced by the community. In Kenkeri village for example according to one sangha woman member, *Everybody is inclined towards development and progress. We have formed a sangha so we can have development in the village, to see why we are lagging behind and not moving forward.*

The Sangha, A Learning Experience…

Ramanna said *if someone else in the sangha has experienced doing the same work, we discuss it and then incorporate it in our work.* Ramanna used to grow a particular variety of ragi. Then someone in his sangha told him of a better variety of seed, which he used and got a better yield. Thus the sangha acts informal training grounds for the members.

In Manakikere initially four groups formed which expanded to nine groups of which two were men's and seven were women's groups. Five groups sprung up in the last year alone. The second level of organization has also been created namely the GUS this year. BAIF first trains SHG members on the importance of savings, benefits from projects and bank linkages. The process of understanding the SHG concept alone takes one to two months. Exposure visits are needed to see the work and group dynamics of other groups.

In Thimmarayanahalli in 1999 when the BAIF field officer first started work there were eight groups of which only one was functioning. BAIF revived five of these SHGs, women's SHGs and one male SHG. The groups engaged in project activities of pitting, planting, fencing and saving. However group members had no mutual understanding and groups were not functioning well. Three male SHGs were dissolved. At that point BAIF decided to give preference to women's SHGs, started credit activities and slowly things picked up. The credit system was made more formal. Earlier money was saved and distributed as loans. Now money goes to the banks and cheques get issued to women for loans and this has built trust.

In Mygonda Halli village there was no sangha. BAIF brought people together and asked if they wanted to form a self-help group. An exposure visit was arranged to Mysore and Lakkihalli to see other sanghas. From this sangha formation began.

7.2. Impact of the Sangha

Benefits of belonging to a sangha are myriad.

A Direct Route to Credit…

According to Ramanna from Mygonda Halli, *Earlier I had to wait for the secretary for any loans but after BAIF has come I can go straight to the bank to get a loan.* Providing direct links to mainstream institutions helps build future sustainability by providing permanent institutional linkages.

Social, Economic and Health Benefits from Mobilization…

Lalithabai, from Muddenahalli Tanda is a member of the Sadwi Mahila sangha and a health guide. The sangha consisting of 16 members formed three years ago. After joining the sangha group activities began. They save Rs 5 to 10 per week and got a bank loan of Rs 1000 to 2000 to buy three sheep for three women. Lalithabai can now conduct bank transactions independently and interact with people. Earlier the only thing she did was coolie work. She did not know how to talk to people. Before joining the sangha women only knew about cooking. Now they are able to speak on various topics. A well was constructed by men and women of the sanghas through shramadhan in their village for which they were provided with cement, mortar and stone. Before the well was constructed children used to fall into the stream and many cattle also died.

Sangha women were taught to make mixed flour with ragi, wheat, rice, greendal and turdal. They soak, germinate, dry the grains after which it is taken to the flourmill and ground. This is fed to the children. After eating this mixed flour, Veena, one sangh member's daughter, put on one and a half kg of weight. After forming the sangha they stopped coolie work, and now work in their own fields and are self-sufficient. They have mango saplings in their field. Once in a week they sing bhajans and were provided with bhajan sets. They were given education material to conduct tuition at night. After joining the sangha they are now capable of signing documents. They have been provided with chulas, which has solved problems related to the smoke and soot burning their eyes Through the construction of bathing platforms, they can now take bath daily. Before they used take bath once in a month. They have been trained in tailoring, horticultural activities and preparation of herbal medicine. Earlier they used go to the forests in search of medicinal plants, which they now get in their own gardens. Men used to drink alcohol frequently which they stopped after joining the sangha. They are fined if they consume alcohol. Sangha members are not allowed to sell alcohol. They have also reduced chewing betel leaf.

One of the primary benefits is easy access to loans and the opportunities that open up to earn incomes.

Increased Cash Flow…

Gollaharahatti, a small hamlet, comprises 35 families. The three sanghas organized are Krishnanjali sangha with 20 members (10 men and 10 women), Ardhanarishwara with 16 members (eight men and eight women) which is one and half years old and Venugopala (three months old) with 12 men members. Sangha members are united. Earlier they quarreled for small reasons, which disturbed their peace. Now they don't quarrel and help each other during times of need. Sangha members filled ditches with stagnated water with 20 loads of soil through shramadhan. All sangha members participated in plantation and have planted 100's of plants in their hamlet and farms. After joining a sangha members were encouraged to save Rs. 20 per month or Rs. 5 weekly. Before joining a sangha they took bank loans at the rate of 10 percent but now they get a loans from their sangha at low interest rate of 3 percent. Prakash, a sangha member said, *I took loan of Rs 3,000 for building my house and to purchase pipe for my bore well*. Formation of sanghas has increased their spiritual beliefs and has helped them find peace. Every Saturday they sing bhajans. Women's confidence increased and now they conduct bank transactions independently. In the future they plan to do business selling chinakurali and papad.

Benefits for each sangha varied based on the intervention.

- Savings: For some sanghas particularly initially, benefits were mainly in the form savings such as in Lakshmanpura. *Earlier if money was at home you felt like spending it*. Saving helped them curtail expenses. The savings of eight sanghas vary between 5,000 and 25,000 rupees each.
- Credit: The sangha in Mygonda Halli has a revolving fund of 10,000 rupees from which they now had easy access to flexible credit. Loans are given out for coconut business, mango, drilling bore wells, agriculture, house construction and repair, purchase of livestock, marriage and education related expenses. One woman, Puttagangayya took 10,000 rupees towards the purchase of 2,300 coconuts at three rupees each nut. This business ran at a loss as the price of coconut crashed after the nuts were bought. No one else has run a business here.
- Loans Available for Consumption and Production: Different sangha members discussed what they took loans for:
  - *I took 5 sheep and am rearing them.*
  - *I took 2000 Rs. for hospital expenses.*
  - *I took 2000 Rs. for the house.*
  - *I took money for hospital.*
  - *I took for illness.*

  Reasons stated for taking loans shows that women now are able to meet emergency needs which otherwise would either not be met or would require that they approach moneylenders. Here the interest revolves within the group itself serving a form of income for the sangha and does not go to banks or moneylenders.

- Increased Unity: In Kenkeri village according to sangha representatives, *Everybody comes to the group without thinking of enmity caste or class. No matter who we are outside when we come together we are equal.*

Active Male Sangha Members

- Decrease in Crime: In Kenkeri village according to sangha representatives, *I can see a difference between what the village used to be and what it is now. For a while now there have been no police complaints.*
- Change in Men's Behaviour Patterns: In M.G. Halli according to sangha women, *Since men have been through the SSY they have stopped using coffee, tea, bidis and cigarettes.*
- Plantation: Hanumayya from Laxmanpura had a sloping piece of land and built a pit. He has grown forest trees using the water that flows down and collects in the pit.
- Increased access to water: One woman from Laxmanpura has grown mango trees and has also dug a pit to collect water.
- Soil and water conservation: Jayamma from Laxmanpura built a gully plug in her land to conserve soil and water, which resulted in a lot of moisture around her land.
- Increased assets: In Laxmanpura the landed planted roadside trees about four years ago while the landless started sheep rearing.
- Community Asset Building: Through shramadhan in Laxmanpura the people repaired the road that was damaged. Women helped build the embankment as well. They took water, mud and land and when the men did not go to work the women did.
- Skill Development: Ramayya from M.G. Halli belongs to a men's sangha. According to him, *Earlier we did not know how to dig pits and grow plants. After learning from BAIF it has become much easier. The seeds and inputs for vermi compost both came from BAIF. The farm pond has also made water available.* The learning, inputs and water shed intervention all helped Ramayya improve his farming practices.
- Increased Incomes through Skill Training: Permanent tailoring training centre established in the project village. It is helping to improve the skills of adolescent girls and women utilize their spare time. A total of 45 girls and women have completed their training successfully. Most of the girls who have completed the training are engaged in stitching various garments. Some girls have joined the commercial garment factory on regular salary. A few girls have purchased machine on their own by getting credit from the group.
- Bank Linkages: In Kenkeri village according to one sangha woman, *I am so old. I have never seen a bank before. Now I have the capacity to handle a bank. Each sangha has 10,000 rupees and there are lakh saved in the village so we*

have come to the conclusion that we need a bank in the village to keep the savings. This implies an increased capacity not only to handle money but to mobilize funds and to envision the need for new institutional capacity within their village itself. The sangha in M.G. Halli applied and got for a loan of Rs.10,000 for cattle feed from SBM, Tiptur branch. Jainath one member took one loan of Rs. 10,000 from the Tiptur branch and four SHG members took Rs. 2,500 each for broom making, cattle feed, and for a petty shop. Other people took loans for poultry, sheep and a cow. In M.G. Halli sanghas are now able to leverage institutional credit for production. Women demonstrated an increased confidence in dealing with bank transactions and officials. *Earlier we never went to the bank, nor did we know about bank transactions or how to talk to bankers. Now we can even go on our own. We have learnt how to save and deposit money. We know if we deposit a cheque we will get money.*

Sangha, a Space for Women

7.3. Grama Utthan Samithi

The GUS is like the head of the household. If a single member does not attend they are fined. Decisions are taken with all sanghas for the entire village. There used to be no interaction between sanghas and now because of the GUS there is.

GUS representatives in M.G. Halli

Grama Utthan Samithis (GUS) was formed at the village level with two members from each SHG of the village. Normally a GUS consists of representatives from 10-15 SHGs. If a village is small, then nearby villages are clubbed together to form a GUS. It plays a crucial role in organizing programmes like cattle vaccination camps, public programmes, training and Shramadhan. This has helped involve many government departments on development activities. Discussions in the GUS revolve around how to conduct sangha meetings, village level activities and problems faced in the sangha. In M.G. Halli, in the GUS the following issues were raised:

- Need for a flour mill
- Access to water
- Need for a post office
- Animal vaccinations (the need and timings).

People's Organizations and Initiatives on Scale…

In M.G. Halli, the GUS spear-headed an initiative to restore the use of a Kalyani (water tank). Water from the tank was not clean enough for drinking. The tank's wall had broken down and the stones fallen into the tank. Through shramadhan, the tank was cleaned. First the tank was completely emptied using a generator for 12 days. The stones were removed, cleaned and reused to build the wall of the tank. In this effort, BAIF personnel, men and women worked side by side with each other. Another effort taken up was the leveling of a school field, which was full of pits because of which water used to stagnate. About 50 truck loads of mud were used to level the field, which took five days. The POs have also cleared a road and dug soak pits.

Village Discussion on the Benefits of the Gram Utthan Samithi

They are now building a flour mill to grind ragi into flour and they also want to start a diary in the same building. This was discussed and decided upon by the GUS meetings. The village is paying some money and some people have volunteered loans towards this work.

GUS funds are used for village development and will finance different SHG activities in the future. Each SHG will pay admission fees of Rs.50 to Rs.100 to become a member of the GUS. Each SHG contributes 25 percent of funds repaid by people for income generation activities to the GUS quarterly. The GUS takes up all village development activities and strengthens its financial position from SHG contributions, fees collected for various village programmes and interest earned through providing credit to groups.

7.4. Impact of the GUS

- Lessons through interaction: For women in M.G. Halli, ***We used to feel embarrassed to sit with men but now we do not.*** Interaction across sanghas has changed women's attitudes. Men said that women started meetings with prayers but they are still too embarrassed to start with a song.
- Stopping alcoholism: In M.G. Halli, women asked everyone to stop drinking. Some people stopped, some offered to stop while others have not stopped. The sangha decided to tell one man who used to drink to stop and to motivate him by giving him a sheep. He was told that if he was caught drinking the sheep would be taken back. People who drink are prohibited from participating in sangha activities, getting loans or other benefits. Efforts to stop alcoholism need the coordination of all sanghas and cannot be done by individual sanghas. Here the GUS plays an important role in coordinating efforts. First this issue is discussed at the sangha level, then taken to the GUS level. Parimalayya said *I used to drink 10 quarters of bottles a day. The sangha told me not to drink anymore. I used to drink all day and struggle at home. I used to shout at my wife but she was very lean so I could not beat her as she would fall ill.*
- Health Concerns: Yashodavva the village health guide and a sangha member said she first raised the issue of health at the GUS level in M.G. Halli. The result was a health camp where first-aid kits given out. Headache, cold, and general health issues were addressed and treatment given for fever, cold, and swelling. The health guide knows the treatment for white discharge but has not yet treated any woman for it.
- Community Asset Building: The GUS in M.G. Halli has a 20,000 reserve fund, which will be used for the ragi cleaning machine. All sangha members contribute 25 percent to the SHG and 25 percent to the samithi.

7.5. Overall Impact of People's Organization at all Levels

One major impact of community mobilization can be seen in the Green Festival organized by BAIF described below:

Hasiruhabba'... A Celebration Of Creating Green Wealth...

Some 250 million years ago, Europe was devastated by the great Permian extinction, which wiped out 95 percent of the extensive conifer forests covering the land. The impact of this was more wide spread than the extinction of the dinosaurs and other forms of life by the asteroid impact 60 million years ago. While it took 10000 to 100,000 years to recover from the dinosaur disaster, it took 5 million years for the trees to make a comeback to the European mainland!

Down to Earth, 31 Jan 2000

Every day the environment, land, water and air in India, is subject to unsustainable use and degeneration. No natural disaster can match this slow and steady process of destruction of people's lives and livelihoods. India loses about US$80 billion every year on account of natural resource degradation, says the World Bank's Annual

Environmental Review. Creating a culture of loving trees, worshipping trees, planting trees, living with and integrating plants and trees as an essential part of one's life styles is the only way to bring about a shift in this destructive process.

Tree plantation, as yet another programme would not help. The social forestry programme initiated by the Government is yet to create a lasting impact! Symbolic attempts such as celebration of `Vanamahotsava' or World Environment Day etc have not been of much help too. It is in this juncture that BAIF Institute for Rural Development (Karnataka) initiated an innovative approach of celebrating `HASIRU HABBA' to begin a broad based initiative to create a greener world. Planting trees, at least to these participants, is not just another programme. It is their very own village festival that comes with the onset of monsoon every year, an occasion to celebrate and to thank nature for the natural resources it has bestowed up on the human race.

BAIF has been active in the field of natural resource management for the last two decades in Karnataka. Several innovative approaches have been evolved during this period for involving village communities in addressing issues of natural resource degradation including tree based farming systems practiced by more than 6000 farmers today in Karnataka. `HASIRU HABBA' is an outcome of lessons learnt in mobilizing large number of farmers to take care of their immediate environment.

<u>Unique features of HASIRU HABBA:</u>

- A festival - not programme
- A celebration – not performance
- Aims at creating a new culture
- Celebrated by all without caste/class/ language barrier
- Common cooking
- Formal family level invitation to friends and relatives
- Outside participants treated as family guests by the local community
- A campaign through direct action
- Voluntary participation
- Mass involvement
- Active involvement of women
- Active involvement of local people's organizations in event organization
- Integrates religious fervor
- Tying `Hasiru kankana' (a green colour ceremonial thread) on each other's hand as a symbol of commitment
- Integration of cultural programmes
- Large scale tree plantation on both private and public land
- Pre-festival orientation cum demonstration of technical aspects of plantation

'HASIRU HABBA' aims to be a festival that people would celebrate at the onset of monsoon every year. The initial response obtained for this programme has been overwhelming. The festival has been celebrated this year at many villages spread over taluks namely, Sirsi in Utharakannada district, Kalghatgi in Dharward district, Harppanahalli in Bellary district, Arasikkere in Hassan district and Tiptur in Tumkur district. More than 2.5 lacks of seedlings of different varieties have been planted. `HASIRU HABBA' was initiated as an innovative step on a pilot scale and is spreading like wild fire across the districts. Wherever these festivals have been organized, in addition to the wholehearted involvement of the concerned villagers, there has been substantial participation from their relatives and friends belonging to other villages.

Other impacts of POs include:

- Identification, selection and recommendation of JU participants for various interventions.
- Planning and implementation of family and village level activities and events
- Replication: Peoples organizations have been involved in the initiation of processing activities such as pickling, jam making and ragi malt preparation at Samskara Mandira, Byrapura. This is one way to replicate successful experiments
- Investments on scale: About 30 bullock carts, 5 sprayers and 50 rat-traps are maintained by different people's organizations in return for service charges, which go to the common fund of the concerned group. This provides a level of organization that can service the needs of the entire village and all the sanghas on scale.
- Information Access: A set of educational material is provided to sanghas for night tuition for children in selected villages. Here again the people's organization is able to cater to a larger need which individual sanghas would find difficult to address.
- Linkages: One primary benefit of forming organizations at various levels is the increased capacity to link with different agencies. Examples of linkages are listed:
    - Construction of toilet programme associated with local gram panchayat.
    - Different health camps were conducted such as eye camps, gynecological camps, pulse polio in association with the Health Department.
    - Animal health camps and vaccination camps were conducted in association with the Veterinary Department.
    - Training programme for bee keeping with the District Industries Department
    - Establishment of linkages for financial assistance with nationalized banks and primary land development bank.
    - Formation of tank management committee for the rehabilitation of village tanks in association with Jala Samvardhana Yojana Sangha.(JSYS, a Government of Karnataka programme)
    - Rishi Samskruti Vidya Kendra conducted training on Human Resource Development.

In fact according to BAIF reports, different developmental agencies have demonstrated a willingness to extend their assistance to different peoples organizations.

Linkages with Other Development Agencies…

Bettadapura, a hamlet near Ghatanikere consists of seven families. For 30 years people drank polluted water from an open pond and suffered from cough, fever and cold. Now villagers use bore well water. BAIF repaired a bore well in a lower caste hamlet. Earlier people from the hamlet carried water from mini water tank. Upper caste people did not allow lower caste people to touch their water. So lower caste people stood for hours together to get a pot of water when their bore well was in disrepair. Now they use bore well water from their own hamlet without difficulty. Another achievement is linkages established with government programmes like JSYS (Jala Samvardhana Yojana Sangha) to maintain and rejuvenate the existing village tank. First Ghatanikere tank development committee was formed. A budget of Rs. 3,00,000 was prepared by consulting technical persons. One condition of JSYS was that the community should contribute about 15 percent of the total budget and do Shramadhan. Members have collected and deposited Rs. 22,000 in the bank. Now they are planning to get Rs. 3,00,000 from JSYS.

Chapter VIII
Community Health

Poor people cannot afford the exorbitant cost of treatment for even common ailments. Moreover, health is influenced by factors such as social conditioning, psycho-spiritual conditioning, family atmosphere and cultural issues in addition to nutrition, infectious diseases among other known problems. Pure clinical approaches to such complex situations have been found inadequate. BIRD-K has distinct approaches to rural health management developed over a period of time based on inside experience and outside expertise including:

- Addressing livelihood issues of the poor people through jobs and income generation.
- Promotion of nutritional gardens and addressing issues of food security
- Promotion of herbal gardens and herbal medicines
- Training of villagers in use of herbal medicines for treatment of common ailments
- Health education
- Provision of safe drinking water
- Immunisation
- Spiritual orientation for mental health and personality development

Indigenous health management systems are vital sources of rich knowledge. BAIF initiatives are based on revitalising local health traditions. For instance, staff, health guides and the people were trained in Kashaya preparation and use. Ambikamma, staff in charge of Sathemaranahalli, conducts kashaya camps once a week. Children were given kashaya whose frequent usage improved their health. Kashaya is used to treat skin diseases, cold and cough. Amrithaballi kashaya helps treat malaria and fever. Adusoge kashaya treats cold, cough and dysentery.

To increase the broad reach of health care initiatives, camps are conducted where people are screened, tested and identified for treatment. These large scale camps makes the broad availability of health care more accessible and more affordable. P.G. Habbu, BAIF staff in charge of Halkurke village where he has concentrated on improving the health of the community. Funds, reserved for health were used to treat gynecological problems through camps and to conduct eye camps where people with cataract problems were operated. Eye camps were conducted in 3rd and 4th year of the project. In gynecological camps a total of 185 women attended. A total of 11 women were identified with prolapsed uteri and one woman who was seriously ill was treated using the health fund of the sangha and another woman was operated for prolapsed uterus.

Other elements of BAIF's health initiatives include the:

- Promotion of Home Herbal Garden on a large scale.
- Prevention and Control of Malaria through herbal decoction.
- Construction of soak pits through mass campaigns.
- Chlorination managed by people organisation.
- Promotion of Arogya Samithi to assist major health problems.

Village health guides are trained in herbal medicine. They in turn hold health camps to facilitate the awareness of health particularly the use of herbal remedies.

Guide to Better Health…

Lalithabai, from Muddeeenahalli Tanda became a health guide two years ago. After joining the sangha she went on an exposure trip to Lakkihalli and Mysore for training on health and to H.D.Kote for an Ayurvedic training camp. For her the main advantage of kashaya camps was that she can now prepare kashaya and treat people in her village. She learnt to make kashayas to treat various problems like coughs, colds and fever. She also learnt how to make pain balms such as amruthanjan. Now she is able to treat fever, stomach aches, knee problems and skin diseases. She attended health camps, where gynecological problems like uterus related problems were diagnosed and tablets were given to treat them. At these camps awareness is raised about several issues. Parents are advised not to marry their girls until the age of 18 as the growth of the uterus is affected if married at a young age. They are advised not to have more than two children and on nutrition for young children.

Lalithabai with her patient

Lalithabai now makes many types of kashayas for different treatments. To treat malaria and fever she makes amrithaballi kashaya made with Amrithaballi, bevinachakke, pepper, ginger and neem leaves. For cold, cough and fever in young children and for dysentery she makes Adusoge kashaya with adusoge, cardamom and sugar. For mental disorders she uses eshwariballi kashaya.

Lalithabai's herbal medicines

Lalithabai also prepares Amruthanjan, neerugundithaila and tripalachurna. Amrurthanjan is a balm used as a painkiller for slipper bites and other pains. Neerugundithaila is used for knee pain, waist pain and back pain. Tripala churna helps cure stomach burning and gastric problems. Lalithabai prepares medicine from aloevera, to cure stomach ache and piles. An aloevera paste, a combination of aloevera and turmeric is used as a face wash. She also prepares hair oil to rejuvenate hair growth. She says one person has more hair after applying the hair oil that she prepared. She is planning to sell her products in the future if she can get a suitable market.

Rukminibai said *I was suffering from the skin disease called vishibu from twenty years for which I had spent more than 1,000 rupees. Now after Lalithabai treated me I do not*

have any problems. Lalithabai's father-in-law said, *she cured my headache, which I had for a long time*. After health training she was able to cure menstrual problems of many women. Women used to have short (20 day) menstrual cycles. After administering aloe vera, their menstrual cycle have become regular once in a month. Lalithabai got her periods once in three months now it has become regular at once a month. The village community now goes to her for small problems and only if she cannot treat them do they go to the hospital. Lalithabai has taught everybody what she learnt during the training.

Health is defined broadly as community based and includes proper sanitation, herbal and natural remedies, as well as spiritual not just physical health.

Health guides conduct health camps to raise general awareness on health issues in all villages. All farmers follow prescriptions of village health guides.

Having a health guide in their own village makes health care that much more accessible and provides an element of sustainability and continuity in health care provision.

Thus village health guides play an instrumental role in improving the health status of the community, raising awareness and providing permanent knowledge based inputs about cheap and locally available remedies.

8.1 Herbal Gardens:

During this year, 239 herbal gardens were established and totally 950 herbal gardens exist in the project. Backyards of most households in three project villages now house home herbal and nutrition gardens resulting in the consumption of improved variety and better quality of food. Seasonal perennials are retained, while occasionally seasonal vegetables are harvested. To establish new herbal gardens and supply existing ones, 15,000 medicinal plants were raised through nurseries. In addition, 17 Village Health Guides were trained to prepare 10 to 15 varieties of simple herbal medicines. Herbal kits were provided to take care of common ailments. Double fortified salt were also provided.

Ekka, a medicinal plant

To cultivate a herbal garden twenty-two species of medicinal plants was given to fourteen members of the Sadwi Mahila sangha in Muddeenahalli Tanda. Initially ten sangha members got medicinal plants. It rained heavily killing the plants, and only one women's plant survived. Once again they got the plants.

In Byrapura, medicinal plants such as aloe vera are being grown. The health guide was recently trained about the uses of aloe vera and said, *If there is a thorn in your foot, or if your eyes are burning, or for head aches, boils or pimples on your face, you can use the aloe vera. It is also used for piles*. The women said they make it into pills and eat it. One woman's daughter washes her face with aloe vera. According to Savitramma ever since she was married she has had a continuous head ache for the last 4-5 years which has gone after using the aloe vera. Other members in the sangha are using the remedy as well.

In Lakshmanpura, Kamalama started growing vegetables such as onions, garlic, tomato, and has a nursery with coconut seedlings and medicinal plants. She has grown medicinal plants of four varieties and this is used by a Pandit to make medicines with it. According to BAIF staff, *We raise a lot of medicinal plants but we do not know how to market it. People talk but when it comes to purchasing no one has come forward. We have so much aloe vera which we do not know where to sell.*

8.2. Health Camps

Camps and training were conducted to help people help themselves through preventative medicine, revival and use of traditional health care, nutrition, reproductive health and provision of easy access through growing of medicinal plants and herbal gardens.

- Gynecological Health campus identified 13 cases for assistance by Arogya Samithi to undergo treatment.
- Eight eye camps were conducted in association with the Health Department whereby 37 cases were identified and operated for cataract.
- Four health camps were conducted one each at Rangapura, Ghatakinkere, Kalkere and Misethemanahally to treat Malaria. More than 590 cases screened and treated.
- About 50 herbal camps were conducted as a preventive measure against Malaria in which more than 700 people had herbal decoction. Also, 50 medicated mosquito nets supplied to families at subsidised rates.

The awareness generation programmes on health hazards caused by uncontrolled growth of mosquitoes have led to people to approach the Department of Health and local Gram Panchayats to initiate measures to control mosquitoes.

In Kenkeri village, people said they were ill, *BAIF trained us on Ayurvedic medicine so now we are both physically and mentally healthy. We get together and solve problems instead of letting them turn into big issues*. In M.G. Halli, there were a lot of diseases, mainly cold and fever. People were spending 2,000 to 3,000 rupees on treatment. They went to Halkurke or Tiptur for treatment. A health awareness camp was conducted. The village health guide now makes Kashaya which is used to treat cold and fever. According to the community, as soon as they drink the Kashaya they get well. Diseases are becoming less. Earlier they used to take tablets and that has reduced. Four to five months ago in another health camp a lady doctor treated the children. Everyone was checked and medicines and tonic given for asthma, cough, cold and fever.

Ensuring availability of safe drinking water is an emphasis of Watershed Development and the Women in Development components of the project. It is also a part of the Community Health component. Through recharging ground water table and drilling bore wells, people have access to safe drinking water around the year. De-silting the 'Kalyani' (pond) in M.G, Halli and re-constructing a damaged well solved the drinking water problem. Water sources are regularly chlorinated by health and field guides. Consequently, safe drinking water is available in all but two villages in the cluster.

8.3. Nutrition

Demonstration and training has been conducted involving nutritional specialists in preparing simple nutritional food especially for children. Such programmes were organised with the help of self-help groups.

Health Training to Solve Malnutrition…

Gollaharahatti is a small hamlet comprising of 35 families, which includes 30 BPL families and 5 APL families. Earlier people were unclean and streets were filled with dirt because villagers were throwing waste everywhere and wastewater stagnated in front of every house. People frequently fell prey to malaria, gastritis and other waterborne diseases because of polluted water. Since most families are BPL, people lacked money to eat healthy food and care for their health. Women suffered from disorders like prolapsed uterus and white discharge. Children suffered from malnutrition. When BAIF staff first visited the hamlet they could not walk on the streets. BAIF then conducted health and malaria camps and provided health training.

Shylaja, a health guide was trained on preparing kashaya and other medicines. Now she prepares amurthanjan, neerugundithaila and treats sangha members for headache, fever and back pain. Earlier they spent Rs.100 to 200 per month for hospital treatment which they now save. Since Gollarahatti is a remote village if anybody fell sick they were taken to Tiptur hospital because the village has no hospital facility. Now for small health problems a health guide treats sangha members and other villagers in their own hamlet.

There are three sanghas in Gollarahatti. Women sangha members were trained to prepare mixed flour consisting of green dal, wheat, ragi and groundnuts, which is then dried in the shade and then powdered. This mixture was given to small children which reduced their malnutrition problems. After eating mixed flour two under weight children have put on weight.

Two Children Who Gained Weight From the Mixed Flour Preparation

Drumstick and pumpkin in a kitchen garden, Gollaharahatti hamlet

Earlier they bought and ate vegetables from Tiptur once in a week if at all. Sangha members were given forest, medicinal and vegetable seeds. Now every sangha member maintains a kitchen and medicinal garden. They have grown avare, papaya, cluster peas, drumstick, bitter gourd. The seeds and plants were provided by BAIF. Since vegetables are now available in their own gardens sangha members consume fresh vegetables which has improved their health.

In Manakikere, training on nutrition and demonstration of recipes for food for children combining items like ragi and other nutrients in front of the group were conducted explaining their benefits. Demonstration of nutritional food to the family helped raise awareness. Children below five years have been surveyed to determine their health status and accordingly malnourished children were supported with medicines.

Health through the Sanghas…

Satheramanahalli is a small village in the project area with 50 families, 25 APL and 25 BPL families. There are 5-6 castes, mainly poor backward castes. Few of the smaller children attend the Anganawadi. Children were not well looked after and were often afflicted with disease. Children had ear problems.

The Village health guide has helped raise health awareness in this village. Training on health was conducted, especially in depth training on herbal medicine. Health camps were conducted here. Sangha members were trained in making kashaya, raising kitchen gardens and medicinal plants nurseries. Earlier women sangha members had health problems of white discharge, prolapsed uterus and excess bleeding. Sangha members feel that they benefited from the health camp and got information about hygiene and keeping themselves clean. Now kashaya camps are conducted monthly and women and children drink kashaya regularly. After the camps, children's health improved and women's white discharge problem cured. Now sangha members use aloe vera to treat health problems of burning eyes, stomach pain and excess bleeding. They also know that aloe vera cures stomach tumors. After participating in health camps they realised that consuming more vegetables increases nutritional value of their diet and improves

Kashayada Kamalamma with sangha members

health. Women earlier did not breast feed their babies for three days after delivery. After attending health camps they realised the importance of a mother's milk in building resistance to diseases in newborn infants. Now they breast feed their babies immediately after delivery. Women sangha members did not bathe when they had their periods. Now periods and not, they bath daily.

Kamalamma, a health guide from Satheramanahalli was trained on preparing Kashaya. Now weekly she prepares kashaya and is now called Kashayada Kamalamma. Sangha members say their health improved after drinking kashaya and they do not go to hospital as often. Kamalamma says that children who come to the anganwadi drink Kashaya of their own accord which reduced their skin problems. She prepares Amurthanjan, Neeragundithaila, Triphalachurna Amrithaballi kashaya and trikatu churna. Amrithaballi kashaya consists of amrithaballi, turmeric, ginger, cinnamon, pepper, neembark and nelabevu is used to treat fever, cold and cough. Trikatu churna, which consists of hippali, ginger and pepper is used to treat cold and fever. Amurthanjan, a pain balm, is used to treat back pain, hand pain and so on.

Triphalachurna helps treat gastric problems. Neeragundithaila is used to treat sprains. One sangha member said that, Triphalachurna prepared by Kamalamma cured her husband's gastritis problem. Lakshamma, another sangha member said that, *Earlier I was suffering from hand pain, waist pain, and knee pain for the last eight years. Now I feel better after treatment.*

In project villages now Amruth Balli Kashaya, a herbal decoction, is being used en mass. This has become common practice in Satharamanahalli where all villagers use this Kashaya when they have fever. This Kashaya has served as a complete cure and simultaneously reduced the cost of medicine. It is consumed by all sections of the community including the old, the youth and children.

8.4. Soak Pit Campaign:

Improved sanitation was the rallying point around which a soak pit campaign was forged. Where there is no drainage facility, water stagnation in front of houses becomes a real problem. This can easily be addressed by building soak pits. Through mass campaigns 264 soak pits completed in one year.

Soak Pits by Shramadhan…

Ghatnikere is a small village of 140 households where all project components are implemented with active community participation. Little attention was paid to sanitation.

It was discussed in SHG meetings and it was decided to construct soak pits. However this did not take off due to lack of interest. One day malaria and cholera struck the village. A visiting doctor attributed the outbreak of disease to bad drainage and together with the field officer strongly recommended construction of soak pits. Only then did the community realize the importance of soak pits to deal with draining, sanitation and health concerns. All SHG and Samithi members decided to host a soak pit day. About 74 male and 54 female SHG members completed the construction of 54 soak pits on this day. The size of the pits were 3 by 3 feet. It was a festive environment in the village with all family members present on that day. Food was provided for everyone. Some members sang songs while doing the work. Children helped their parents. By construction of soak pits multiplication of mosquitoes and flow of waste water has been checked to some extent. Now villagers are comfortable with this improved environment. Seeing the results, neighboring villages approached BAIF to do the same in their villages.

In Lakshmanpura in one day 76 soak pits were assembled through shramadhan covering almost the entire village. Earlier waste water used to flow on to the roads. Now it goes into the soak pits and the roads are clean. According to sangha representatives In summer, the roads used to be constantly wet and only after BAIF has come here have our homes become clean. Initially people told BAIF that they did not have the time to do shramadhan as they worked in the field. People finally agreed but kept postponing the work. Finally one day they all got together and finished the job. Instead of some people digging and others building pits, all the work was finished together in one day. Earlier people used to just dig pits but never used brick and stones. In this campaign however people have used this new technology. Earlier soil used to cave in and the pits never got repaired but now with this method those risks are lowered.

In Thimmarayanahalli as well, to solve sanitation problems soak pits were dug and stones put inside along with brick pieces into which drainage water flows. The pit size is based on the family size. In the soak pit there is an earthen pot which acts as a filter and only water seeps in. If solids go in they clean the pot out once a week.

Other initiatives towards improved sanitation include the construction of 49 toilets with partial contribution from Gram Panchayat and participating families.

8.5. Spiritual Intervention

Sidhi Samadhi Yoga (SSY), Sathya Vratha, Sath Sangha, and Hrudaya Samelana were conducted in the villages as part of the spiritual intervention. This has helped integrate different sections of the community and also cured health problems. It has particularly helped involve men and addressed the issue of alcoholism.

In 1998, in Kenkeri, BAIF helped the community grow mango trees and form a sangha. They discussed getting a bullock cart with BAIF but were asked to first join SSY. According to SSF participants in Kenkeri, *Initially, we ran off. We did not join the first batch but finally we joined the second batch.* This was how the SSY program began in Kenkeri. The SSY, while initially difficult, has taught people discipline and restraint.

In Lakshmanpura, 35 members went through the SSY, a 13 day program. Jayamma describing the experience said *it began with a bath at 4.30 and a visit to the temple at 5, followed by pranayama, meditation and lectures. The diet was raw vegetables including carrot, beet-root, ridge gourd, radish among 7-8 items. Everyone sat together, prayed, meditated, and then ate. In prayer as well everyone is equal so we would sit together as equals. This was followed by an advanced meditation course where people were not allowed anywhere and kept inside given very little food. We kept looking at the kitchen saying why did we come? Next day they gave us salt water. They separated men and women. They told us not to drink anything even when we were thirsty. Last day we were told to eat as much as we wanted but we could not. From this course we understood that we should not eat anything and everything. It was only after this program that we realised we should control our eating. The Satya Vratha, the third step, is confidential.*

From the spiritual interventions, people learnt that they should end bad habits, be truthful, generous and not trouble others. One man who used to drink stopped. One woman said she stopped drinking coffee and tea and eating betel leaf. Some gave up non-vegetarian food. Some said that they began to treat people equally. Some were able to address health problems. For SSY participants, *From this we have more intelligence. We have cured some health problems such as cracks in the feet.* Chikamma from Lakshmanpura, was cured of her knee problem through SSY. Before, she could not fetch water as her knees would hurt and now she can. After joining the SSY program, according to Rangamma, Kenkeri village, *Our aches and pains have vanished.*

What was unique was the transformation and active involvement of young girls many in their early teens. This age group is often extremely vulnerable and rarely organized. Through the spiritual intervention we see a great deal of confidence and courage in these young women. The cases described below of Bhagyamma and Gayatri show the moral fibre and courage of these two young women that has emerged through the interventions.

Reclaiming Our Lives…

Before joining the sangha Bhagyamma, Kenkeri had a lot of problems. Her family kept falling ill and treatment was expensive. They were very poor and it was difficult to even find enough food to feed the family, which consisted of seven daughters. They had a lot of land initially. Then the brother got cancer and they sold some land for his treatment

after which the mother got TB and they sold the rest of the land. None of her sisters are educated as there was no money to pay for school. Even when her younger sister wanted to study they could not afford to send her to school.

To support the family, she and her sister worked as domestic labourers and as workers in a garment factory in Bangalore for a year. She earned a monthly wage of Rs. 1,500, but she was not very happy. Her grandmother looked after the younger children in the village until she fell ill. Then Bhagyamma came back to the village to help out. When she returned she realised her youngest sister was not at home as she had been sold to work for someone in Mysore. She found out that they were ill-treating her sister and was determined to get her back. When she told her father to bring back her sister, her father threatened to leave the house. She then forced the grandmother to tell her father that she was sick and to say that she wanted to see her granddaughter before she died. Finally her father was convinced and Bhagyamma made sure her mother accompanied her father to Mysore to get back the sister. The parents brought the girl back even though the man wanted the girl to stay. Now she managed to get together 1,000 rupees for her younger sister to study and her sister after two years of domestic work is going back to school. In this entire matter she did not ask for direct support from the sangha. However being a part of the sangha gave her strength and confidence to get her sister back.

Now after she joining BAIF she is a lot happier and laughs with everyone. Earlier if anyone spoke to her loudly she would not even talk to that person anymore. She fought with her cousin. She used to question the right of people to talk about her and her family when they had not even helped them. She has now learnt to accept people and what they say. Today she is trying to rebuild those relationships. Her entire family has benefited from the SSY. Now they have the money to treat people and are all better off. Her father used to drink but after going through the SSY program he stopped drinking. *Before we formed the sangha there were difficulties. After the SSY there is a lot of happiness.*

Like in Bhagyamma's family, the SSY gave women the spiritual and moral courage to fight for what they believed was right. Bhagyamma herself is a very young teenager but still was able to get the funds together and stand up to her father for what she believed was the right thing to do which was to bring her sister back home. Like Bhagyamma's father, many others stopped drinking after the SSY.

Alternative Vision…

Gayatri now a young teenage girl from Kenkeri village, was poked in the eye as a child leading to blindness in one eye. She managed to do her second PUC on her own. After her SSLC she worked during the holidays on a farm to save money for college. Her family opposed her further study and did not help her with money for books. Her mother taunted her saying she is handicapped, so why study. Her father was supportive and saved Rs. 5-10 per day for her lunch.

Gayatri now works full time in BAIF where she earns a monthly wage. *I feel at peace*

coming to work here. If I even miss a day coming here I feel lost. With the extra 100 rupees she earns per month because she is handicapped she pays for a young poor girl's education. Gayatri is proud of the girl's achievements, *In the 7th standard she got a first class. She did well in her 8th standard and I plan to send her to the 9th standard. Since I cannot study further I want to help other people study.* Her mother does not know that she is helping this girl and if she does she will shout at her.

Gayatri, participated in the SSY program and since then her life transformed. *We learnt how to change our life and live truthfully and do our duty. We learnt how to be on the true path. We learnt meditation and prayer. We learnt not to have enmity among people.* The SSY program infused her with a greater appreciation for life and consequently she participates in more sangha activities. She has become more courageous. *I may be young but I have not found any peace at home. There was always fighting in the family. No matter how much we worked there was no peace at home.* The SSY has changed family relations. *Earlier my father used to be very angry and quarrel with everyone. After the SSY, he has calmed down and I feel like talking to him.*

Through the SSY she learnt Pranayama and yoga. *I used to have leg and knee problems. After learning Pranayama that has reduced. I also live a peaceful life.* Another activity is the weekly sath sangh where the community comes together to sing bhajans (devotional songs) and pray. The sath sangh represents an opportunity for people to bond across caste. According to Gayatri, *In the sath sangh we learnt new ideas.* After reciting the Gayatri mantra, one person is asked to share his or her vision for the community. Thus the sath sangh represents a space for sharing, new ideas and a collective vision.

The knowledge they have given us on how to live life we do not want more than that. We do not need money or loans but we want more and more knowledge on how to live life. In her work at BAIF, Gayatri learnt a lot. She has been trained on the use of various plants for treating cough and fever and finding it useful, has shared this knowledge with others. Plants and Kashayam have been used for health purposes to solve stomach problems, sore throats and colds. She was trained to do vermi-compost and has dug a pit, mixed dung, manure and the worms and gets compost. She was trained in tailoring. Her father stitches clothes and after work she helps her father in the evening.

Gayatri's example above demonstrates the selflessness she acquired through this programme.

Many lives were transformed as a result of the SSY. According to Dr. Reddy, Programme Director, BAIF, *In Kenkeri in about a year's time after the SSY program, there were no police cases registered. Earlier every week 2-3 cases were registered as a result of quarrels between people in the village with about 900 households. People became so sober in this village. We could see a total change occur as a result of 15 groups going through sequential inputs.* According to one SSY participant, *Anything that happened here used to result in a fight and we would beat our children. Now we do not fight nor do we beat our children.* According to one man, *If we did not have anything at home women used to fight with us but now even if we do not have anything women do not say anything.*

The relationships between people in the family have thus improved. Between men and women there is less fighting because men are more peaceful and many have stopped drinking. Within the family relations have improved as the young girls have gained strength from the SSY and the sanghas and have been able to use the learning and access to resources to transform not only their own lives but those of other women.

Despite initial reservations, people joined the SSY and formed sanghas. According to one male sangha member Shivanna, in Kenkeri, *Only in the past six months I have been exposed to BAIF's work. I used to wonder what are they doing in SSY and what is the use of this and asked other people about it. Reddy found out about my questions, approached me and asked me to join. I told him I did not have the time to do this. I was asked to eat raw vegetables. I told them I cannot even eat boiled vegetables how can I eat raw vegetables? Finally I joined and we formed a sangha. People seem to have benefited from it.* There were many positive experiences of having been involved in the SSY and the sanghas for the people in Kenkeri. According to Shivanna, *I stayed in Bangalore and I used to drink and smoke. I used to buy ITC cigarettes and spend 30 rupees for a packet. Then the company I worked for closed down and I came back to the village. I found that it still took me 5-6 months to adjust back to village life. Everyone at home was scared of me as I used to shout at them. BAIF has given us spiritual solace. It is hard to explain. If there is truth there will be progress and no fear will be left. When we do Pranayama, for example, if we do it on the edge of the field we feel as if we are sitting on the edge of a cloud. We thought it would be difficult to get people together as some people belonged to the Congress and others to other parties. Earlier politicians never came to this village. But if we continue this way they will come here. We need to see god in each other and through SSY one can progress.*

How has SSY helped people's personal lives? It has changed gender relations for one. One male participant from Lakshmanpura said *I used to have a lot of bad habits. I realised that I was doing so many bad things but did not know how to stop. Then I joined SSY. In the first session I was drunk but stayed on to check what this was all about. Everyday I drank and one evening despite being drunk Girija (BAIF staff) sat next to me and did Pranayama. Still I did not understand the point. I went to the AMC and was asked not to talk. I rebelled saying why should I not talk. By the last day I realised what this was all about and made sankalp. Men's mentality has to be kept in balance – I used to only say this before but now I mean it.*

Through the sangha, Rangamma has gained other benefits, *My daughter was trained in tailoring but since there was no machine they have not done anything with it. She does not know when she will get a machine. We used to be separate but now we are together and so we also want to know more. She wants to do a kitchen garden.* The combined initiatives of organizing people into sanghas and providing them with spiritual guidance has been a powerful experience with diverse benefits.

For Lakamma, Kenkeri,* It is beneficial because when we got to the sath sangh we understand other people and we should learn to live together and we should not have any differences in our feelings towards people. All this has happened only after BAIF came in. We had a problem with getting enough food and clothes. This changed after BAIF came here. But beyond that we also learned to be together. We do coolie work and learnt to work hard and now we are getting our due. But we should also not give problems to others. BAIF has helped us so we should also not wrong them. *Here the spiritual intervention has broken down the differences between people but through the community organization, people have learnt to work together.

For Ramakkha and Yelamma savings was another major benefit and activity from the sangha besides the SSY program. Ramakkha said that through SSY her aches and pains have vanished. Thus both physical and mental health problems were addressed through the SSY. Ramakhya's husband left her when she was young and she had small children. She used to do coolie. She did not have anyone to look after the younger children so she removed one of her daughters from school to stay home and look after them. Then she got coolie here in BAIF. Now BAIF has given her a cow and she is selling milk to the diary. Her older daughter is still at home but the younger two are going to school.

One woman Mani from Kenkeri, her father died when she was quite young. After some time her brother died in an accident and the mother was despondent saying she was left with only girls and how would they manage now. The mother was bedridden and upset. She now tells her mother *what is there if there are no boys in the family? Treat your daughters like your sons. Now we are still poor but at least we are managing.* She got a loan and does tailoring. She also has a sheep and has been working in BAIF. The SSY program helped build up her courage. It was clear by her statements, that Mani no longer saw poverty as defeating, nor does she see being a woman as any less than a man.

Sath sangha in Kenkere village

Thus the spiritual interventions addresses a crucial problem that mainstream development initiatives do not. Unlike any other intervention, it helps men get courage and thereby take responsibility for themselves, their families and their lives. This learning once consolidated and mainstreamed can contribute tremendously to development initiatives, which primarily target women and do not know how to include men.

8.6. Achievements of the Community Health Initiative

- Establishment of 239 herbal gardens during year 4 and 950 gardens over four years.
- Safe drinking water is available in all the villages with the exception of two villages, because of non-availability of ground water in the nearby area. People in these two villages are getting water from a distance. These water sources are regularly chlorinated by health guides and field guides. Availability of safe drinking water round the year and near by has reduced has saved time spent collecting water.
- Children below five years were surveyed to assess their health status and malnourished children are supported for medicines. Demonstration of preparation of nutritional food is found to be useful in creating awareness in the family.
- Completion of 264 soak pits were completed through mass campaigns.
- Construction of bathing platforms and boilers for hot water for 263 families. Bathing platforms has helped improve the bathing frequency and personal hygiene of women.
- About 50 medicated mosquito nets have been supplied to families at subsidised rates.
- A total of 49 toilets were constructed in the year with partial contribution from Gram Panchayat and participating families.
- Gynecological health campus were conducted where 13 cases were identified and assisted by Aroghya Samithi to undergo treatment.
- Four general health camps were conducted, one each at Rangapura, Ghatakinkere, Kalkere and Misethimanahally, to treat malaria. More than 590 cases were screened and treated. Taking herbal decoction for seven days was recommended to villagers.
- 50 Herbal health camps were conducted in the year as a preventive measure against malaria in which more than 700 people were administered herbal decoction.
- Eight eye camps were conducted in association with the Health Department. In these camps 37 cases were identified and operated for cataract.
- 15 thousand medicinal plants were grown in the nurseries in the project for the establishment of new herbal gardens and to provide plants for the existing gardens.
- Training of 17 Village Health Guides to prepare simple herbal medicines. Double fortified salt and herbal kits were provided to take care of common ailments.
- Sadhana Shibara (SSY), Sathya Vratha, Sath Sangha, and Hrudhya Samelana were conducted in the villages and has helped in the integration of different communities and also cured health problems. The spiritual process has helped in changing the attitudes and behaviour of people.

Chapter IX
Conclusions

Each of the seven components of BAIF weave together to form a system of development processes that is comprehensive and holistic. From the initial process which in its open endedness of the determination of a local poverty line, to each intervention being tailored to the family through the micro planning process and local community, the approach center stages people allowing both flexibility and maximizing the potential for community input. With the exposure trips and the group discussions the basis for the community interaction is cemented through the building blocks of trust and mutual accountability. The emphasis on group formation, working in groups from the onset and savings build the cohesiveness and strength of the groups upon which the success of all interventions lie. Finally building people's organizations at all levels brings the entire emphasis back to the community and away from just the individual, while the initial processes simultaneously ensure that the individual's needs are not sacrificed. Leadership promotion and training exists especially through the spiritual program but more support for women leaders is needed.

Overall the Jan Utthan approach is unique in that for one it emphasizes center staging the poor and does so in a way that is not standarized, but uniquely plans for each family. It also places equal emphasis on the role played by the family and people's organizations. The Jan Utthan approach offers much in the way of a new methodology to identify and work with the poor. This approach has been the most significant innovation and lesson of the TTSD project.

Reflections on the Process

Development of wadis and the watershed initiatives together improved the land, by reducing soil erosion, increasing moisture levels and water availability. It resulted in increased yields, increased number of crops in a year, more and better varieties of crops grown and a resultant overall increase in income and nutritional levels. By growing horticulture and forest based species, access to fodder for cattle, bio-mass and firewood increased. Other outcomes have been the increased input in human resources as more care and time is devoted to the land. This additionally has moved people from coolie work for other people to working on their own lands and developing their own resources.

Sericulture as an activity was introduced in several villages. Sericulture is conducted differently through the use of dry land cultivation techniques and combines the growth of mulberry plants with other horticultural plants. This has increased people's skills, increased incomes multi-fold and increased the outputs from the land such as fruits, crops and silk.

Specific initiatives were undertaken to ease women's workloads such as constructing smokeless chulas, toilets and bathing platforms. Moreover, other project components also benefited women. For instance, nurseries are managed by women from which they earn incomes. Reproductive health camps have helped identify and treat illnesses which

they would otherwise have ignored. Soak pit construction improved overall cleanliness and health. Watershed and agro-forestry initiatives reduced the time women used to spend in collecting water, fuel and fodder.

The other main impact of this live stock component is the increase in the production of the milk, and resultant increase in family incomes and nutritional level. According to Sudhindra[5], the para-veterinarian training represents a landmark achievement in this project. By training para-veterinarians from the community itself, the capacity of the community is built to deal with artificial insemination and pregnancy diagnosis reducing dependence on professional veterinarians and on BAIF, both.

Through reviving traditional knowledge systems on health, BAIF was able facilitate the transfer of knowledge in the preparation and use of preventative medicine to address nutrition, reproductive health and common ailments. P.G. Habbu[6] whose work focussed mainly on health, felt that the health camps were a way to reach a large number of people making availability of health care more accessible and affordable. Through eye camps, gynecological camps, and kashaya camps, large numbers were screened, tested, identified for treatment and treated wherever possible. To bring health care right into the hands of the community, not just the knowledge and training but inputs as well are made more easily accessible and cheaper through growing medicinal plants and herbal gardens right in the backyards of people. Training of village health guides again was another method of reducing dependence on health care professionals and institutions.

People's organizations represents the mobilization of the community and building of its capacity. This gives the community a forum to identify and tackle current and future problems and the organization to actually implement solutions. According to Venkatesh Patil[7], one outcome of the people's organizations and the watershed components has been a willingness on the part of government agencies to link to the project villages. Veeranna[8] another staff, feels one achievement of community work was illustrated through the cleaning of the Kalyani tank. Through a demonstration of Shramdhan done on village specific needs such as repairing tanks, rebuilding embankments, constructing soak pits and through mass scale plantation during the green festival, people are now far more confident and motivated. This has resulted in many more initiatives being planned and taken up by the community themselves.

Feedback provided by staff included:

The target number of 3,000 families, while reached, was not evenly distributed over the four years. In the first year 50 families were covered, in the second 150 families, in the third year 731 families and in the fourth year 510 families were covered. Therefore in the last two years staff found it difficult to meet the targets and staff also were not aware

[5] BAIF Staff, Tumkur Cluster
[6] BAIF Staff, Tumkur Cluster
[7] BAIF Staff, Tumkur Cluster
[8] BAIF Staff, Tumkur Cluster

initially of the total targets to be met. Staff felt that it is better to announce the target first and then start work.

Frequent changing and transferring the field staff was a major set back in reaching more families. The fact that there were far fewer human resources in the form of field guides involved in this cluster also affected the work. In Halkurke for instance there are only 20 field guides while other clusters have more than 100 field guides.

Another problem was that watershed and non watershed areas were treated differently. In the watershed area both APL and BPL families were given equal preference, as watershed activity is an area based activity and requires both APL and BPL families to work closely together. In non-water shed areas only BPL families were given preference. So BAIF staff found themselves having to answer to APL families in non watershed areas. People asked them *you have given preference to APL families in the watershed area. Why are you not considering us here?* It almost took a year to convince farmers about the rationale for this distinction. The main staff recommendation here is for future projects to not distinguish between water shed and non-water shed areas. The other option would be to make this distinction clear to the community at the very inception of a project.

Finally the location of the project villages is very important. Population in the villages chosen in the first two years was small and the villages, scattered. This increase time spent by staff travelling to these villages. If neighboring villages were selected then more villages and more people could have been reached and staff could cover four villages in their schedule. Thus what is recommended is a more careful selection of villages in terms of population and location. The other option would be to have more staff.

Linkages and elements to ensure sustainability will be part of the future stages of the project and BAIF's exit policy.

The TTSD project goes beyond other approaches in its very flexibility. This allows for each component to be holistic and broadly defined so as to feed into and integrate with other components and serve the needs of many populations. This moves away from the old paradigms of looking at individual components such as watershed development as merely an initiative to increase the water table. Instead each components complements the others like agro-forestry helps provide fodder for the livestock and watershed provides easy access to water for women.