

Ensuring Sustainable Consumption and Production Patterns- A Case Study of Tribal Village

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“Sustainable Development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (The World Commission on Environment and Development Report). Sustainable agriculture development integrates three main goals: Environmental Health, Economic Prosperity and Livelihood Sustainability. ‘The rural world faces a profound challenge. It is already home to about three-quarters of the world’s poorest people and faces the challenging conditions of increasingly limited resources such as water and land’ (OECD Report).

On the basis of this the Bharatiya Agro Industries Foundation (BAIF) Research and Developmental Foundation undertook a sustainable development program in the tribal village named Vanvasi which was economically and socially backward area but had lot of useful natural resources. BAIF tapped this opportunity and started the project ‘Transfer of Technology for Sustainable Development’ started with the objective of providing basic necessities to the village and with the aim of providing livelihood to the poorest of the poor. This project was initiated to demonstrate the above in these villages with seven years of initial support. It was started in the year 1997 by BAIF-MITTRA and continued till 2004. Co-operatives played a vital role in this project. There were three co-operatives which were established to promote the agricultural produce. The co-operatives were Amarai Co-operative for Mangoes and mango grafts Vasundhara Agri-Horti Producer Company Ltd (VAPCOL) for cashewnuts and Vrundavan Pushpa Utpadak Sangha for Floriculture. The implementation of various interventions was successfully done in village Vanvasi of Jawhar block in Thane District, covering around 70 families and population of 371 including 63 participants who participated. European Union sponsored this project through NABARD and provided full financial support. The project has achieved tremendous success, in terms of its outputs, outcomes and impacts, and has provided valuable experiences and learning. Many interventions apart from what were mentioned in the project objectives were taken up to suit wide variety of situations and also making them as entry point in the village.

Introduction

Jawhar comprises 185 villages with 103175 hectare geographic area mostly covered by undulating terrains. Vanvasi is one of the progressive villages situated 5km from Jawhar in Thane district of Maharashtra state. Today the total number of families in the village is 80 comprising population of around 500. The total area of the village is around 400-500 acres from which only 6-7 acres of land is occupied with construction of houses the rest is cultivated with different types of crops. Agriculture being the main occupation of the villagers here the main crops under cultivation is rice, finger millet, urad dal and varai. Different fruits and vegetables are also grown in this village.

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In 1997, BAIF took an initiative to introduce wadi model and accordingly provided inputs for the same and the outcome is that today the village owns 42 wadis individually and 6 wadis of the government. There is an interesting story as to how the village came to be known as Vanvasi. Even before the area was developed, there were a string of deaths of either of the spouse of newlyweds in the village. Thus, the other spouse used to become widow/widower. Hence, the name 'Vanvasi'.

Methodology

1. Review of the Documents: Though, documentation of the continuous evaluation was not done efficiently and systematically however, the present evaluation referred to all the available documents related to the project with the supervisors and chief coordinator. MITTRA staff in Jawhar supplied the available documents related to the projects.
2. Discussions:
 - i. Interactions with BAIF staff: Discussions were held with BAIF-MITTRA staff at Jawhar and also with the field team during the field visit. Clarifications were also sought regarding the perception of villagers.
 - ii. Interactions with the villagers and SHGs members: Discussions were held with both Female and Male SHG members in Vanvasi during the field visits. Various benefits from the participatory natural resource management project were addressed.
 - iii. Interactions with farmers: This was done by visiting farms of the beneficiaries from Vanvasi village discussing the benefits accrued from the project and the sustainability of the same. Some of these were developed into case studies.
3. Field study Itinerary:

To evaluate the outcome and impact and to study specific cases field study was done. During the visits farms of various participants were visited to study the impact and outcome which was acquired through the project. The field visits were mainly focused on the group discussion with the participants of the Wadi program and the other beneficiaries. During visits, various participants from the village explained, how they were benefitted by the project, their present conditions and the possible future planning for further development.

Objectives of the Project:

1. To create a source of livelihood to the poorest of the poor.
2. To improve the overall economic condition of the villagers.
3. To provide basic amenities and services in the village
4. To build organizational and technical capacity among the villagers for taking up different activities.
5. To achieve empowerment of the women in the village

The Village before the Intervention

Initially before BAIF intervention in the village, the condition of the villagers was very bad, every family used to earn a handful amount of money which was not even sufficient for meeting their basic requirements. Even after having all resources, still the villagers used to cultivate traditional crops like rice, finger millet, porso millet (varai) for the sake of self-consumption and were not marketed outside. As there was no other source of income these people used to migrate to nearby cities like Thane, Kalyan, Bhivandi, Mumbai in search of work for almost 4-5 months in the year usually during winter and summer seasons. They used to work as laborers at construction sites or at sand mining sites. Some of them also used to take up carpentry or masonry work to support their families. The money which they received from these small jobs was meager which led to poor condition of the family all of them used to earn a meager amount starting from Rs 30-40 per month to Rs 200-500 per month depending upon the type of work they used to do. The village did not have proper roads; there was no source of transport available so villagers had to walk whenever they had to go to Jawhar for any reason. There were no medical facilities in the village and if anyone from the village used to fall ill then he/she was treated by traditional medicines which are found in forest. The deliveries of pregnant women were also carried out at home by the elderly and experienced women in the village. There were no proper arrangements made for health, hygiene and sanitation i.e. there were no proper toilets in the village, no proper means of disposal of waste in the village due to which there were number of diseases prevailing in the village. Further no proper and safe drinking water facility was available and women in the village had to travel long for fetching portable water. All the houses in the village were Kaccha and every alternate year they had to re-construct the same due to heavy rains in this region. The life of the people in this village was miserable, full of problems and hardships as the village also faced lot of water problems initially and even there were huge electricity problems there used to be power cuts for hours or even for 2-3 days consequently. The village had all the resources and willingness among the people to develop, just that there was a need of proper guidance and training so that all the available resources and potential in people would be used optimally and provide sustainable development.

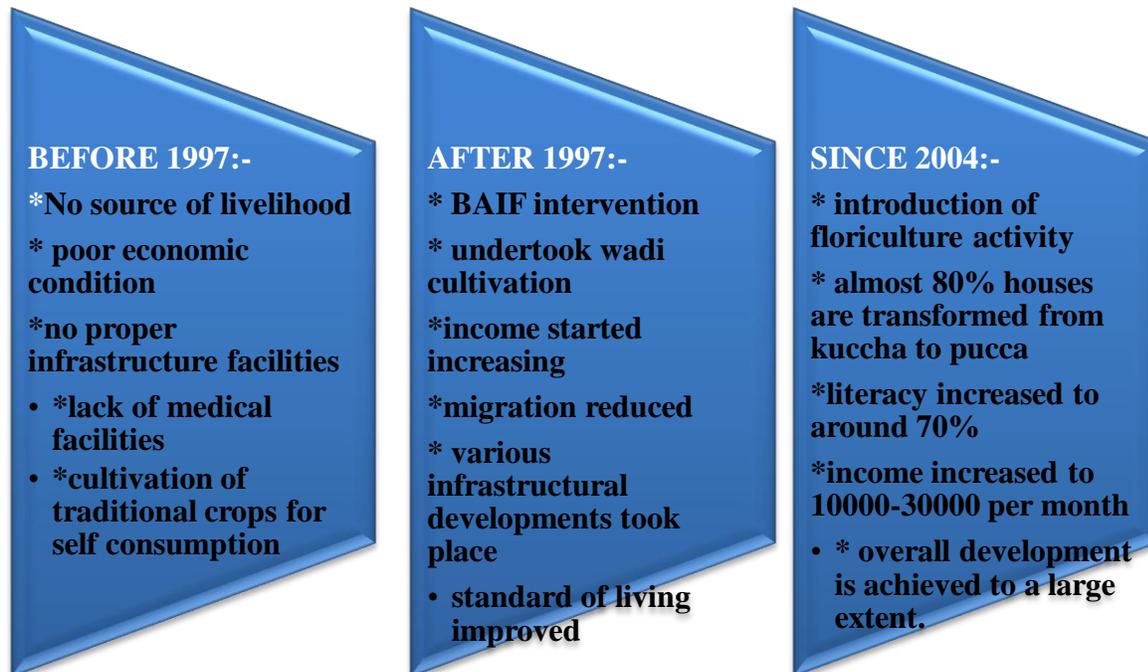
Broad Interventions of the Project

In order to achieve the expected outcomes, the following activities were taken up:

- Promotion of wadi model in the village by supporting saplings of different types of trees in order to carry forward the development process in the village in a participatory and transparent manner.
- Repair of old wells and construction of new wells and water storage tanks at the central place in the village, where portable drinking water is made available to the villagers.
- Training was provided regarding balanced use of fertilizer and regarding taking care of plants.
- Promoted horticulture crops and intercropping as an investment to ensure regular and increased income to the farmers.
- Established SHGs in the village both for men and women.
- Setting up Gram Vikas Samiti (GVS) at village level.
- Provided support for market linkages as well as government linkages.
- Imparting information regarding banking system and its importance.

- Construction of primary level school building, temple and Bus Stop in the village.
- Introduced vegetable cultivation activity and floriculture activity but specifically jasmine cultivation.
- Conducted various training programs and exposure visits for the village SHG groups for awareness purpose.
- Provided training regarding preparation of mango grafts for promoting nursery business.
- Lastly, encouraging villagers and convincing them to take up these activities and making them mentally prepared for joining the program and also imparting the benefits which they will receive in later years.

Evolution of the Developmental Interventions in Vanvasi



Impact of the Interventions

There has been a huge development in the village since the above interventions were implemented and the changing scenario is as follows:-

Wadi Model

Initially in 1997 there were only 4 wadis in the village but today, the number has increased to 42 wadis wherein all the farmers were provided with the saplings of 20 mango trees 40 cashew trees and 10 guava trees, which now have been multiplied to a large extent and consequently has led to an increased production capacity. The model was first introduced in one acre of land and some farmers extended up to 2.5 acres. The regular training regarding different things like use of fertilizers, other inputs etc. was provided by BAIF till 2004. Since then the villagers manage on their own and seek advice from the experts if required.

Floriculture

In 2005 floriculture activity was introduced in the village in which initially 3 people participated and started jasmine cultivation. Looking at their progress other farmers also came up with this activity and presently 16 people are involved in this activity. Vanvasi is one of the leading villages in jasmine cultivation and every year tons of jasmine is produced and sold in Dadar market. The marketing of jasmine is done through a fixed channel i.e. the produce is first collected at village level and each one's share is weighed and noted down then the whole produce is taken to the main collection center and from there it is sent to Dadar market collectively. The price received per kg jasmine depends upon the market price. It fetches good price from August to January, during this time the highest price received till date is Rs.1200/kg and prices are low from February till month of May i.e. around Rs. 80-100/kg. The average annual price received in the year 2012 is Rs 160/kg and the average annual price received in the year 2015 was Rs. 170-180/kg.

Due to WADI program, floriculture activity, intervention of BAIF and hard work put in by the villagers the income level of every person in the village has increased to a great extent. Now the situation is that every family at least earns 5-6 thousand rupees per month for the entire year. But now due to constant efforts every family's economic condition has improved and everyone has some or the other source of income at present which meets their basic needs sufficiently and they also can save money for their future needs. Now due to improving conditions in the village most of the houses are transformed from kuccha houses to pucca houses. Today the village produces and sells commodities like jasmine buds, grafts of mango and jasmine flower, fruits like mangoes, guava, blueberries, bananas etc.

Vegetable Cultivation

Vegetable cultivation is also one of the activities which is recently taken up and vegetables like eggplant (brinjals), bitter gourd ,tomatoes, *Amorphophalus campanulatus* (suran), *Momordicadioca*(kartoli), *Cocciniaindicu* (tondali), shevl, *Cyamopsis Psoraloides* (gavar), *Hisbiscus sabdariffal* (ambadi), fenugreek, spinach, *dolichos lablab* (valpapadi) are produced and sold in local market at Jawhar and some is kept for self-consumption.

Nursery Business

One of the other sources of income in the village is the nursery business the villagers prepare grafts of mangoes and jasmine and sell them to Amrai Cooperative and some in local market. The jasmine grafts are sold at 7 Rs / unit in wholesale market and 10 Rs / unit in retail or local market. The mango grafts is sold at 25 Rs / unit to Amrai Cooperative and in retail market it is sold for 50 Rs/ unit. Around 5000-6000 mango and jasmine grafts are sold every month from the village. Some people are making nursery business as their main occupation and consider as a boon to them as it fetches them good amount of income.

Other Occupations in Village

Due to cultivation of different variety of fruits, vegetables and food grains there is huge crop diversity in the village. There are 30 landless families in the village which are involved in allied activities namely sheep rearing, poultry, dairy or some work as carpenters or laborers on other's

fields. Till 2000 due to domestic animals like goats and cows provided by BAIF to these landless villagers, almost 250 litres of milk used to go out for sale from the village. However, as per government rules the quality of the milk did not match the required standards so the price received was very low. As a result most of the produce was wasted so farmers stopped paying attention towards the animals which lead to death of some cows and goats and now dairying as a business is not there and whatever is produced is kept for self-consumption.

Infrastructure Development

The village initially did not have proper roads but in 1972 the villagers came together and built a kuccha road connecting Vanvasi with the main Jawhar road. In the year 2013 the State government has sanctioned the construction of proper roads in the village. The village was completely dependent on monsoons before but due to the initiative of few villagers the work of dam which was sanctioned by the government way back in 1972 and which was left half constructed then, was completed in 2006 as a result of which today the villagers do not face any more water shortage. In 2010 few farm ponds were also constructed by the villagers to supply water to the fields directly. In the year 2003-04 regular state transport (ST) service started from Vanvasi to Jawhar which is twice a day and which has made life of people here a bit easy as now they can travel easily from place to place. Today around 40 families in the village owns a motor cycle and there are 2 tractors too.

Community Based Organization at Village Level

In 1997-98 a Gram VikasSamiti was established in the village with the help of BAIF with the aim of solving the different issues which were faced by the people in the village, promoting wadi program and informing about its importance, to discuss and take any decision at village level etc. in the beginning Rs 68000 were provided to this samiti for welfare purposes and every common need of the village was fulfilled through this fund. The people who owned a wadi were the members of this committee i.e. in all there were 13 members who included 10 men and 3 women. Today this committee does not exist due to some issues and lack of time. Even though the committee is not there, still every evening there is a meeting held in the village to solve different issues. The people who are respected and from whom the villagers seek advice are Kashinath Gavit ,Lahu Gavli, Ganpat Gavanda, Mohan Kirkira, Ashok Kirkira, Shankar Choudhary and Atamaram Marad. These are some of the progressive farmers in the village who made wadi program successful and have set a good example for others.

Women Empowerment

In the year 1999, three women self-help groups (SHGs) namely Mahalaxmi, Santoshi and Saraswati were established with the main aim of achieving women empowerment and to give the house makers of the village a source of income. The each group is of 12 members who used to cater Anganwadi of the village and earned meagre amount to support their families. But today these SHGs do not exist due to lack of time with the women involved in their household chores plus the farm work. In 2012 again one SHG was started named Saptshrungi which has 12 members and they prepare lunch i.e. khichdi for the students of the Anganwadi. They get a fixed amount of salary of Rs 3000 from the Anganwadi. Out of the earned salary some amount is kept as contingency fund and for purchasing next months' itinerary. The positive effect of the activity is that earnings are kept in savings account in the name of the participants which is useful in case

of financial difficulty. The members save around Rs 20 per month per person and invest Rs 50 again per person per month. Besides, in event of introduction of any government scheme the villages with active SHGs get precedence over other villages in such scheme. The inputs comprise of rice, dal, oil etc. The women of the SHG have tough time managing all the activities of the group and their household work, which is why most of the SHGs are inactive. Other problem for the same is that of irregular payments due to which the sustainability of the groups becomes difficult. Presently there is no women SHG active in the village as women are entirely busy in the agricultural activities due to increased production of different fruits and vegetables.

Education

The literacy level in the village has increased to a great extent and every child in the village including girls has started seeking education. Today almost 50 percent of population in the village is literate. The youths of the village are also well educated and are now taking jobs in nearby cities. Some are working as teachers while few others work in some NGOs and companies. Today few children of the village have started going to the English medium schools in Jawhar. There is no child in the village that does not go to the schools and this is one of the major change that has happened in past few years in the village.

Health

The medical conditions are improving and there is a village health care centre in the village, the medical officer visits the village once a week and provides all the medicines which are required by the villagers. The villagers have also started visiting government hospitals in Jawhar for further treatments. The children in the village now receive proper medication and the required vaccines in time. There are vaccination camps in the village on regular intervals.

Role of Co-operatives in Various Interventions

Initially when the project was implemented farmers were not sure about the market for their produce. To overcome that issue three co-operatives were formed to purchase and market the produce from the villagers. Amrai Co-operative was formed to promote mango grafts cultivation and mango production. All the farmers became the member of this co-operative and marketed their produce through a proper channel. The mango grafts were sold to co-operatives at Rs. 6-8 per graft while the same grafts were marketed by co-operatives at Rs. 18-20 per graft and the profit was shared among the members. The prices of mangoes differed according to the size, quality and type of mangoes. The famous types were Alphonso, Rajapuri and Gawthi mango.

Vasundhara Agri-Horti Producer Company Ltd (VAPCOL) was established in July 2004, under the aegis of the BAIF Research and Development Foundation, and is registered in Pune as a Producer Company, under Part IX A of the Companies Act 1956. It is jointly owned by farmers, who are its members through membership of 71 cooperatives spread across the above three states. VAPCOL has always been a company established with the objective of bringing better margin potential for its member farmers through a combination of more professional management as well as venturing into further value addition – frontiers that the co-operatives find themselves ill-equipped to handle.

The company today offers a wide array of products produced by its members – such as Cashews (Plain, roasted, salted, honey dipped etc.), Mangoes (whole mangoes, mango pulp, pickles, jams,

squash) and other products such as Amla juice, Strawberry crush, Amla candies etc. Cashew forms a significant majority in the company's revenue mix, accounting for close to 95% revenues. Cashews are sold both as wholesale as well as retail, though more as bulk commodities through wholesale channels. The wholesale to retail mix for cashew is roughly in the ratio of 60:40 volume wise and 55:44 value wise. Cashews are sold typically in different quality grades as well as in processed form such as salted, roasted, honey dipped etc. VAPCOL is not only owned by the co-operatives but there is also a purchaser and seller relationship between them. So in effect, VAPCOL is a co-operative of co-operatives. Thus, the role of both the co-operatives is clearly defined. While the co-operatives directly own the entire chain of activities right from procurement of raw produce from the farmer up to the final processing and quality wise grading of the produce, VAPCOL is responsible for packaging, promotion and selling of the produce through local and national level markets.

Lastly, Vrundavan Pushpa Utpadak sangha was formed in 2002 and all the farmers who cultivated and prepared jasmine grafts were the members of this co-operative. The farmers manage this co-operative on their own and sell the jasmine flowers as well as grafts through this co-operative in Dadar market through a proper channel. For this cooperative to work smoothly the board of directors includes BAIF staff and intervene regularly and guide them. Regular meetings and training sessions are held at BAIF-MITTRA campus on improving the skills and market for the produce.

Challenges Faced

1. Building Trust and Confidence

One of the most challenging tasks for the organizers was to convince the farmers to take up the activities under the project. Most of them seemed reluctant in the start due to lack of experience of working with the organization and the need of initial investments. Thus to win the trust of the people was the most important task before the start of the project. There were various activities conducted in this regard like the training programs, awareness programs, starting with Drinking water schemes etc. which acted as an entry point for the project. Taking up activities on the farms of the farmers who were willing to cooperate and enthusiastic about the project. These farmers motivated the others in the village and helped increase the number of participants in the project. There were frequent visits made by BAIF officers to the villages to understand the problems in the village better and also to deepen the acquaintances with the villagers. Finally there were a number of people who turned up to be a part of the project to derive the benefits of the same.

2. Transparency and Corruption Free Project Implementation

To ensure transparent and corruption free project implementation, communities within the farmers group were formed. The SHG groups were included in the project for the better management of the credit facility provided during the project. Gram Vikas Samiti was formed in the villages to ensure no dispute among the people in the village. To bring a sense of ownership among the people the decision of choosing the leaders and members of the association was left with the villagers themselves. There is continuous monitoring by the BAIF officers on the workings of the association. Gram Sabhas meeting were also held continuously to discuss the issues related to the project if any.

3. Investments by the Beneficiaries

Convincing the farmers to take up the activities was one task and getting them to invest in those activities was another. As the name of the project suggests, 'Transfer of Technology for Sustainable Development' participation by the beneficiaries was given prime importance. Investments were needed in many acts under the project like construction of water tanks and wells, promotion of wadi model, proper construction of roads etc. Thus, villagers were asked to contribute in kind rather than in monetary terms, hence providing labor services for the above activities. In most of the components under the project the contribution by the Funding agency in monetary terms was 100% and farmers in the village contributed in terms of labor. This type of participatory approach model brings a sense of responsibility among the participants.

4. Reaching the Need

Reaching the needy is a great challenge since they do not come forward and take part in the interventions thus get marginalized in getting the benefits of the interventions. Thus, this village was selected which really needed the type of interventions to be taken up under the project. Also, choosing the households for a particular intervention like that of Wadi model was another challenge faced by the BAIF-MITTRA team.

Impact Assessment

Economic Impact:

BAIF has been instrumental in shaping the overall structural and social atmosphere of Vanvasi. The projects have certainly paved the way for the local areas to come in terms and have a natural rapport established with the external world which is fast pacing. The growing world has given the much needed boost to the village in terms of growth and development and finally execution of the various progressive avenues. The village now finds itself a stage for image building on the growing platforms of overall globalized recognition.

Impact on income level: Due to various interventions and hard work put in by the villagers the economic conditions of the people in the village has improved a lot. People have now started living in well built houses, few of them own two wheelers, some of them have improved the quality of their land, all the children in the village have started going to schools etc. Due to rise in income level the villagers are now capable of making new changes in their field, improving their lifestyle, funding their children's education and other needs of the family. Every family in the village has a monthly or yearly saving account in the nationalized banks. People have now realized the importance of saving the money to meet some future needs or to meet some urgent needs. Today the average family income is around 10000-12000 per month.

Social Impact:

Social world is the world of high intensity changes and fluctuations. Daily circumstances add up to the social impacts. These circumstances are also responsible for shaping the environmental aspects of the area. On the social front BAIF has stemmed out various result oriented strategies which have shown tremendous impact.

Impact on villagers: Today, every person in the village is leaving a contented life as the hardships faced by them are now been reduced. Their social status has improved to a great extent and now people from other villages come to seek advice from the villagers regarding different

skills which they have acquired. Few youngsters of the village are well educated and now are working with institutions like BAIF, some work as teachers in schools, two or three are pursuing further studies in medical field etc. The village as a whole has set an example of one of the fastest developing village in Jawhar region.

Impact on Women: Prior to the commencement of the project women faced severe hardships in collecting drinking water for their families. They used to travel more than 1 km only to fetch water and carry on their heads. Thus, after the implementation of Drinking water scheme in the villages, women's role has changed from only collecting water to contributing in the household income as these women now run SHGs through which they earn salary and also have acquired communication skills, they are able to go to banks independently and carry out their work. After the exposure visits to different areas and regular information provided by BAIF-MITTRA staff now the child marriages in the village has reduced to a great extent unlike before, and it is noticed that they are getting married after 18 years of age. There is a feeling of happiness and contentment among the women as they are now empowered to the extent of taking decisions not only at home but also at village level.

Impact on children: After the implementation of Drinking water facilities at the village the health of the village children have improved considerably. Children are able now able to seek education in nearby areas. Due to improvement in the medical facilities in the village today every child gets proper vaccines in time and due to which large numbers of diseases have been eradicated from the village.

Ecological Impact:

The farming activities of the farmers are ecologically sustainable and that there is no exploitation of ground water or deforestation. Also there are no instances of excess use of fertilizers or pesticides which can lead to infertility of soil. Rather today more land is under cultivation which was barren in initial years. So the village is environmentally and ecologically sustainable.

Case of A Few Progressive Farmers:-

1. KashinathGavit

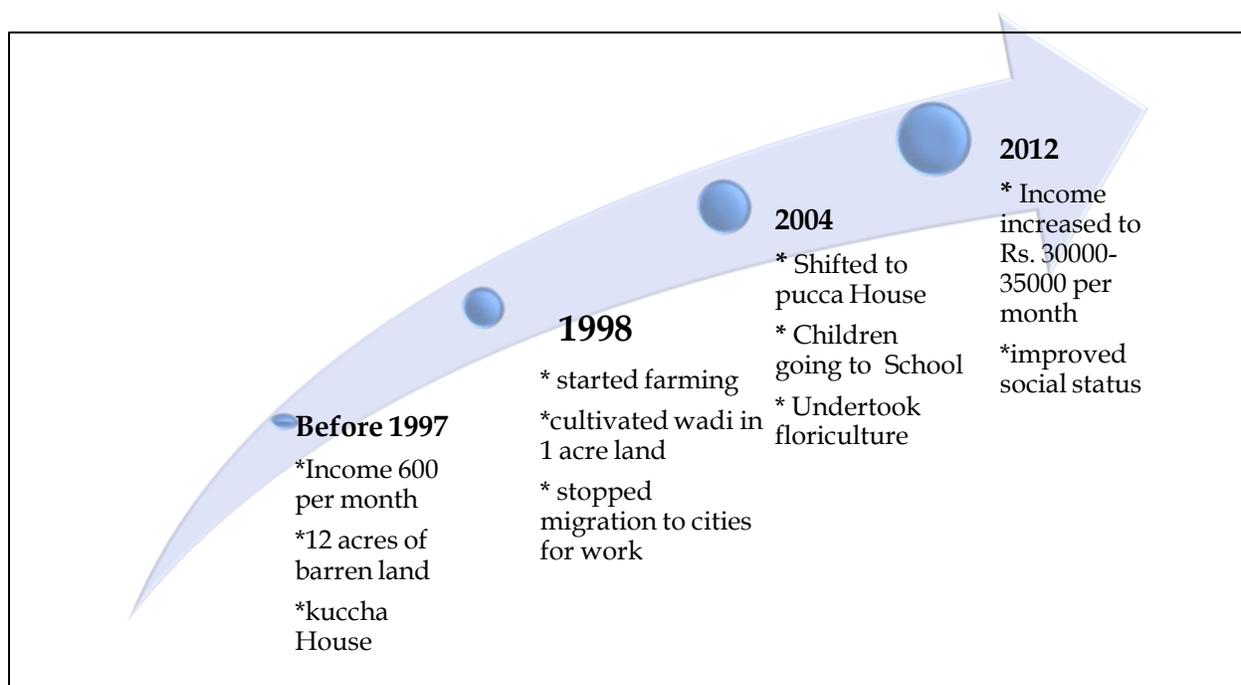
Mr. Gavit like the others in the village used to work as a laborer earning meager sum of money barely meeting his expenses. He cultivated finger millet, varai and rice for self-consumption and recalls that he used sell small amount of varai in Jawhar so as to be able to pay his sons' school fees. He sensed the opportunity of prosperity when BAIF launched the Wadi program in 1997. Not only that but he encouraged other villagers to participate in the program. He is one of the first participants of the wadi program. Aged 47, he has three sons and a daughter who has been married off. His two sons are married and they live together as joint family. His two sons are 10th and 12th pass while another son has completed his Diploma in agriculture and works in BAIF.

Today, the total land owned among three brothers is about 16 acres which is looked upon by two brothers and one is settled in Mumbai. They also purchased additional 8 acres of land in 2006 out of which two and half acres is allotted for wadi program. The trees in his wadi are multiplied from 20 mango, 40 cashews and 10 guava to 70 mango, 150 cashew and 40 guava trees, which

produce about two tons of mangoes (all varieties included i.e.. kesar, rajapuri, alphanso), 500 kgs of unprocessed cashews, and 1000kgs of guava per annum.

Other Developments:-

- Sells around 4000-5000 grafts of the mango and 6000 saplings of jasmine which fetches him an additional income of Rs two lakh twenty thousand per annum.
- Started cultivating vegetables like bitter gourd, eggplant, etc. for sale in the Jawhar market.
- Purchased a tractor in 2010 worth Rs 7 lakhs.
- Undertook cattle rearing and owns about 35 farm animals mostly comprising of goats and cows. A certain piece of land has been assigned for grazing of these animals.
- President of the Vrindavan Pushp Utpadak Sangh, the floriculture federation in recent times..
- Levelling of the unused and barren land from his own savings and now it is under banana plantation



Today in 2016 his income has increased to Rs. 12-14 lakhs from 4 lakhs in 2012 due to banana plantations taken up by him in the area of 3-4 acres which fetches him Rs 4-5 lakhs per year. He pays yearly Rs 140000 as an interest amount towards his personal loans and has some fixed deposits in name of his children and a recurring account of Rs 500 in name of his wife. The road has not been smooth from there either and had to face many problems from some of his fellow villagers, who not only resisted him but also obstructed his work at several times. There was no availability of water and that there was a half completed dam, abandoned by the irrigation dept since 1971. Mr. Gavit along with other villagers followed up the matter and with help from BAIF he saw to it that the work was completed. Finally in 2006 the dam was ready for use. Now today there is no scarcity of water in the village. As a result of such initiatives, today people look up to him and also seek his advice in many matters. It would be incorrect to categorize him as an

average farmer Thus, from being an illiterate laborer; he has not only flourished financially but also carved himself a respectable place in the society.

2. Atmaram Ganga Marad

Aged 38, he is one of the initial participant of wadi program in Vanvasi. He is 7th pass and having a family of six members namely, his wife, three daughters and a son. All his children are studying in nearby areas. He has one brother and together they own 11-12 acres of land of which his personal holding is around 6 acres. Initially they cultivated traditional crops like rice, porso millet (varai), finger millet for self-consumption. Before participating in wadi program he used to work as a laborer at construction sites or farms of other persons. This demanded travel to areas like Pali (50 kms), Dhanu (75 kms) and similar far flung area search of work and earned paltry amount of Rs 20-25 per day.

Since 1998, after the wadi program was introduced as a BAIF initiative, he started cultivating cash crops. In the beginning BAIF provided grafts of mango (20), cashews (30) and guava (10). Today he owns approximately 30-35 mango, 150 cashews and guava (15) trees. The credit facility was also provided by BAIF for inputs like fertilizers pesticides etc. A certain amount of money was also provided for meeting their daily expenses so as to avoid their migration in search of jobs and to enable them to concentrate on their crops. The training was provided to make him aware of the technical requirements of the crops and regarding marketing process. Initially, he used to carry water to the field manually. Since 2005, oil pumps are being used for irrigation. In 2004-05, BAIF introduced floriculture activity in which he participated and received 100 saplings of Jasmine from the organization. Today the initial 100 grafts are multiplied into 300 plants from which around 4-5 kg of buds are collected during monsoon. He also prepares and sells jasmine saplings to nurseries in cities and makes good amount of money from it. His annual income in 2012 was around 3 lakh which has now increased to 5-6 lakhs per year. The reason behind this increase in his income is the increase in the Guava plantation. The leveling of the hill side land allowed him to take up banana plantation in around 3 acres and owns around 2500-3000 banana trees which gives him annual income of 3-4 lakhs from the sale of bananas. Mr. Marad has also taken up chickoo and coconut plantation to some extent.

3. Mohan Kirkira

Aged 32 Mr. Kirkira is fourth off the five brothers in the family, oversees the agricultural activities of the family. In spite of being an illiterate he is one of the progressive farmers in that village. Owner of approx 2-2.5 acres of land they initially cultivated traditional crops like rice, porso millet (varai), finger millet for subsistence. From the age of 17-18 yrs he used to work as the laborer at a sand mining site due poor family background, earning very little amount of money i.e. 200 Rs/week for 4-5 months in a year. Being the sole earner in the family, he suffered skepticism from his parents for being the part of the wadi program as they believed that the land was not suitable for cultivation. He joined wadi program in 1997 by planting 20 mango grafts, 30 of cashews and 10 of guava, which now have been multiplied to 150, 40, and 15 respectively.

Following are the other developments by Mr Kirkira:

- Provided technical training to the farmers of his village regarding graft making and organized training regarding the same for farmers from other villages.
- Provides pots of ornamental plants for events in Jawhar on rent basis.
- Under floriculture program, received 100 grafts which he has expanded into 1500 till date.
- Undertook Plantation and sale of Sonchafa saplings after visiting different Agriculture Universities in Dapoli, Dhanu etc and as per orders from his customers which fetches a good amount of money.

Today his total net income is around 7-8 lakhs per year which was 2-3 lakhs in 2010-11. The major part of his income comes from selling grafts of mango and jasmine.

Plant name	Wholesale price (Rs/unit)	Retail price(Rs/unit)
Jasmine	7-8	18-20
Mango	20-22	50

As a part of savings he invests Rs.500 in the name of his wife every month to meet contingencies. According to him, there is a huge potential in guava due to good price, but due lack of marketing skills and transport facilities he is unable to take up the production on large scale.

4. Nitin Shankar Choudhary

In 1997, Mr Choudhary started cultivation under wadi program and has a family of 15 people consisting of three brothers and their respective families, and the parents. They collectively own approx 3.5 acres of land. The slope of the land is too high and the terrain difficult to cultivate. In spite of these impediments he makes an annual saving of two lakh. The family is also engaged in allied activities like livestock, also work in city areas as laborers. Given their land topography, he received in total 30 grafts comprising of 10 mango, 15 cashews and 5 guavas, which now have been multiplied to 30, 30, and 10 respectively.. In his opinion, if the government would have supported him for land leveling it would have been a lot easier for him to increase his output. Irrigation on the field is done manually by carrying water from the wells. To meet urgent cash requirements they sell their livestock, mostly goats. He stands tall enduring all hardships and also thanks BAIF for the intervention. Today his income has increased from 2-3 lakhs per year in 2012 to 6-7 lakhs in 2016.

Other Improvements:

- Took water connection in the house which has made the life a bit easier.
- Production and sale of some vegetables like eggplant, valpapdi and tomatoes is done in Jawhar.
- Undertook jasmine cultivation and has around 500 plants of jasmine from which he mostly prepares jasmine grafts and sells them which fetches him good amount of money.

Ashok Kirkira

Aged 35, has a family of six- two sons and three daughters. All the daughters are married while the sons are pursuing education in 5th and 11th standard. The head of the family himself has studied till 7th standard was another participant of Wadi program. Initially, BAIF provided him with 20 mangoes, 40 cashews and 10 guavas, which are multiplied to 10 mangoes, 20 cashews, and 50 guavas. Since the inception of floriculture intervention in 2004, he has:

- Expanded jasmine saplings to 300 from the original 100.
- Sells grafts of mango and jasmine.
- Cultivates radish, eggplant, tomatoes, bitter gourd in kharif season and sells in local markets.

The couple has a joint bank account in Thane District Co-operative Bank in which they regularly save certain amount of money. Today his annual income is around 4-5 lakhs and has expanded the nursery business as due to limited land holdings and focuses only on preparing grafts and cultivating few vegetables.

Development in the Village from 2012 till Date

A lot of development has taken place during the past 4 years in the village. The village has now a well connected to the Jawahar town through a proper cement concrete road. The work of the dam has been completed and proper water supply was provided in the village which reduced the hardships of the women of the village to carry water from long distance. There is central point in the village where the water tap has been installed for fetching water and tap connections are provided to the houses. The houses who fill water from common point has to pay Rs 30/month towards water bill and the houses who have their own taps at home has to pay Rs. 60 per month. There is water pump installed at the dam site which supplies water to the village and the electricity bill of this water pump is paid by the villagers every month. The Gram Panchayat under which this village comes, reimburses the six month bills paid, in the common account of village secretary which is used for the maintenance purpose. The remaining six months bills are paid by the villagers themselves. Recently the Government has provided fish seeds for growing the fishes in the small ponds and dam area and enhancing the fish culture. The villagers grow the fishes and use them only for consuming. The gram panchayat provided one almond tree graft and one coconut tree graft to each house in the village for maintaining ecological balance. The almonds and coconuts obtained from these trees are used at household level and are not enough to be sold in the market.

The women in the village now go the market themselves and sell the fresh vegetables which fetches them more amount of money than giving it to the market intermediaries. One of the women in the discussion pointed that if the tomatoes are sold to the market intermediaries they receive Rs. 3/kg but the same tomatoes fetches her Rs. 20/kg when sold directly by her in the market.

The grafts of different trees from Vanvasi have a lot of demand and the farmers are unable to fulfill this demand due to land restrictions as well as less manpower. There is huge demand for grafts from the Gram Panchayat, Other Private NGOs as well as from the taluka Krushi Department. The farmers do not give many grafts to Krushi Department as they purchase in a

very less rate in which the farmers incur losses. Some farmers in the village this year planted Papaya Trees but they faced the crop failure due to heavy rains in the region.

Conclusion and Way Forward

Due to BAIF-MITTRA intervention in Vanvasi village there has been various changes which are as follows:-

- Development in overall infrastructure of the village.
- Improvement in health and sanitation.
- Increased literacy level.
- Improvement in the standard of living of the villagers.
- The economic condition of every family has improved to a great extent.
- Development in the social status of the village
- Empowerment of the women was achieved by establishing SHGs.

The above things have been successfully achieved in the village through this project and now the villagers have acquired the skills to manage all the work of personal and village level on their own. They now seek all information of related schemes provided by government and try to make most of it. The village has set an excellent example for other villages around Jawhar and farmers from various villages visit Vanvasi for seeking guidance from the progressive farmers.

A lot of land in Vanvasi is the hills and thus barren as cultivation on hill sides with heavy rains becomes difficult. If this land is levelled then there is a scope for further enhancement in the agricultural production. This leveling of land requires huge machinery and technological base which the villagers are unable to do on their own and thus needs Government intervention for the same. There are lots of wells in the village which are half constructed and thus are of no use for now. If these wells are reconstructed then the farmers can take up more cultivation activities due to availability of water in the wells. The only misery which the villagers face that the government pays no attention in this region and all development is mostly because of the NGOs like BAIF.

In the view of the Researcher, the village has more potential to develop in future. By encouraging other farmers who were not part of the intervention initially but have now taken up new activities can give an impetus to the overall development of the village. The village needs to promote intercropping of different vegetables and food grains. There is a need to improve on technical terms like provision of cold storage facilities to store jasmine buds, use of improved machinery for farming activities.

Simultaneously, other activities like poultry farming, animal husbandry, and dairy business can be introduced in the village which can be useful to increase the livelihood of the few landless people in the village. Various training sessions should be held for providing right direction to the farmers. Also the market linkages are very weak and there is a need to look after building proper market linkages so as to eliminate the middlemen so that farmers get better prices for the commodities which they produced.

Thus, if few issues are taken care off in coming years then the village can replicate an example of an ideal village in Jawhar block.

Future Avenues

There is huge potential for diversified cultivation due to suitable climatic conditions and fertile land in Jawhar block. The interventions which were undertaken in Vanvasi village gave good results and improved the quality of life of the Tribal. The model can be replicated in other backward village which is blessed with the same climatic conditions and same quality land. The hard work of the farmers accompanied by the regular training sessions conducted by BAIF has finally borne fruits. The village now stands different from other villages due to the development that took place.

If the quality of inputs, regular training sessions and time to time attention is provided and same interventions are taken up in other villages, then it will definitely contribute to the development. The tough task is to convince the farmers to take up new farm activities as they lack exposure to outside world. These farmers are reluctant to accept something which is new. The failure of the government in implementing few policies for these people, the Tribals have lost faith in government. So, the organizations like BAIF and other NGO's should continue to work for the betterment of these backward tribes as these people have started realizing the importance of such organizations. The qualities like hard work, strong dedication and willingness to accept the change in these people will surely lead to great future avenues.
