

Livelihood Enhancement of Poor and Marginalised Families in Shirol Cluster, Ghatanji Taluk through Area Specific Integrated Development Interventions

DHAN Foundation

Introduction

Livelihood enhancement is the need of the hour in Vidharba Region of Maharashtra – one of the most one of the most agriculturally distressed area of central India. Shirol cluster was selected for implementation of “Convergence of Agricultural Interventions in Maharashtra” - Sub project by DHAN Foundation . Shirol Cluster consists of 12 Panchayats comprising 15 villages located in western part of Ghatanji Taluka, Yevatmal District. The villages consist of a population of 17696 (Census 2001) with a sex ratio of 961. Total number of families was 4025 and as per field survey the total number of families was 4304 in Dec 2010. 41% of the households belong to SC/ST community and if another backward community VJNT (Vimuktha Jathi Non Tribe) is included the total backward communities count to 50% of the families. The average family size in the project area was 4.39. The average number of households per village was 286.9 and ranges from 69 to 720. Literacy in the project area in 2001 was 58.96 percent which is lower than the district average of 62.55%. As per BPL Census 2002, 59% of the households in the project area belonged to the BPL category. Community wise analysis indicate that poverty was highest among ST (72%), followed by SC (63.76%), other communities (64%) and OBC (48.2%).

The cluster falls in the ‘central Vidharba’ sub zone of agro climatic zone IX by name Western Plateau and Hills region. The climate of the area is characterised by a hot summer and general dryness through out the year except during the south west monsoon season i.e., June to September. The mean daily maximum temperature during may is 41.8 degree Celsius while mean daily minimum temperature during December is 15.1 degree Celsius. Southwest monsoon rainfall occurs starting from month of June till end of October. The normal annual rainfall is 910 mm. The project area witnessed significantly low rainfall during 2009 and 2004. Rainfall is a critical weather parameter deciding on the wellbeing of the families in the project area as most of them depend on rainfed farming for their livelihoods.

Undulating topography is more in Ghoti, Patapangara, Manjari, Rampur, Undarni, Manusdhari, Bilayat and Sayatkharda. Mildly sloping lands are predominant in Kinhi, Dahegaon and Shirol. Black soil and Murrum soil are the soil types observed predominantly in the locality. Black soil is considered good for agriculture. Murrum soil is considered next in suitability for agriculture, even though they give equivalent yields to black soil in case of good rainfall. Problem soil in the form of saline soil (locally called as *Chunkadi*) is dispersed across the project villages to a very limited extent. As far as ground water is concerned, Deccan Trap Basalt is widely spread and important water bearing formation, which occupies almost entire Taluk except south eastern part. Alluvium occurs in patches along the banks of Penganga river and consists of clay and silt. The 2007 report by ground water board of India on Yavatmal indicates that Ghatanji Taluk is one of the least developed taluks of the district with 13.2 percent development in relation to ground water utilisation. About, 1244 Ha of land have irrigation facilities in the project area, which work out to 10 percentage of total cultivable area. Over the years the availability of surface water from small streams for irrigation and ground water recharge has come down due to silting up of streams and the structures in the streams. Hence necessary efforts are to be taken for increasing retention of out flow. Ground water availability in open wells is decreasing over the years and number of dry wells is increasing due to rainfall related issues.

Rainfed agriculture is the main livelihood with major crops during Kharif being cotton, soya, tur and sorghum; wheat, Bengal gram and groundnut are the major crops during Rabi. Cropping pattern is more or less similar across the project area. The predominant rainfed cropping pattern is cotton with pigeon pea as an intercrop occupying 76 percent of the total rainfed cultivated area. It is followed by sorghum as sole crop (11.5%), and soybean (12.5%) as a sole crop and to some extent with Pigeon Pea as intercrop. The major irrigated cropping pattern is 1) Soybean + wheat/ Bengal Gram, 2) Wheat, 3) Bengal gram, 4) Soybean + ground nut and other irrigated crops like Mandarin. But as mentioned earlier area under these crops are very meagre. The cropping pattern is more oriented towards cash cropping system rather than subsistence cropping system.

The usual marketing practice is that the farmers sell their produce to traders or through APMC. The nearest APMC (Agriculture Produce Market Committee) to this cluster of village is present in Ghatanji (10 km), Pandharkavda and Yevatmal (25-70 km) from the project villages. All types of cereals, pulses, oilseeds, and agricultural produce are transacted in the APMC market via licensed brokers under government regulations. Government announces the minimum support prices for each commodity time to time and the list is displayed on hoardings. Generally for trades MSP is considered as the base price.

Small farmers generally sell the produce to the local traders because of urgent cash requirement. In this case it is observed that the local trader cheats the small farmers on 2 counts, first they give Rs.200-400 less than market price and second they cheat on faulty weights (that is weighs 10% less). **So the economic loss to the farmer is around 20-25%.** The price for the produce also depends upon the cleanliness, color, moisture content, variety, mix of mud and foreign matter.

Constraints and Opportunities

S. No.	Constraints	Opportunities
1	Unorganised nature of farming community	Capitalising on the existing SHGs by widening their activities to address the various constraints related to agriculture production
2	Rainfall related issues like late onset of monsoon, deficit rainfall, mismatch of rainfall and crop water requirements, leading to significant reduction in yield recurrent in the recent years.	<ul style="list-style-type: none"> Existence of various Government schemes to address these issues, particularly NREGS. Capitalising on the shallow water table available in the area Transfer of existing technology of using sprinkler irrigation for life irrigation in Vidarbha
3	Moderate to severe soil erosion	
4	Existence of stony and rocky lands	
5	Large area under light soils which do not hold moisture adequately	
6	Silting up of streams and the structures in the streams.	
7	Decline in soil organic matter and fertility due to inadequate crop rotation and decline in FYM application.	Revival of traditional mixed cropping systems
		Availability of fly ash in the nearby area
8	Exploitation at the input supply end related to seeds, fertilizers and plant protection	<ul style="list-style-type: none"> Presence of KVK in Yavatmal

	chemicals namely wrong advice, bigger margins, inappropriate MRP and spurious quality	<ul style="list-style-type: none"> Convergence with various crop related schemes implemented by ATMA
9	Emerging issue of increasing pest attacks in BT cotton	
10	Gaps in recommended vs actual production technology followed resulting in lack of refugee crop, higher dose of fertilizers, usage of inappropriate pesticides and reduction in net income and pollution	
11	Productivity per ha of cotton and Red gram is low	
12	Low price realization: Reduction in quality of cotton due to adding water and admixtures and due to cultivation of medium staple cotton. Only the buyers decide the quality and price and Ginning mills are hesitant to buy small quantities.	<ul style="list-style-type: none"> Developing strong linkage with nearby ginning mills Utilizing the cotton stalk to make industrial fuel products
13	Cash crisis – Small farmers sell their produce immediately after harvest to local traders at less price to meet their cash requirement	Short term credit support through existing SHGs
14	Poor health of cattle	Presence of strong Government veterinary set up
15	Poor availability of grazing land and fodder for livestock	Revival and increasing the area of sorghum in the cropping pattern
16	Reduction in per family livestock	Credit support to increase livestock assets
		Enhancing better suited breed features of local breeds
17	Inadequate access to production and marketing credit	<ul style="list-style-type: none"> Availability of marketing credit from MSAMB warehouse Well suited crop loans from local cooperative banks Presence of large number of SHGs
18	Majority of the families were depending mainly on crop cultivation for income and hence are adversely affected if crop production is affected	Promotion of back yard poultry units with necessary training
		Promotion of goat units and goat rearing along with training and insurance.

Proposed interventions

Institutional capacity building and Partnership

Under this component 75 SHG's would be strengthened, Need based capacity building events will be organized for members and office bearers and also for staff of promoters of SHGs for enhancing the performance of SHGs and introduction of systems. In the project period 75 Producer groups would be formed with focus on livelihood improvement of small farmers, organizing them into

producer groups will help in smooth implementation of technology transfer, collective purchase of inputs, collective marketing of produce and group based provision of production and marketing credit. 12 VDC would be formed for effective implementation of the project with people's participation. VDC will be formed after giving orientation training to various stakeholders of VDC namely Panchayat President, SHG members, PPG members and local staff on the systems, governance structure and services of VDC. Producer Company would be formed as an apex body at the cluster level for effective implementation of marketing linkages and anchoring of the project at cluster level. Producer Company will be formed after giving orientation training to its stakeholders like members of SHGs, Producer Groups, on systems, governance structure and services offered by the PC. Importance would be given to ensure that the small farmers would become members in the PC.

Market linkage

The farmers in project villages will be directly linked through the PC/ Producer group to the processors in Private and Co-operative sector to maximize the returns from their livelihood activities. There will be win-win situation for both the producers and the Private sector.

Commodity	Coverage	Marketing arrangement	By	Collaborator
Cotton	1500 Ha	Aggregation and direct marketing with ginning mill	Producer company	Gill Cotex Ginning mill, Ghatanji
Organic cotton, Soya and pulses	300 Ha	Contract farming	Producer groups through PC	Ecofarms, Yevatmal
Soyabean	500 Ha	Aggregation and direct marketing	Producer company	Sreenivas soya products, Pandergovda
Dairy	100 Families	Aggregation and direct marketing	Producer group	Ranade dairy
Briquets from cotton stalk	2700 Ha	Joint production and marketing	Producer company	VisViva
Citrus and moringa	50 Families	Aggregation and direct marketing	Producer company	
Lac	200 Families	Aggregation and direct marketing	Producer company	SBGVS, an experienced NGO
Poultry	200 Families	Aggregation and direct marketing	Producer group	Animal husbandry department

Sustainable agriculture

The proposed sub-project will take livelihood approach to natural resource development in which natural resource development is focused on immediate productivity gains in farming and not just on soil and water conservation. This approach is in alignment with the perspective of farmers. This activity will involve identification of watershed volunteers, identification of village specific agriculture productivity issues related to natural resources and listing most needed interventions.

PRA conducted in the project villages indicated that village community is interested in the following activities:

- a. Bunding to help retention of soil moisture and avoid erosion,
- b. Rock and stone removal for betterment of land and soil, and helping in agricultural operations,
- c. Conversion of a part of uncultivable fallow lands and bushy lands in to cultivable lands leading to increasing operational land holding of the farmers,
- d. Land leveling for increasing productivity of farm lands,
- e. Construction of water ways to avoid erosion of farm soil and formation of gullies in farm land and
- f. Promotion of grazing lands as to support livestock.

Sustainable agriculture interventions aim at achieving food security, reduction of cost of production and enhancing productivity and would focus on organic farming and LEISA farming technologies. Implementation of this component would revolve around three major activities namely farmer field school (FFS), demonstration of aimed technological interventions and training to farmers. The first two are taken up with limited number of families. But the third one is taken up for large number of farmers and would build on the momentum generated by FFS and demonstration.

Watershed volunteers would be trained in the agriculture in crop production and protection aspects who would also serve as scouts for taking up various agriculture activities in the project villages. The overarching technology for extension would be "NPM" (Non pesticide management). It is a well established model and focuses on reducing cost of cultivation and increasing net returns of the farmers.

Micro enterprises

Based on the needs identified with interaction with the community and identified opportunities the micro enterprises that are proposed in the project area are

- 1) Multilayered orchards - Intensive multi layered orchards on small plots can generate additional revenue for small and marginal beneficiaries and capable of reducing the vulnerability. The small plot (0.5 acre) multi layered orchards will consist of Moringa (drumsticks) and Lemon (Kagzi lime). The climate and soil are suitable for Lemon orchards on a long term basis.
- 2) Lac cultivation - Local community knew the uses of leaves of Palash tree (available in plenty in the locality) as plates for serving meals. Another economical benefit of this tree is to raise lac insects to produce lac. Lac has multiple uses in decorative, cosmetics and medical fields. This micro enterprise can provide earning opportunity to marginal farmers as well as landless families in the cluster.
- 3) Back yard poultry - The livelihood of the families in the project villages totally depend up on the income from agriculture. The droughts, vagaries of nature and price fluctuations in the market often impact the agriculture income negatively. The household poultry enterprise intends to take care of such needs. The household poultry size would be of 20 birds and mainly owned by the woman in family.
- 4) Household dairy units - Farmers will be motivated to establish household dairy units. As the presence of crossbred animals is very meager, efforts would be taken for buffalo based dairy units as farmers in the project area are familiar with buffalo rearing. Livestock loan products of Vidharba Kshetriya Gramin Bank will be utilized for this activity.

Thus the project would address the development issues in the project cluster in a holistic manner and in an end to end approach through institutional building, in – situ soil and water conservation,

promotion of agriculture based micro enterprises and effective marketing intermediation and linkages through Producer Company.

Programme management

Manpower deployment

An exclusive team is placed in the project location to facilitate project activities. The implementation team will have one coordinator and three professionals with agriculture/horticulture, engineering, marketing, community mobilization and training backgrounds. Besides them there will be one accountant and watershed volunteers. There will be a backup team pooled from experienced staffs of DHAN Foundation, whose services will be accessed whenever necessary. Wherever necessary, external resource persons will be engaged.

Cost Estimates

Particulars	Amount in Rs.'000
Partnership and capacity development	647
Market linkages and value chain	5910
Sustainable Agriculture	21755
Micro enterprises and SME's	6551
Project management	3444
Total	38307

Year	Amount (000 INR)	Financing plan for the sub-project					
		IFAD	SRTT	Bank	Beneficiaries	Private	Convergence
Total	38307.5	10436.9	3050	3723.8	2870.13	441	17786
Share (%)		27.2	8.0	9.7	7.5	1.2	46.4

Year	1	2	3	Total
Amount (000 INR)	7402.44	22342	8563.3	38307.5

Convergence

Convergence would be one of the main strategies of the project. For effective implementation of the project convergence would be facilitated in aspects of expertise, services and funding. The following table describes organizations that would be collaborated for various purposes

Expertise	Services	Funding
PRADAN	Eco-farms	MAVIM
SARG Vikas Samithi	SBGVS	NABARD – TDF, WDF
Centre for Sustainable Agriculture	Private insurers	GoM and GoI Schemes
KVK	Gill cotex	- NREGS, IWDP, VWM

AME Foundation	Srinivas soy products	- NFSM, NPDP, CDP
BAIF	Gramin bank	- Technology mission on cotton
Dilasa	Ranade dairy	DIC
Vis viva Pvt Ltd		Line departments
		-Agriculture, ATMA
		-Tribal welfare
		-Animal husbandry
		Vis viva Pvt Ltd

Compliance for the comments from project selection committee

The important comments given by the project selection committee were 1) goatry is not healthy to environment and hence they should not be included in the project and 2) the budget quoted for dhal mill is less. In accordance with Project selection committee the goatry activity was removed from the project and the budget for dhal mill that has been planned is for Rs.3.2 lakhs which includes machinery, cost of land leasing, transportation, foundation, fitting, electrification, tools, preliminary expenses and operative expenses.

Expected impact and outcome

Increase in income by 15 percent to 30 percent

The project interventions would facilitate increment of farm incomes through value chain based interventions leading to reduction in expenses and losses, reduction in leakages related to usury, increasing share of consumer price. Further efforts will be taken to diversify income sources to reduce vulnerability and get additional income. The targeted households are expected to realize increase in annual income in the range of Rs. 10000 to Rs. 15000, leading to 25 to 33 percent increase in household income of project area.

Increase in assets and asset value

Through implementation of farm level land capability improvement interventions to a scale of 8 units of 500 Ha, support for livestock asset improvement and other activities, the project can facilitate increase in asset values to a scale of 30000 to 40000 among 1000 targeted families. This will increase their production capacity leading to better income, increase their credit worthiness.

Access by poor farmers to formal credit for farming activities

The project will facilitate poor farmers to avail formal credit and reduce usury in the project area and there by helping individuals to save Rs.1300 for every Rs.10000 released as credit (Arrived on the difference in existing usury rates and microfinance credit rate for same period). The project would facilitate formal finance disbursement to the scale of Rs.1 Crore In the project area.

Creation of CBOs managed by the target community beyond the project period -PC, PG

At the end of project period there will be self managed Community Based Organisations namely 40 PG's and 75 SHG's as primary institutions and 10 VDC's, one CMRC and one PC as secondary level institutions so that the all project activities are sustained even after phasing out of the project.

Increase in food production and food security

The project would facilitate development of decentralized and farm based food security systems by various activities and help farm households to develop increased food security to about three to six months in about 1000 families.

Few qualitative indicators of outcome:

Reduction of vulnerability of project participants related to weather and market

Targeted families will experience significant reduction in vulnerabilities faced by them due to climatic variability, issues in input supply, poor natural resource management, usury, marketing difficulties, etc. This will stabilize their income and will serve as a platform for further economic development.

Enhanced status of women:

Women in the targeted families would experience an enhanced status with in family and village community as both of their strategic and practical needs will be met through various interventions.