ACTION PLAN

2009-2010

(1ST APRIL 2009 TO 31ST MARCH 2010)

GOKHALE EDUCATION SOCIETY'S

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District Profile

1. General census

1.1 Area and population

The total geographical area of the district is 9387 sq.km. The population of the district as per the 2001 census was 81.31 lakhs. The rural population was 22.29 lakhs (27.42%) and that of the urban was 59.02 lakhs (72.58%). The density of population per sq.km. was 549. The sex ratio (male to female) was 857. The economic classification of population showed that 37.37 per cent of the total population was workers. Amongst these 30.75 per cent were agricultural workers.

1.2 Demographic setting

There are 15 tehsils in Thane district. Tahsilwise tribal population is given in Table 1. The total population of Thane district according to 2001 census was 81.31 lakhs and tribal population was 11.99 lakhs, which was 14.75 per cent of total population. Tribal population in Mokhada, Talasari and Jawhar was 90.56 per cent, 88.58 per cent and 90.00 per cent respectively. In rural area of Thane district total population was 22.29 lakhs and tribal population was 10.47 lakhs which was 47.00 per cent of total population in rural area.

Table : 1 TRIBAL POPULATION OF THANE DISTRICT

Sr.No.	Tahsil	Total population	Total tribal population	Per cent tribal population	Total population in rural area	Total tribal population in rural area	Per cent tribal population in rural area
1	Thane	2486941	48739	1.96	0	0	0.00
2	Vasai	795863	81272	10.21	277262	68058	24.55
3	Palghar	454635	140732	30.95	343934	126545	36.79
4	Dahanu	331839	215162	64.84	273991	204354	74.58
5	Talasari	121217	107379	88.58	121217	107379	88.58
6	Jawhar	111039	99932	90.00	99741	96347	96.60
7	Mokhada	67319	60964	90.56	67319	60964	90.56
8	Wada	142753	75185	52.67	128467	71146	55.38
9	Bhiwandi	945582	73419	7.76	269153	66435	24.68
10	Shahapur	273304	89997	32.93	231741	81781	35.29
11	Murbad	170267	38518	22.62	154446	37687	24.40
12	Kalyan	1276614	34894	2.73	83102	10141	12.20
13	Ulhasnagar	473731	3533	0.75	0	0	0.00
14	Vikramgad	114254	103223	90.35	114254	103223	90.35
15	Ambarnath	366501	26341	7.19	64749	13651	21.09
	Total	8131859	1199290	14.75	2229376	1047711	47.00

1.3. Location

Thane district forms a part of north Konkan region lies between the Sahyadri hills in the East and the Arabian sea in the West. It has a coastal line of about 112 km. The district lies between 72^{o} 45' and 73^{o} 45' East longitude and 18^{o} 42' and 20^{o} 20' North latitude. Its East-West spread is 101 km. and the north-south length is about 140 km.

1.4. Boundaries

The district has a mostly triangular shape. Pune and Ahmadnagar districts are on the East, Nashik district on its East and Northeast, Gujarat and centrally administered area of Dadara Nagar Haveli on the North, Arabian sea on the West boundaries, while Greater Bombay and Raigad on the South.

1.5. Topography

On the basis of its topography, the district is divided into three parts as follows:

i) The eastern portion having Sahyadri ranges, which comprises mainly forest area.

The central region covering mainly paddy area, and

Western parts of the coastal area along with its 15 to 20 km. nearby area of coastal region where horticultural plantation, fodder production and vegetable cultivation are being practiced.

1.6. Soils

Soils constitute the physical basis of an agricultural enterprise and play a very vital role in the agricultural economy of the region. The soils of Thane district are conveniently divided into three categories viz.,

1.6.1. Black soil containing sand (Vertisol)

This type of soil is present in Dahanu, Palghar, Vasai and Thane tehsils. These soils are fertile and suitable for paddy, vegetables, flowers and fruit cultivation.

1.6.2. Red soil (Latisol)

Found in eastern region, mostly on the slopes of Mokhada, Jawhar and Talasari tahsils. On these soils mainly *Nagli* and *vari* crops are cultivated.

1.6.3. Brownish black soils

This type of soil is mostly observed in the patches of valleys lying between the coastal plain and the hilly slopes of Bhivandi, Kalyan and Shahapur tahsils, which is suitable for paddy and watermelon cultivation.

Soils of these broad groups are found in a several grades, depending on their location and admixture of different rocks. Locally, these are known as rice soils, *varkas* soils, garden soils and *khar* and *kharvat* soils.(Saline soils)

1.7. Climate and rainfall

Climatic conditions in the district are strongly influenced by its geographical conditions. It is distinctly different on the coastal strip where it is very humid and warm. On the other hand, the climate on the eastern slopes and the plains at the foot slopes is comparatively less humid. The humidity of the district ranges from 50 to 80 per cent throughout the year. On an average, the temperature ranges from 17.5^{o} to 33.3^{o} centigrade.

Rainfall is most dominant single weather parameter that influences plant growth and crop production because of its uncertainty and variable nature. The district gets assured rainfall of 2000-3500 mm, from the south-west monsoon during the months of June to September. Generally, the highest rainfall is recorded in the month of July. It is less towards the north than south.

1.8. Area and population

The total geographical area of the district is 9387 sq.km. The population of the district as per the 2001 census was 81.31 lakhs. The rural population was 22.29 lakh (27.42%) and that of the urban was 59.02 lakhs (72.58%). The density of population per sq.km. was 549. The sex ratio (male to female) was 857. The economic classification of population showed that 37.37 per cent of the total population was workers. Amongst these 30.75 per cent were agricultural workers.

1.9. Land utilization

The total geographical area of district is 955800 ha. of which, more than one-third (36.91%) of the area is under forests. Uncultivable land constitutes 5.80 per cent of the total geographical area, while the proportion of cultural wasteland is 1.54 per cent. The net area sown is only about 39.95 per cent. Due to inadequate irrigation facilities, area sown more than once is only 1.78 per cent. Therefore, the gross cropped area is only 381809 ha. with cropping intensity 101.78 per cent. The land utilization pattern of the district is given in following table

Land utilization pattern in Thane district

Sr. No.	Land use category	Area in '00 ha.	Percentage to total geographical area
1.	Total geographical area	9558	100.00
2.	Area under forests	3303	36.91
3.	Land put to non-agril. uses	581	6.18
4.	Barren land and land not suitable for cultivation	545	5.80
5.	Permanent grazing and other pastures	401	4.27
6.	Land under miscellaneous trees, crops and grooves	229	2.43
7.	Cultural waste	145	1.54
8.	Current fallow	145	1.54
9.	Other fallow	156	1.66
10	Saline soils	209	2.17
11	Net area sown	3714	39.95
12.	Area sown more than once	68	1.78∗
13	Gross cropped area	3819	101.78∗

∗ Figures are percentage to net area sown

Source: Socio-economic Review and District Statistical Abstract of Thane district (2005)

1.10. Cropping pattern

The cropping pattern followed in Thane district is presented in following Table

Cropping pattern of Thane district

Sr. No.	Crops	Area (ha)	Percentage to gross cropped area
1.	**Cereals**		
	a) Paddy *Oriza sativa*	154000	36.37
	b) Other cereals	35700	8.43
	Total cereals	189700	44.80
2.	**Pulses**		
	a) Red gram *Cajanus cajan*	3400	0.80
	b) Bengal Gram *Cicer arentinum*	3900	0.92
	c) Field bean *Dolichos lablab*	2600	0.61
	d) Urd *Phaseolus mungo*	5100	1.20
	e) Other pulses	1660	0.39
	Total pulses	16660	3.93
3.	Total food grains	206360	48.74
4.	Condiments and Spices	700	0.16
5.	Fruits and Vegetables	33616	7.93
6.	Total food crops	240676	56.84
7.	Total fiber crops	200	0.04
8.	Total oil seeds	4900	1.15
9.	Total medicinal and drug plant	300	0.07
10.	Grasses	177300	41.87
11.	Other non-food crops	300	0.07
12.	Total non-food crops	180049	42.52
13.	Total net cropped area	375000	88.57
14.	Area sown more than once	6726	1.58
15.	Gross cropped area	423376	100.00

From Table 3, it can be seen that the percentage of area under cereals to gross cropped area was 47.84 per cent, while the area under pulses was only 2.46 per cent. Thus, the total area under food grains (cereals and pulses) was 50.30 per cent. The total food crops occupy an area of 52.81 per cent, while the remaining 47.15 per cent area was under non-food crops. Among cereals, paddy occupied largest area (39.49%) of the gross cropped area. Thus, it can be concluded that the cereals dominate cropping pattern of the district.

The gross cropped area of Thane district is 3, 81,809 ha in which the proportion of area irrigated by wells and other sources are 2.88 and 2.57 per cent, respectively. The maximum proportion of gross irrigated area is under fruit crops and vegetable crops, which is 59.67 per cent.

1.11. Livestock

Livestock is an integral part of agriculture and consists of cattle, buffaloes, sheep, goats, pigs and poultry. Together, they contribute to a considerable extent to the agricultural economy. As per 1992 livestock census, the livestock population in Thane district was 10.10 lakhs. The total livestock population of Thane district, cattle, buffalo, sheep and goat species form 53.11 per cent, 17.76 per cent, 0.07 per cent and 20.27 per cent, respectively. The total population of poultry and other birds was 17.31 Lakhs.

1.12. Fisheries

Thane is one of the marine districts of the state. The marine fishing is practiced all over the coastline of 112 km. in the district. Total fish production in 2000-2001 was 76,132 metric tones. The fishing trade flourished in the district, as there is always demand for fish at Mumbai market. Fishing trade is increasing gradually and still has a vast potential.

2. Agro-ecosystem Analysis of the focus/target area

2.1 Names of villages, focus area, target area etc.

The village Chari, Tal. Dahanu is having light to medium black soils. *Pucca* and *Kaccha* roads have been constructed as per the need. The temperature during the year ranges to a maximum 36- 40^0 C in summer and the minimum is of 15 -20^0 C in winter season.

The topography of the village is undulating and there are wide differences in fertility status. The major forest trees in the village are Tamarind, Khajari (*Phoenix silvystris*), and Teak, Neem, Tad palm etc. The main rainy season during the year is June to September. Soil water table is going down year by year. *Savata* river flows near the village. The partial canal irrigation of *Sakharya* dam project available from December to April month.

1.2 The village Jalvai, Tal. Dahanu is having light to medium black soils. *Kaccha* roads have been constructed as per the need. The temperature during the year ranges to a maximum 32- 40^0 C in summer and the minimum is of 12 -22^0 C in winter season.

The topography of the village is undulating and there are wide differences in fertility status. The major forest trees in the village are *Khajari* (*Phoenix silvystris*), Neem and Tad palm etc. The main rainy season during the year is June to September. Soil water table is going down year by year.

2.2 Survey methods used (survey by questionnaire, PRA, RRA, etc.)

PRA method used for village survey. Participatory Rural Appraisal (PRA) can be described as a semi-structured way of learning with the participation of rural people. It is relatively quick and ensures the participation of local people along with the multidisciplinary study team involve in the process of studying the Strengths, Weaknesses, Opportunities and Threats associated with the agricultural farming so that a need based action plan and interventions can be planned by the development personnel.

2.3. Various techniques used and brief documentation of process involved in applying the techniques used like release transect, resource map, etc.

To collects the relevant information using the PRA techniques and group discussion. The stepwise procedure followed in conducting the PRA exercise was as follows.

2.3.1 Rapport building and climate setting

On arrival at the village Chari, the team members have informally discussed with the villagers and the key persons such as *Sarpanch* and other villager respectable. The aim of the visit and the objectives has been appraised to make them aware about the programme, so that proper understanding and rapport can be built upon. Formal introduction of team members to the villagers have been done.

2.3.2 Collection of basic information

On successful building up of relationship, the team members have interacted with the villagers to collect the basic information related to the village such as location of the village, demographic profile, village topography, soil, climate, various institutions available in the village, type of farming, cropping pattern, livestock, farm machineries, irrigation, production and productivity details, etc. The above background information was collected informally for the sake of forming a suitable idea by the team members and also to check the secondary source of information about the village collected from the *Talathi* and *Gramsevak* office.

2.3.3 Transect walk

The team members along with the villagers have undertaken a cross sectional walk along the village and its fields. This was done to know about the anatomy of the village and its socio-economic and cultural settings. The transect walk helped the team to observe the farming situation, prevailing land use pattern, soil conditions, crops, livestock and other micro-elements related to farming. This has revealed a holistic view of the village and its farming setup.

2.3.4. Participatory mapping

Participatory observations and recording through villages have been done to know and record the social structure, the resource and technological availability in the village. This exercise has helped to understand the village society and its resources through the participation of the villagers. The villagers indicating the arrangements of various institutions in the village have drowned the social map. The villagers drew the map on the card sheet with the help of colour sketch pens provided by the scientists. This has helped the team to analyze the social structure and its function linkage existing in the village.

The villagers have been involved in analyzing their own resources such as the land, its usage pattern, soil type, cropping pattern, irrigation, roads, communication channels etc. this has helped to gain first hand knowledge about accessibility to the villagers.

2.3. 5 Time line analysis

The history of the village depicting various important events has been obtained with the help of village elders by recollecting their chronological occurrence. Through this, the team has come to know about the adoption and discontinuance of various innovations pertaining to agriculture, horticulture, animal husbandry and plant protection measures etc.

2.3.6. Production trend analysis

The production and the productivity changes with respect to various agricultural, horticultural and animal husbandry, out put have bean obtained from the villagers to analyze the production and productivity trends over the year for projecting future estimates.

2.3.7 Seasonality analysis

Seasonality mapping has been done to know about the cultivation of various crops in different seasons and the labour availability. This also gives information on disease and insect pest incidences, livestock productivity, peaks and declines, demand and supply of various farm and dairy products and different horticultural practices in the village.

2.3.8 Wealth ranking

Wealth ranking has been done to know about the economic structure of the village and the value criteria of the villagers with respect to the various materialistic things related to prosperity and poverty.

2.3.9 Gender issue

Relevant information on division of labour among male and female with respect to agricultural & domestic operations have been obtained to know about the gender issues in agriculture.

2.3.10 Venn diagram

The importance of various resources available to the villagers and their accessibility has been recorded in the Venn diagram.

3. The matrix ranking

The matrix ranking have been done with respect to agriculture, horticulture and animal husbandry to know about the preferences of the villagers about various innovations available and adopted by them.

4. Analysis and conclusions

4.1 Village profile

The village Chari selected for the study is located about 09 kms from eastern side of Dahanu. The villages namely Navasakhara, Savata are the neighboring villages. The village has a functional panchayat and the population of the village is 3476. The male population is 1769 and female is 1707. The number of households in the village is 594. The village occupies all *kaccha* houses. The detail of the demographic profile is given in the Table No. 1 for reference.

From the Table 1 it is inferred that the village has a Ashram (Residential) school, a Primary school.

The village is having the facility of primary health centre, veterinary dispensary, market, Banks, TAO office, BDO office; etc at Dahanu tehsil located 09 kms away. The village structure is divided into two-class viz. Scheduled tribe and Other Backward cast. The total literacy percent is about 39.60 per cent. Among them male is about 54 per cent while in female it is 26 per cent. Total cropped area in the village is 435.79 ha. out of which 226.16 ha. is rainfed, 84.21 ha. is irrigated and 67.42 ha. land is barren. Major population in the village is Scheduled tribe.

Table 1 : The profile of the village Chari

Sr. No.	*Particulars*	*Observations*
01.	Location	09 kms from Dahanu
02.	Post office	Dahanu
03.	Primary school	Yes
04.	Residential Ashram school	Yes
05.	Temples	1
06.	BDO Office	Dahanu
07.	TAO Office	Dahanu
09.	Village Panchayat	Yes
09.	Primary Health Centre	No
10.	Grain Market	Dahanu
11.	Advisory services	State Department (Agriculture) KVK, Panchayat Samitee
12.	Total Population	3476
	Male	1769

	Female	1707
13.	Scheduled Caste	-
	Scheduled Tribe	2587
14.	Literacy	39.67 per cent
	Male	941 (54 per cent)
	Female	438 (26 per cent)
15.	No. of farm Families	433
16	Total Geographical area	762.29 ha
16.	Total Cropped area	435.79 ha
	Barren	67.42 ha
	Kharland (*Khajan*)	58.ha
	Irrigated	84.21 ha
	Rainfed	226.16 ha
17.	Irrigation facility	
	Wells	35
	Bore well	05
18.	Live stock	
	Buffaloes	54
	Local Breed cattle	159
	Improved Breed cattle	-
	Goat	190
	Desi birds	162
19.	Farm Machinery	
	Tractor/Power tiller	04
	Electric Motors	12
	Threshing Machine	02
	Oil engine	05
20.	T.V.	37
	Telephone	18
21.	Pucca house	68
	Kaccha house	384
22	Samaj mandir	01

4.2 Agro-Eco-System analysis

The village Chari is having light to medium black soils. *Pucca* and *Kaccha* roads have been constructed as per the need. The temperature during the year ranges to a maximum 36- 40^0 C in summer and the minimum is of 15 -20^0 C in winter season.

The topography of the village is undulating and there are wide differences in fertility status. The major forest trees in the village are Tamarind, Khajari (*Phoenix silvystris*), and Teak, Neem, Tad palm etc. The main rainy season during the year is June to September. Soil water table is going down year by year. Savata river flows near the village. The partial canal irrigation of Surya project available from December to April month.

4.3 Resource mapping

The village agriculture scenario can be divided into two parts i.e. Irrigated and rainfed. Around the village, during monsoon season, farmer's fields are located and they grow traditionally vegetable crops for home consumption like gourds, bhendi, ambadi, yam etc. The major fruit crops of sapota, coconut are cultivated on the west side of the village, the soils are medium black and this belt is irrigated. Paddy is the major crop grown in this village as rainfed crops. There are naturally grown trees like. Neem, Tamarind, mango, Ber, etc. The village has a less number of animal populations. In cattle, almost all are of local breed i.e. *Dangi*. Some farmers are also rearing the poultry birds of local breed as backyard poultry.

The Savata river flows across the village. The partial canal irrigation by Surya project is also available in the village from December to April month.

3.4 Analysis of Social Structure and Village Mapping

In the village Chari there are 594 families and about 74.42 percent belong to Scheduled tribe and remaining 25.58 percent population comprises Other backward class. Most of the community is engaged in farming. Some of the peoples from *Mitna* community belongs to OBC category engaged in fishing from *Khajan* land. All of the houses in the village are Kaccha and the within village link kaccha roads are constructed and connected. The average life span is 60 years and marriages are performed within the caste. Family planning concept is seen only among the literates. Both genders are using different methods of birth control/family control but majority is of Female. Very rigid social system and no concept of inter caste marriage can be seen in the village. Love marriages are not encouraged.

3.5 Technological Analysis and Mapping

As analysis of various technologies that farmers are caring out and the results are presented hereunder.

Agriculture

Paddy: Dangi, Kolpi, Jaya, Jawarya, Karjat-184, IR-50

Horticulture

Chilies: Local

Cucurbitaceous vegetables: Local

Bhendi: Local

Animal Husbandry

Cows: Local (Dangi)

Poultry: Local

Buffaloes: Local,

Goat: Local

Fishery:

Fish: Local

The farmers are using the traditional varieties of paddy. Introduction of improved varieties arises as intervention point. It can be inferred from the data that farmers are using traditional varieties crop. In case of vegetable crop, awareness about new improved varieties of vegetable to reduce the cost of production and increase the profit margin should be the intervention point. The breeds of cows, goat and poultry are local causing low productivity. Fishermen should be encourage to take up job work such as net mending and maintenance and fisherman/ fisherwomen should be trained in preparation of various by product from fish.

4.6 Time analysis

Time analysis was done to know about various sequences of events that have been occurred in the village. In addition general important events that have taken place also recorded from the memory of the village elders. The details of the time analysis done for the village are given in the table for reference.

From table it is inferred that the water available from Surya project was in the year 2002, facing *bagya* pest since 2005, The farmers are using chemical fertilizers since 1995.

Table 2: Time Line

Sr.No.	*Year*	*Event*
01.	1977	Balloon Factory
02.	1987	Electricity
03.	1988	Reliance company
04.	1988	Radio
05.	1990	Television set
06.	1992	Motor cycle
07.	2002	Sakhara dam / Surya project
09.	1995	Chemical fertilizers
09.	1998	Electrical pumps
10	1999	Bus
11	2001	Construction of roads
12.	2002	Telephone
13.	2004	Drinking water pipe line at Mothapada
14.	2005	Cell phones
15.	2005	Bagya pest
16.	2006	Dish T.V

4.7. Gender Issue

The village Chari has a population of 3476 with a male to female ratio of 1000:931. The gender issue have discussed as under.

i. Decision making

ii. Agricultural related activities

iii. Resource controlling

As regards to domestic works, all the work ranging from food preparation to family planning as well as child education and care is done by women folk. Women folks are doing activities like feeding, cleaning the sheds of animals, dung cake making and weeding.

Most of the decision-making about agriculture and other activities are taken by men folk. Agricultural produce marketing, purchasing the agricultural inputs, extension contacts, and pesticide spraying etc. activities are performed by men folk.

Market visits for domestic purpose are undertaken by both genders. Important decisions regarding social issues like marriages are taken after a thorough mutual interaction. The family planning is practiced by both genders. Some agricultural operations are done by both genders *viz.* nursery raising, sowing, transplanting, harvesting, winnowing, storage, etc.

4.8. Venn Diagram Analysis

Village Chari is located about 09 kms from Dahanu city. The preference analysis of the farmers through Venn diagram showed that the farmers have related KVK, Kosbad Hill, state department of agriculture, Gramsevak and neighbors as the main source of information with respect to Agricultural technologies. They are related with Dahanu with respect to commercial activities such as purchase of agricultural inputs, marketing of the produce, College education, and bank facility. Taluka Agriculture Office and Block Development office are also the source of information for the farmers, which is located at Dahanu. They also collect information about different agricultural schemes of state and central government from these offices. Some farmers are availing facility from Tribal Development Department, Dahanu. A primary school and a Residential Ashram school upto 7^{th} standard is located in the village itself. Other facilities like Primary Health Centre, Veterinary dispensary, Post office is located at Dahanu at 8 km away. Reliance energy project is located at this village which gives temporary employment to the unemployed people.

4.9. Wealth Ranking

The wealth ranking has been done to get an idea about the economic structure of the village. The wealth ranking provides an idea about the prevailing wealth structure present among the village. This also helps to know about the villagers value system with respect to wealth and economy. The wealth ranking revealed that 70.62 percent of the family belongs to Below Poverty Line.

The value criteria for richness perused by the villages were occupying more than 10 acres of land, Vegetable cultivator, a motorcycle, gold ornaments and a big *pucca* house.

Middle class means less than 10 acres of land, rainfed agriculture a small *pucca* house. Poor category families are having less than 2 acres rain fed land or mostly landless labors that often temporarily migrate to other places.

4. 10. Seasonality Analysis

Seasonality analysis has been done to get the information about various activities performed in the major crops i.e. Paddy. Major crops grown in the village are Paddy.

Paddy is the main crop in the village. Almost all the activities in Kharif season are related to paddy. The activities like nursery preparation is done in the month of May- June, Transplanting is done in June- July. Other practices like weeding, top dressing is done in July-August. Harvesting and threshing is done in the month of October to November.

After the Kharif season the farmers grow paddy where the canal irrigation available. The employment to the landless labour is available in Kharif season only, after that they migrate to nearby cities or in Reliance energy project at Dahanu, Mumbai etc for searching the job.

5. Matrix Ranking

The matrix analysis has been conducted through the following procedure. The facilitator asked to express their preference with the help of matchsticks for each parameter according to their preference.

According to discussion, the farmers stated that insect pest problem in rice, sapota, coconut, vegetables crops are common. The farmers were asked to state the problems; accordingly the problems were enlisted and ranked on the basis of frequency and intensity of the problem.

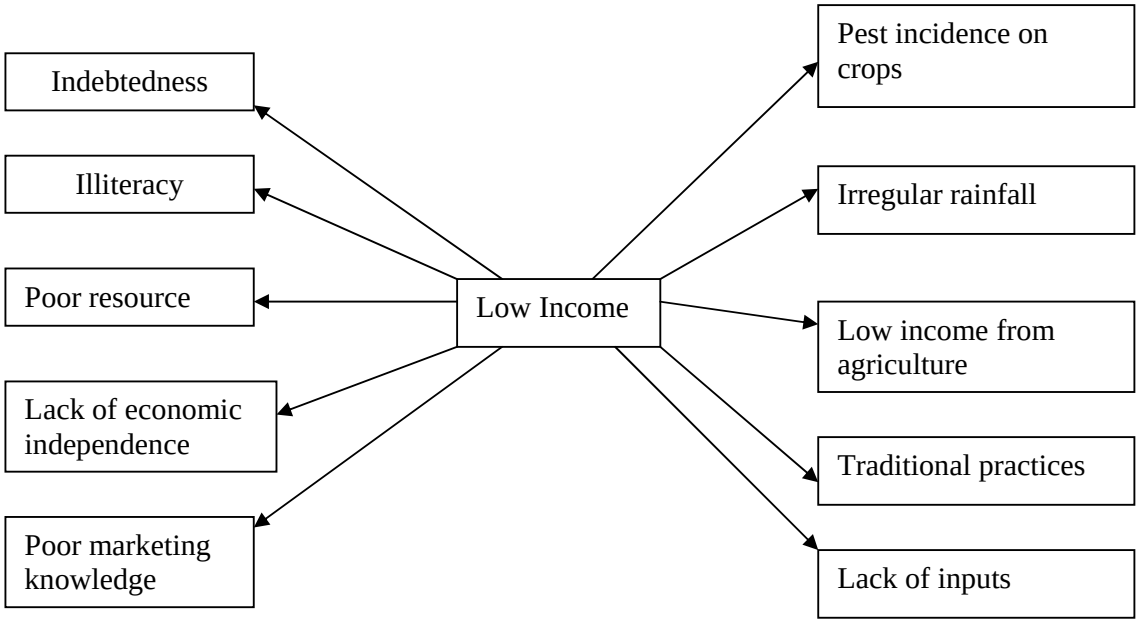
The farmers stated that, *Bagya* pest and Zn deficiency on rice is very severe. Some farmers having sapota and coconut orchards and facing the problem of sapota seed borer, bud borer, green scale insect and fungal diseases on fruits. There is severe incidence of Eriophide mites on coconut. The problems of FMD disease in animals were perceived by many of the farmers and Ranikhet disease on poultry birds was occurred. Hemoglobin deficiency in pregnant women causing weight loss and anemia, Lack of availability of urea brickets for paddy cultivation. Low yields of eggs and slow body weight in traditional birds, Unavailability of improved seed in agronomical crops, Low productivity of milking animals and no cross breed cows, Lack of low level mechanization for drudgery reduction. Green fodder shortage for cattle feed are the major problems perceived by the farmers.

The general matrix ranking showing score and rank is shown in table 3.

Table 3: General Matrix Ranking

Sr. No	Problem	Distribution	Intensity	Score/ Rank
01.	Stem borer in rice	●●●●●●●●●●	●●●●●●●●●●●	21 I
02	Unavailability of improved seed in rice	●●●●●●●●●●	●●●●●●●●●●●	21 I
03	Zn deficiency in rice crop	●●●●●●	●●●●●	12 X
04	Lack of knowledge about various. Agril. Scheme	●●●●●●●●	●●●●●●●●●	18 IV
05.	Lack of knowledge about vegetable cultivation	●●●●	●●●●●●●●●	13 IX
06.	Sapota seed borer	●●●●●●	●●●●●●●●●●●●●●	20 II
07	Lack of knowledge about formation & functioning of Self help group	●●●●●●	●●●●●●●●●●●●●	19 III
09	Lack of availability of urea brickets	●●●●●●●●●	●●●●●●●●	17 V
09	FMD in problems in animals	●●●	●●●●●●●●	11 IX
10	Green fodder shortage	●●●●	●●●●●●●●	12 VIII
11	Malnutrition in children	●●●●●	●●●●●	10 X
12	Low productivity of milking animals	●●●●●●	●●●●●●	12 VIII
13	Hemoglobin deficiency in pregnant women	●●●●●●●	●●●●●●●●●●	17 V
14	Low yields in traditional birds	●●●●●●●	●●●●●●●●●	16 VI
15	Lack of low level mechanization	●●●●●●●	●●●●●●	13 VII
16	Lack of knowledge about improved method in sun drying	●●●●●●●	●●●●●●	13 VII
17	Unavailability of seeds of high yielding variety of Niger	●●●●●●●	●●●●●●●●●●	17 V

6. Problem-cause diagrams for major problems



Socio-economic problem Biophysical problems

7. Matrix ranking of the problems

Sr. No	**Problem**	**Score/ Rank**
01	Stem borer in rice	21 I
02	Unavailability of improved seed in rice	21 I
03	Sapota seed borer	20 II
04	Lack of knowledge about Self help group	19 III
05.	Lack of knowledge about various. Agril. Scheme	18 IV
06.	Lack of knowledge about chemical fertilizers	17 V
07	Unavailability of seeds of high yielding variety of Niger	17 V
09	Low yields in traditional birds	16 VI
10	Lack of low level mechanization	13 VII
11	Lack of knowledge about post harvest technology	13 VII
12	Lack of knowledge about improved method in sun drying	12 VIII
13	Green fodder shortage	12 VIII
14	Unavailability of improved breed for milking purpose	19 III
15	Local Milch animal breed not suitable for milk production	19 III

16	Low productivity of milking animals	12 VIII
17	Lack of knowledge about vegetable cultivation	13 IX
18	Zn deficiency in rice crop	12 X

8. List of location specific thrust areas

8.1. Agronomy:

1) Lack of knowledge of improved varieties of rice, which is early, high yielding, tolerant to pest and diseases, drought resistance etc.
2) Increase in yield of Niger crop by using high yielding variety, Phule karla in rabi season.
3) Awareness of IPM and INM in rice.
4) Awareness about improved varieties of pulses crops like gram and Bengal gram.
5) Awareness about organic farming

8.2. Horticulture:

1) Awareness programme for cultivation of anti browsing, aromatic plant, "Patchouli" (*Pongastemon camblin* Linn), which is new source of income generation.
2) Upgradation of local trees like Mango and Ber into improved varieties.
3) Improve3ment in vegetable crop production particularly in chillies.
4) Awareness of vegetable cultivation technology on hilly slope during kharif season.
5) Training of Nursery management as an income generating activity.

8.3. Animal science:

1) Improvement in fodder crop production technology
2) To encourage on intensive poultry management and dairy management to the tribal farmers.
3) Training of entrepreneurial activities like poultry, dairy, piggery, and Goatry to the tribal youth.
4) Vaccination in poultry, cattle, goats etc.
5) Backyard poultry management.

8.4 Extension Education:

1) Formation of farmers group.
2) Promotion of SHG's.
3) Training programme on various agricultural schemes.
4) Entrepreneurship development.

9. List of location specific technology needs for OFT and FLD

9.1. OFTs

1. Dibbling method of rice.
2. Nutritional Management in Poultry
3. Application of micronutrients to improve yield and quality of sapota fruits.
4. Use of solar dryer for sapota chips.

9.2. FLDs

1. Introduction of Nagli crop variety Dapoli-1
2. Introduction of Niger crop variety Phule Karla
3. Introduction of Groundnut crop variety TG- 26
4. Introduction of Bengal gram crop variety Vishal
5. Introduction of Rice crop variety Karjat-3. Karjat – 5 and Karjat -7
6. Improved breeds like Vanaraj & Black Astrolorp.
7. FLD on fodder crop Phule Jayawant
8. Effect of pruning on yield and quality of sapota fruits.
9. Rejuvenation of old sapota & mango orchards
10. Use of recommended variety K. Ashwini
11. IPM for control of Coconut Eriophide mite

10. Matrix ranking of technologies

Sr. No	Technology
01.	Demonstration of improved varieties of rice like Karjat- 3, Karjat – 5 and Karjat -7
02	Control of sapota seed borer by spraying of recommended insecticides.
03	Buffalow & Cow Calf rearing
04	Formation and functioning of SHGs
05.	Provide knowledge about agril. schemes
06.	INM in rice
07	Introduce improved poultry bird like Vanaraj
09	Awareness about mechanization in agriculture
09	Handling, Packing, grading and preparation of products
10	Fodder production technology
11	Dairy management
12	Value addition in sapota
12	Training on vegetable cultivation

11. List of location specific training needs

i. Rice seed production.
ii. Training and demonstration of improved varieties of rice
iii. INM in rice
iv. IPM in rice
v. Niger production
vi. Introduction of oilseed crop, Caster as a rainfed on upland & irrigated in rice fallow
vi. Bengal gram production
vii. Groundnut production
viii INM & IPM in Coconut
ix. Rainfed Vegetable production
x. Value addition in fruits
xi. Introduction of tuber crop Tapioca on marginal land
xii. Awareness about Integrated farming system in hilly area.
xi. Formation and functioning of SHGs
xii. Awareness about Agril. Schemes
xiii. Awareness about Rain water harvesting
xiv. Poultry management
xv. Dairy management
xvi. Goatry management
xvii. Introduction of Vanaraj.

3. Technology Inventory and Activity Chart

Sl. No	Technology	Crop/enterprise	Year of release or recommendation of technology	Source of technology	Reference/citation
1.	Karjat-5	Rice	2007	Dr. B. S. K. K. V. Dapoli	
2.	Karjat- 7	Rice	2007	Dr. B. S. K. K. V. Dapoli	
3.	Karjat-3	Rice	1994	Dr. B. S. K. K. V. Dapoli	
4.	Phule Karala	Niger	2007	MPKV Igatpuri Research centre	
5	Dapoli-1	Nagli	1985	Dr. B. S. K. K. V. Dapoli	
6	Dapoli-safed	Nagli		Dr. B. S. K. K. V. Dapoli	
7	Dapoli-3	Nagli		Dr. B. S. K. K. V. Dapoli	
8	Var. IGP- 76	Niger	1983	AICRP MPKV Igatpuri Research centre	
9	Var. Vishal	Bengal gram	1996	M. P. K. V. Rahuri	
10	Var. TG- 26	Groundnut	1992	BARC, Mumbai	
11	Dibbling method of rice	Rice	-	Dr. B. S. K. K. V. Dapoli	-
12	Nutrition Management in poultry	Azolla	2005	Bangladesh Agril. University	International journal of poultry science
13	Fodder crop cultivation	Phule Jayawant	2009	M. P. K. V., Rahuri	
14	Backyard poultry Keeping	Introduction of Vanaraj poultry bird	-	-	-
15	Improved Variety: GCH-6	Castor	2000	J. A. U., Gujarat	Plant Breeding & Genetics sub-committee held at Anand on 24-25th April 2000.
16	Application of micronutrients for increase quality and size of fruits	Sapota	2007	Dr. B. S. K. K. V. Dapoli	S. O. No. 115 (E) dt. 10.2.1996
17	Introduction of tuber crop	Tapioca (var. Shrisahaya)		Dr. B. S. K. K. V. Dapoli	-
18	Introduction of tuber crop	Yam bean		Dr. B. S. K. K. V. Dapoli	-
19	Var. Konkan Ashwini	Sweet potato	2000	Dr. B. S. K. K. V. Dapoli	S. O. No.1135 (E), dt. 15.11.2001
20	IPM in coconut for control of Eriophide mite.	Coconut	2004	Dr. B. S. K. K. V. Dapoli	
21	Use of solar dryer for sapota chips	Sapota		Dr. B. S. K. K. V. Dapoli	

Activity Chart

Crop/Animal/ Enterprise	Problem	Cause	Solution	Activity	Reference of Technology
Rice	Low productivity of rice	i. Use of local variety ii. Imbalance use of fertilizer	i. Use of improved varieties. ii.. Application of recommended dose of Nutrients	i. Training and demonstration of improved varieties ii. Training programme on INM	Sr. No. 1 & 2 of technology inventory ii. Sr. No. 3 of technology inventory
Rice	Unavailability of labours during transplanting period	Unavailability of labours	i. Dibbling method of rice seed & use of preemergence herbicide.	OFT	i. Sr. No. 11 of technology inventory
Finger millet	Low yield of finger millet	Farmers use traditional practices and local variety seed	Introduction of Finger millet crop variety Dapoli-1 & Dapoli - 3	Training and FLD programme of cultivation of Nagli	i. Sr. No. 5, 6 & 7 of technology inventory
Niger	Low yield of Niger	Unawareness about improved varieties of Niger	Introduction of Niger crop variety IGP- 76 & Phule karala	Training and FLD programme on Niger	Sr. No. 4 & 8 of technology inventory
Bengal gram	Low yield of Bengal gram	Unawareness about improved varieties and package of practices of Bengal gram	Introduction of Bengal gram crop variety Vishal	Training and FLD programme on Bengal gram	Sr. No. 9 of technology inventory
Groundnut	Low yield of Groundnut	Unawareness about improved varieties of summer groundnut.	Introduction of TG - 26 variety of groundnut	Training and FLD programme on Groundnut	Sr. No. 10 of technology inventory
Azolla	Nutrition Management due to high cost of feed and low FCR	High cost of feed and low FCR	Nutrition management	OFT on application of Azolla as a feed in poultry management	Sr. No. 12 of technology inventory
Fodder crop: Phule Jayawant	Fodder crop cultivation	Unawareness about fodder crop	Cultivation of Phule Jayawant	Training and FLD programme on Phule Jayawant	Sr. No. 13 of technology inventory

Crop/Animal/ Enterprise	Problem	Cause	Solution	Activity	Reference of Technology
Back yard poultry	Low weight and less egg production in poultry	Low weight gain, less egg production, disease outbreaks	Introduction of improved breeds like Vanaraj, proper vaccination	Training and FLD programme on Back yard poultry	Sr. No. 14 of technology inventory
Castor	Lack of knowledge about castor	Diversification of crop as an alternative oilseed crop	Introduction of Var. GCH-6 of castor	Demonstration on castor cultivation	Sr. No. 15 of technology inventory
Sapota	Low yield and quality of fruits	Application of micronutrients are not followed	Application of recommended doses of micronutrients	Demonstration on application of recommended doses of micronutrients	Sr. No. 16 of technology inventory
Tapioca	Lack of knowledge about tapioca	Introduction of new tuber crop	Introduction of Var. Shrisahaya	Demonstration on tapioca cultivation	Sr. No. 17 of technology inventory
Yam bean	Lack of knowledge about yam bean	Introduction of new tuber crop	Introduction of Yam bean	Demonstration on yam bean cultivation	Sr. No. 18 of technology inventory
Sapota	Limitations in processing of sun dried sapota chips	Humid weather conditions	Use of Integrated solar dryer	OFT on refinement of solar dryer and storage.	Sr. No. 21 of technology inventory
Sweet potato	Low yield under rainfed condition	Late maturing of local varieties	Introduction of Konkan Ashwini	Training and FLD programme on Sweet potato	Sr. No. 19 of technology inventory
Coconut	Low yield & poor appearance of coconut fruit	Severe incidence of coconut Eriophide mite	IPM in coconut for control of Eriophide mite	Demonstration	Sr. No. 20 of technology inventory

3. Details of each of the technology under Assessment, Refinement and demonstration

Crop	Variety/Technology	Var. Characters/ Technology
Rice	Karjat- 3	Early, Bold grain variety duration 115– 120.
Rice	Karjat- 5	Mid late var., medium coarse grain, dwarf with dark green leaves, non lodging and non shattering, resistant to blight.
Rice	Karjat – 7	Early, fine grain, erect with green leaves, resistant to blight, duration 110 – 115.
Rice	Dibbling method of sowing	Dibbling of seed at 25 x 15 cm and Use of Pendimethalin as a preemergence herbicide.
Finger millet	Var. Dapoli – 1	Mid tall with open heads and long fingers, non lodging, responsive to nitrogenous fertilizers with reddish brown grain colour.
Finger millet	Var. Dapoli safed	White colour grain
Finger millet	Var. Dapoli – 3	Reddish brown grain colour.
Bengal gram	Vishal	Resistant to root wilt, bold seeded, suitable for irrigated condition all over Maharashtra
Niger	Phule Karala	Early and high yielding, Oil percentage is 39 % , 24.30% more yield than IGP-76.
Niger	IGP-76	Early and high yielding.Duration-115-120 days
Groundnut	TG – 26	Oilseed percentage is 48%, mature in 110 day i.e. early variety.
Poultry	Nutrition management	i. Ideal protein based Concentrate broiler feed as per recommended ii. 10 % feed will be replace by adding Azolla meal
Fodder crop	CN- 8/ NB- 21	High yield, more palatable, rich in protein
Back yard poultry	Back yard poultry keeping	Introduction of *Vanaraj* poultry breed
Castor	Diversification of crop var. GCH-6	i. Root rot resistant and wilt tolerant hybrid ii. yield potential of 1398 kg/ha and 2323 kg/ha under rainfed and irrigated conditions
Sweet potato	Konkan Ashwini	i. Short duration plant having purple colour elliptical long tubers. ii. Vine plants having light green leaves with purple tinge at nodes on stem and alternate simple leaves.
Sapota	Application of micronutrients for increase quality and size of fruits	i. Application of recommended dose incorporated with compost.
Sapota	Sun drying of sapota chips	i. Use of integrated solar dryer. ii. Storage of half dried sapota chips in a air tight chamber with silica gel
Tapioca	Introduction of variety Var. Shrisahaya	i. Early maturity & good cooking quality
Yam bean	Introduction of new tuber crop	i. Suitable for planting in paddy fallow. ii. Early maturity

SUMMARY ACTION PLAN

OFT

TECHNOLOGY ASSESSMENT

Discipline	Thematic Area	Crop/Enterprise	No. of technologies to be assessed	No. of trials/ farmers
Crop Production	Demonstration of new var. Karjat- 5	Rice	1	05
	Demonstration of new var. Karjat- 7	Rice	1	05
	Varietal demonstration of Nagli (Var. Dapoli safed -1)	Nagli	1	05
	Varietal demonstration of Nagli (Var. Dapoli -3)	Nagli	1	05
	Demonstration of new var. Phule Karla	Niger	1	05
	Demonstration of new var. TG- 26	Summer groundnut	1	05
Animal Science	Nutrition Management	Azolla	1	05
	Introduction of new fodder crop	Phule Jayawant	1	10
	Back yard poultry keeping	Poultry	2	10
Horticulture	Introduction of tuber crop	Tapioca	1	10
	Rejuvenation of sapota orchard	Sapota	2	10
	Application of Micronutrients	Sapota	1	07
	Introduction of new var. Konkan Ashwini	Sweet potato	1	20
	Introduction of new tuber crop	Yam bean	1	10
	IPM for control of coconut Eriophide mite	Coconut	1	10

Technology Refinement

Discipline	Thematic Area	Crop/Enterprise	No. of technologies to be refined	No. of trials/ farmers
Crop Production	-	-	-	-
Animal Science	Nutrition Management	Azolla	1	05
Horticulture	Value addition of sapota fruits by sun drying chips by integrated solar drier	Sapota	1	05

Front Line Demonstrations

Season	Category	Crop/Enterprise	No. of demonstrations	Area (ha)
Kharif	Oilseeds	Niger (IGP-76)	50	20
Summer	Oilseed	Niger (Phule karala)	25	10
Summer	Oilseed	Groundnut	25	10
Rabi	Pulses	Bengal gram(Vishal)	25	10
Kharif	Cereals	Rice (Karjat – 3)	15	05
Summer		Rice (Karjat – 3)	15	05
Kharif	Millet	Nagli(Dapoli-1)	25	10
Kharif	Livestock	Poultry	10	-
		Introduction of new fodder crop var. Phule Jayawant	10	05
		Rice bean	10	02
Kharif	Horticulture	Sapota	10	05
		Sweet potato	10	05
		Tapioca	10	02
		Coconut	10	05
		Yam bean	10	05

Training

Off campus programmes (inclusive of vocational and sponsored programmes)

Client	**Discipline**	**No. of courses**	**No. of Participants**		
Farmers and farm women			Male	Female	Total
	Crop Production	15	180	160	340
	Livestock	12	130	120	250
	Plant protection	-	-	-	-
	Horticulture	09	135	75	210
	Extension Education	09	90	90	180
	Total	**45**	**535**	**445**	**980**
Rural Youth	Crop Production	04	60	40	100
	Livestock	02	30	20	50
	Plant protection	-	-	-	-
	Horticulture	01	20	10	30
	Extension Education	02	20	20	40
	Total	**09**	**130**	**90**	**220**
Extension Functionaries	Crop Production	02	20	20	40
	Livestock	01	10	10	20
	Plant protection	-	-	-	-
	Horticulture	-	-	-	-
	Extension Education	-	-	-	-
	Total	**03**	**30**	**30**	**60**
	Grand Total	**57**	**695**	**565**	**1260**

ON campus programmes (inclusive of vocational and sponsored programmes)

Client	Discipline	No. of courses	No. of Participants		
Farmers and farm women			Male	Female	Total
	Crop Production	03	35	30	65
	Livestock	04	55	30	85
	Plant protection		-	-	-
	Horticulture	05	75	50	125
	Extension Education	09	90	90	180
	Total	**21**	**255**	**200**	**455**
Rural Youth	Crop Production	05	50	50	100
	Livestock	03	40	30	70
	Plant protection				
	Horticulture	02	40	20	60
	Extension Education	04	40	40	80
	Total	**14**	**170**	**340**	**410**
Extension Functionaries	Crop Production	03	40	40	80
	Livestock	03	30	30	60
	Horticulture	01	20	10	30
	Extension Education	04	50	40	90
	Total	**11**	**140**	**120**	**260**
	Grand Total	**46**	**565**	**660**	**1125**

Off and On campus programmes (inclusive of vocational and sponsored programmes)

Client	Discipline	No. of courses	No. of Participants		
Farmers and farm women			Male	Female	Total
	Crop Production	18	215	190	1005
	Livestock	16	185	150	335
	Horticulture	14	210	125	335
	Extension Education	18	180	180	360
	Total	**66**	**790**	**645**	**1435**
Rural Youth	Crop Production	09	110	90	200
	Livestock	05	70	50	120
	Horticulture	03	60	30	90
	Extension Education	06	60	60	120
	Total	**22**	**300**	**230**	**530**
Extension Functionaries	Crop Production	05	60	60	120
	Livestock	04	40	40	80
	Horticulture	01	20	10	30
	Extension Education	04	50	40	90
	Total	**14**	**170**	**150**	**320**
	Grand Total	**103**	**1260**	**1025**	**2285**

Extension Activities

Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	09	180	170	350	20	30	50	200	200	400
Kisan Mela	02	150	100	250	20	10	30	170	110	280
Kisan Ghosthi	10	100	50	150	-	-	-	100	50	150
Exhibition	01	200	100	300	20	10	30	220	110	330
Film Show	10	200	100	300	-	-	-	200	100	300
Method Demonstrations	05	60	40	100	10	10	20	70	50	120
Farmers Seminar	06	100	50	150	20	10	30	120	60	180
Workshop	01	50	10	60	10	05	15	60	15	75
Group meetings	09	50	30	80	-	-	-	50	30	80
Lectures delivered as resource persons	04	50	30	80	10	10	20	60	40	100
Newspaper coverage	12	-	-	-	-	-	-	-	-	-
Radio talks	12	-	-	-	-	-	-	-	-	-
TV talks	06	-	-	-	-	-	-	-	-	-
Popular articles	12	-	-	-	-	-	-	-	-	-
Extension Literature	09	-	-	-	-	-	-	-	-	-
Advisory Services	06	-	-	-	-	-	-	-	-	-
Scientific visit to farmers field	12	40	10	50	10	05	15	50	15	65
Farmers visit to KVK	480									
Diagnostic visits	09	30	20	50	-	-	-	30	20	50
Exposure visits	02	20	10	30	-	-	-	20	10	30
Ex-trainees Sammelan	02	40	10	50	-	-	-	40	10	50
Soil health Camp	02	50	20	70	20	10	30	70	30	100
Animal Health Camp	02	50	20	70	20	10	30	70	30	100
Agri mobile clinic										
Soil test campaigns	02	50	20	70	20	10	30	70	30	100
Farm Science Club Conveners meet	02	20	20	40	10	05	15	30	25	55
Self Help Group Conveners meetings	02	20	20	40	10	05	15	30	25	55
Mahila Mandals Conveners meetings	02	20	20	40	10	05	15	30	25	55
Celebration of important days										
Agril. Day (1st July)	01	20	20	40	05	05	15	25	25	50
World food day (16th October)	01	30	10	40	05	05	10	35	15	50
World women day (8th March)	01	10	40	50	05	10	15	15	50	65
Nutrition week (01 st to 7th Sept	01	10	50	60	05	10	15	15	60	75
Total		**1120**	**650**	**1770**	**190**	**125**	**320**	**1310**	**775**	**2095**

Table: 1 Action Plan for On farm testing

(A.) Assessment

Discipline: **Agronomy**

I. OFT :

a.. Title : Dibbling method of rice

b. Objectives : i) To reduce the labour requirement
ii) To reduced cost of cultivation.

c. Problem identified & its intensity : Unavailability of labour during peak period of transplanting in Kharif season.

d. Description of micro-farming situation : Four month rainy season June to September .Humid climate.

e. Interventions planned :

f. Treatments :

T1- Farmers practice: Transplanting of rice seedling without following recommended distance of planting.

T2- Recommended practices: Use dibbling method of rice by presoaked seed & also use preemergence herbicides.

g. Source of technology : Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri (MS)

h. No. of farmers : 05

f. Observations/parameters of study :

1. No. of labours required .
2. Yield per hectare.
3. Cost benefit ratio.

Title of the Trial: Dibbling method of rice

Crop/ Variety	Season	Farming situation	Treatments	No. of Farmers	Area (ha.)	Critical inputs	Cost of Critical Inputs (Rs.)
Rice	Kharif	Rainfed	1. Farmer practice 2. Recommended by Dr. B.S.KKV, Dapoli.	05	2.0	Oxydiagril / Pendimethalin, Seed.	3500/-

T1- Farmers practice: Transplanting of rice seedling without following recommended distance of planting.

T2- Recommended practices: Use dibbling method of rice by presoaked seed & also use preemergence herbicides

Table: 1 Action Plan for On farm testing

(A.) Assessment

Discipline: Animal Husbandry

I. OFT 2:

a.. Title : Nutritional Management in Poultry
b. Objectives : To reduce the cost of feed
c. Problem identified & its intensity : High cost of feed
d. Description of micro-farming situation : -
e. Interventions planned : Ideal protein based Concentrate broiler feed.
f. Treatments :

T1: Farmers practice: Locally available feed mixture

T2: Recommended Practice: Ideal protein based Concentrate broiler feed

g. Source of technology : Dept. of Poultry science, Bangladesh Agril. University, Mymensingh
h. No. of farmers : 05

f. Observations/parameters of study :

1. Weekly feed consumption
2. Weekly weight gain
3. Feed Consumption Ratio
4. C:B Ratio

Title of the Trial: Nutritional Management in Poultry

Crop/ Variety	Season	Farming situation	Treatments	No. of Farmers	Unit size (Nos.)	Critical inputs	Cost of Critical Inputs (Rs.)
Poultry	Year round	-	1. Farmers practice	05	20	1. Azolla	6500/-
			2. Recommended Practice by SAU/ICAR				

T1: Farmers practice: Locally available feed mixture

T2: Recommended Practice: Ideal protein based Concentrate broiler feed.

(B.) Refinement

Discipline: Livestock

I. OFT 2:

a. Title : Nutritional Management in Poultry
b. Objectives : To reduce the cost of feed
c. Problem identified & its intensity : High cost of feed
d. Description of micro-farming situation : -
e. Interventions planned : Ideal protein based Concentrate broiler feed.
f. Treatments :

T1: Farmers practice: Locally available feed mixture

T2: Recommended Practice: Ideal protein based Concentrate broiler feed
T3: Refine Practice : 10 % feed will be replace by adding Azolla meal

g. Source of technology : Dept. of Poultry science, Bangladesh Agril. University, Mymensingh
h. No. of farmers : 05

f. Observations/parameters of study :

1. Weekly feed consumption
2. Weekly weight gain
3. Feed Consumption Ratio
4. C:B Ratio

Title of the Trial: Nutritional Management in Poultry

Crop/ Variety	Season	Farming situation	Treatments	No. of Farmers	Unit size (Nos.)	Critical inputs	Cost of Critical Inputs (Rs.)
Poultry	Year round	-	1. Farmers practice	05	20	1. Azolla	6500/-
			2. Recommended Practice by SAU/ICAR				
			3. Refined Practice				

T1: Farmers practice: Locally available feed mixture

T2: Recommended Practice: Ideal protein based Concentrate broiler feed.

T3: Refine Practice: 10 % feed will be replace by adding Azolla meal

.

Table: 1 Action Plan for On farm testing

(A.) Assessment

Discipline: **Horticulture**

I. OFT :

a.. Title : Use of solar dryer in production of sapota chips

b. Objectives : i) To reduce the time for drying.
ii) To improve the colour and appearance of product.
iii) To increase period of processing.

c. Problem identified & its intensity : The process of drying is limited during dry climate period since December to 15th of February. Half dried chips get moisturised and become soft during night hours. During cloudy condition threat of spoilage and discoloration

d. Description of micro-farming situation : Four month rainy season June to September .Humid climate.

e. Interventions planned : Use of integrated solar dryer.

f. Treatments :

T1- Farmers practice: Sun drying of sapota chips on nylon net tightly fitted on wooden structures 1 mt above ground and open to sky.
T2- Solar sun dryer : Drying of sapota chips in UV stabilized polythene covered solar dryer.

g. Source of technology : Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri (MS)

h. No. of farmers : 05

f. Observations/parameters of study :
1. Weight of processed fresh chips before sun drying.
2. Weight of Sapota chips at 5 pm, Weight of sapota chip at 8 am . (For 3 day)
3. Weight of finished product.
4. Hours required for finished product.
5. Colour and appearance of finished product.
6. Cost benefit ratio.

Title of the Trial: 1. Use of Solar dryer in production of sapota chips

Crop/ Variety	Season	Farming situation	Treatments	No. of Farmers	Area (ha.)	Critical inputs	Cost of Critical Inputs (Rs.)
Sapota	Winter	Irrigated	1. Farmer practice 2. Recommended by Dr. B.S.KKV, Dapoli.	05	2.0	UV stabilized 200 micron silpoline sleet. Silica gel, Air tight bin.	10,000/-

T1- Farmers practice: Sun drying of sapota chips on nylon net tightly fitted on wooden structures 1 mt above ground and open to sky
T2- Recommended practice: Drying of sapota chips in solar dryer covered by UV stabilized polythene.

Title of the Trial: 1. Integrated solar dryer for production of sapota chips .

Crop/ Variety	Season	Farming situation	Treatments	No. of Farmers	Area (ha.)	Critical inputs	Cost of Critical Inputs (Rs.)
Sapota	Oct- May	Irrigated	1. Farmer practice 2. Simple solar dryer 3. Refine practice Integrated solar dryer	05	2.0	UV stabilized 200 micron silpoline sleet. Silica gel, Air tight bin. Exhaust Fan. Solar Air heating panel. Biomass hot air panel.	15000/-

T1- Farmers practice: Sun drying of sapota chips on nylon net tightly fitted on wooden structures 1 mt above ground and open to sky

T2- Recommended practice : Drying of sapota chips in solar dryer covered by UV stabilized polythene
T3- Refined practice: Drying in Integrated solar dryer and storage during night hour in air tight bins with silica gel bags.

Table: 2(a) Action Plan for Front Line Demonstrations (Oilseeds)

Season: Kharif

S. No.	Name of the crop	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs (Rs)	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1.	Niger	Whole Package	Introduction of IGP-76 var. of Niger.	2.50	4.50	Rainfed	Light soil	Fallow	20	50	Khambala Tal- Jawhar	Seeds of IGP-76 var. of Niger. COC 16 kg Dichlorvas 7 lit	6000 @50 /- per kg 6720/-@ 420/- per kg 2800/- @ 400/- per lit.	1.Yield of crop 2.Grain wt. per plant
												Total cost	15520/-	

Table: 2(b) Action Plan for Front Line Demonstrations (Pulses)

Season: Rabi

S. No.	Name of the crop	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed/ irrigated	Soil type	Previous crop						
1.	Bengal gram	Variety + IPM	Variety and IPM Vishal Variety	10	18	irrigated	Medium soil	Rice	10	25	Sonale khurd, Tal-Vada	Seed(var. Vishal),600 kg Rhizobium Pheromon trapwith leuire, HaNPV(2.5lit.) Lamdacyclothrin(5 lit.)	27600 @46 per kg 600 @40/- per kg 1750@ 35/- per trap 6000 @2400 per lit 3000/- @600/- per lit	i. No. of pods per plant ii. 100 grain weight. iii. Grain yield per ha.
												Total cost	38,950/-	

60 kg /ha seeds of Vishal var. required, application of Rhizobium @ 250 gm per 10 kg seed, 5 pheromone trap per ha, 0.4ml per lit HaNPV, 1 ml per lit Lambda- cyclothrin.

Table: 2(c) Action Plan for Front Line Demonstrations (Oilseeds)

Season: Summer

S. No.	Name of the crop	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs (Rs)	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1.	Groundnut	Variety + weedicide	Varietal demonstration	15	20	irrigated	Medium black	Rice	10	25	Aonda Tal-Vikramgad	Seeds (600kg)of T.G.-26 variety Pendimethalin(35 lit.)	43200/-@72 per kg 15540/- @444 per lit.	i. No. of pods per plant ii. Grain yield per ha.
												Total cost	58,740/-	

60 kg seeds/ ha, Pendimethalin- 7 ml per lit of water.

Table: 2(c) Action Plan for Front Line Demonstrations (Oilseeds)

Season-Summer

S. No.	Name of the crop	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs (Rs)	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1.	Niger	Whole Package	Introduction of Phule karala var. of Niger.	4.00	6.00	irrigated	Medium soil	Rice	10	25	Murbad, Sarani Tal- Dahanu	Seeds of Phule karala var. of Niger. COC 8 kg Dichlorvas 3.5lit	3000 @50 /- per kg 3360/-@ 420/- per kg 1400/- @ 400/- per lit.	1.Yield of crop 2.Grain wt. per plant
												Total cost	7760/-	

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)

Season: Kharif

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals/implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1	Rice	Whole package	Varietal demonstration	30	40	Rainfed	Medium black	Rice	05	15	Chari - Kotbi Tal- Dahanu	Seeds of Karjat-3 var.250 kg. COC 7.5kg Dichlorvas 3lit	5000/- @ 20 per kg 3150/-@ 420/- per kg 1200/- @ 400/- per lit.	i. No. of tiller per plant ii. Yield per ha
												Total cost	9350/-	

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)

Season: Summer

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals/implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1	Rice	Whole package	Varietal demonstration	30	42	irrigated	Medium black	Rice	05	15	Devkhop Tal-Palghar	Seeds of Karjat-3 var.250 kg. COC 7.5kg Dichlorvas 3lit	5000/- @ 20 per kg 3150/-@ 420/- per kg 1200/- @ 400/- per lit.	i. No. of tiller per plant ii. Yield per ha
												Total cost	9350/-	

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)

Season: Kharif

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals/implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed / irrigated	Soil type	Previous crop						
1	Nagli	Whole Package	Varietal demonstration Var.- Dapoli-1	8	12	Rainfed	Light Red	Fallow	05	20	Khambala,Tal-Jawhar	Seed Var. Dapoli-1(30kg) COC 7.5kg Dichlorvas 3lit	660/- @ 22 per kg 3150/-@ 420/- per kg 1200/- @ 400/- per lit.	Yield per ha
												Total cost	5010/-	

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)

Season: Kharif

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals /implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed/ irrigated	Soil type	Previous crop						
1	Back yard poultry	Introduction of new improved Breed Vanaraj	Increase egg production	80	240	-	-	-	-	10	Chari	Vanaraj	15000/-	i. To know the weight of bird ii. To know the egg production

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)

Season: Kharif

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals /implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed/ irrigated	Soil type	Previous crop						
1	Phule Jayawant	Whole package	Varietal demonstration	800	1000	Rainfed	Light Red	grass	05	10	Borigaon	Seeds of Yashwant Fertilizers (Suphala 50kg /ha)	5480/-	Fodder production

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)
Season: Kharif

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals /implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed/ irrigated	Soil type	Previous crop						
1	Tapioca plantation on marginal land	Variety	Varietal demonstration	-	-	Rainfed	Medium black	grass	02	15	Devkhop & Chari	Cutting of var. Shrisahaya	2500/-	Production of tuber per ha.

Table: 2(c) Action Plan for Front Line Demonstrations (Other crops/Enterprises)
Season: Rabi

S. No.	Name of the crop/enterprise	Type of Demonstration (Whole Package/ Component)	Purpose of demonstration	Yield (q/ha)		Farming situation			Area (ha)/ No. of Animals /implements/units etc	Number of famers	Name of the village	Critical inputs identified	Cost of critical inputs	Observations relevant to technology demonstrated***
				Existing	Potential	Rainfed/ irrigated	Soil type	Previous crop						
1	Yam bean	Whole package	Introduction of new crop	-	-	Irrigated	Medium black	Rice	05	10	Jalvai & Chari	Seed	2000/-	Production of tuber per ha.

Table: 3.1 Action Plan for Training Programmes Discipline : Agronomy

Sl. No.	Date	Title of the course	Thematic area	Discipline	Client	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/ specify if others)	Name of the Course Incharge
								Male	Female	Total			
1	08/04/09	INM in Summer rice production	Nutrition Management	Agronomy	Farmers and farm women	02	OFF	10	10	20	800	KVK	Kushare BM
2	15/04/09	INM in Summer rice production	Nutrition Management	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
3	12/05/09	Raising hybrid rice nursery.	Nursery management	---,,---	---,,---	02	OFF	05	20	25	800	KVK	---,,---
4	20/05/09	Technology for direct seedling of rice	Sowing method of Rice	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
5	03/06/09	Cultivation of Finger millets by Thomba method	Finger millet production	---,,---	---,,---	02	OFF	15	05	20	800	KVK	---,,---
6	14/07/09	Improved cultivation practices for Niger	Niger production	---,,---	---,,---	02	ON	10	10	20	1600	KVK	---,,---
7	16/07/09	Transplanting through rice transplanter	Transplanting of rice	---,,---	---,,---	02	ON	15	10	25	1600	KVK	---,,---
8	29/07/09	INM for kharif rice.	Nutrition Management	---,,---	---,,---	02	OFF	15	05	20	800	KVK	---,,---
9	15/09/09	INM for kharif rice.	Nutrition Management	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
10	22/09/09	Post harvest technology for Niger crop	Niger production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
11	09/11/09	Use of Biofertilizer in pulses.	Use of Biofertilizer	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
12	14/12/09	Post harvest technology for groundnut	Groundnut production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
13	22/12/09	Seed production technology in summer rice	Seed production	---,,---	---,,---	02	OFF	20	10	30	800	KVK	---,,---
14	18/01/10	Improved cultivation technology for summer groundnut crop	Groundnut production	---,,---	---,,---	02	ON	10	10	20	1600	KVK	---,,---
15	27/01/10	INM for Bengal gram	Bengal gram production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
16	12/02/10	Use of Biofertilizer in pulses.	Use of Biofertilizer	---,,---	---,,---	02	OFF	20	20	40	800	KVK	---,,---
17	12/03/10	Use of Biofertilizer in pulses.	Use of Biofertilizer	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
18	10/04/10	Seed production technology in summer rice	Seed production	---,,---	---,,---	02	OFF	15	10	25	800	KVK	---,,---

19	21/06/09	Seed production technology in rice	Seed production	Agronomy	Rural Youth	3	ON	20	10	30	1800	KVK	---„---
20	14/07/09	INM for paddy	Nutrition management	---„---	---„---	3	OFF	20	10	30	3600	KVK	---„---
21	11/09/ 09	INM for paddy	Nutrition Management	---„---	---„---	3	ON	10	10	20	2400	KVK	---„---
222	13/10/09	Summer rice seed Production	Seed production	---„---	---„---	3	ON	10	10	20	2400	KVK	---„---
23	15/12/09	Use of Biofertilizer in pulses.	Use of Biofertilizer	---„---	---„---	3	OFF	10	10	20	1200	KVK	---„---
24	16/02/10	Post harvest technology for groundnut	Post Harvest technology	---„---	---„---	3	OFF	20	10	30	1800	KVK	---„---
25	20/04/10	Seed production technology in summer rice	Seed production	---„---	---„---	3	ON	10	10	20	2400	KVK	---„---
26	11/05/10	Post harvest technology in Bengal gram	Post Harvest technology	---„---	---„---	3	OFF	10	10	20	1200	KVK	---„---
27	07/07/09	INM for paddy	Nutrition management	---„---	Extension Functionaries	2	ON	10	10	20	2400	KVK	---„---
28	03/09/09	INM for paddy	Nutrition Management	---„---	---„---	2	ON	10	10	20	2400	KVK	---„---
29	24/09/09	Awareness and application of Effective Microorganism (EM) in crop production.	EM technology	---„---	---„---	2	ON	20	20	40	4800	KVK	---„---
30	18/11/09	Use of Biofertilizer in pulses	Use of Biofertilizer	---„---	---„---	2	OFF	10	10	20	1200	KVK	---„---
31	12/01/10	Seed production technology in summer rice	Seed production	---„---	---„---	2	OFF	10	10	20	1200	KVK	---„---

Table: 3.1 Action Plan for Training Programmes Discipline: Animal Science

Sl. No.	Date	Title of the course	Thematic area	Discipline	Client	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/ specify if others)	Name of the Course Incharge
								Male	Female	Total			
1	04/05/09	Control measures of Ranikhet disease in poultry	Vaccination in poultry	AHDS	Farmers and farm women	02	ON	15	05	20	1600	KVK	Dr. Kondhari
2	12/06/09	Improved cultivation of CN- 8 variety of fodder crop.	Fodder crop production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
3	19/06/09	Vaccination in poultry	Vaccination in poultry	---,,---	---,,---	02	ON	15	05	20	800	KVK	---,,---
4	09/07/09	Deworming in goats	Deworming in goats	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
5	14/07/09	Deworming in cattle's	Deworming in cattle's	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
6	11/09/09	Vaccination in poultry	Vaccination in poultry	---,,---	---,,---	02	ON	15	10	25	1600	KVK	---,,---
7	15/09/09	Litter management in layers	Litter management	---,,---	---,,---	02	OFF	15	10	25	800	KVK	---,,---
8	18/09/09	Clean milk production in buffalo	Milk production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
9	23/09/09	Vaccination in goats	Vaccination in goats	---,,---	---,,---	02	OFF	05	20	25	800	KVK	---,,---
10	06/10/09	Improved cultivation of CN- 8 variety of fodder crop..	Fodder crop production	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
11	14/10/09	Vaccination in cattle's	Vaccination in cattle's	---,,---	---,,---	02	OFF	15	05	20	800	KVK	---,,---
12	17/12/09	Deworming in goats	Deworming in goats	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
13	08/01/10	Litter management in poultry	Litter management	---,,---	---,,---	02	ON	10	10	20	1600	KVK	---,,---
14	20/01/10	Construction of gober gas unit	Gober gas plant	---,,---	---,,---	02	OFF	15	05	20	800	KVK	---,,---
15	11/02/10	Backyard poultry keeping	Back yard poultry	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---
16	19/02/10	Vaccination in goats	Vaccination in goats	---,,---	---,,---	02	OFF	10	10	20	800	KVK	---,,---

17	20/05/09	Dairy management	Dairy management	AHDS	Rural Youth	10	OFF	20	10	30	12000	KVK	---„---
18	15/10/09	Intensive poultry management	Poultry management	---„---	---„---	15	ON	10	10	20	10000	KVK	---„---
19	21/03/10	RD vaccination in poultry	RD vaccination in poultry	---„---	---„---	4	ON	10	10	20	10000	KVK	---„---
20	16/03/10	Dairy management	Dairy management	---„---	---„---	15	OFF	10	10	20	10000	KVK	---„---
21	13/04/10	Intensive poultry management	Poultry management	---„---	---„---	15	ON	20	10	30	20000	KVK	---„---
22	08/06/09	Preservation of milk	Preservation of milk	---„---	Extension Functionaries	2	ON	10	10	20	1600	KVK	---„---
23	23/09/09	Vaccination programme in goats	Vaccination programme	---„---	---„---	2	OFF	10	10	20	800	KVK	---„---
24	21/10/09	Fodder cultivation	Fodder production	---„---	---„---	2	ON	10	10	20	1600	KVK	---„---
25	10/11/09	Cultivation of Azolla	Azolla Cultivation	---„---	---„---	2	ON	10	10	20	1600	KVK	---„---

Table: 3.1 Action Plan for Training Programmes Discipline : Horticulture

Sl. No.	Date	Title of the course	Thematic area	Discipline	Client	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/ specify if others)	Name of the Course Incharge
								Male	Female	Total			
1	15/04/09	Pruning techniques of old sapota orchard	Pruning techniques	Horticulture	Farmers and farm women	5	ON	15	05	20	1600	KVK	Shri. JB Save
2	13/05/09	Plantation of Cashew on hilly slope	Plantation of Cashew	---„---	---„---	3	OFF	15	05	20	800	KVK	---„---
3	09/06/09	Improved cultivation practices of cucumber	Cucumber production	---„---	---„---	2	OFF	15	05	20	800	KVK	---„---
4	18/06/09	Cultivation technique of Sweet potato.	Sweet potato production	---„---	---„---	2	OFF	10	10	20	800	KVK	---„---
5	22/06/09	Preparation of Brinjal grafts	Grafting of Brinjal	---„---	---„---	5	OFF	30	15	45	800	KVK	---„---
6	03/07/09	Wild Date palm cultivation on waste land.	Wild Date plam production	---„---	---„---	3	ON	30	15	45	1600	KVK	---„---
7	17/09/09	Upgrading of mango by side grafting	Grafting technique	---„---	---„---	3	ON	10	10	20	1600	KVK	---„---
8	24/09/09	Upgrading of mango by side grafting	Grafting technique	---„---	---„---	2	ON	10	10	20	800	KVK	---„---
9	29/09/09	Raising of healthy seedling of chillies	Chillies seedlinga	---„---	---„---	2	OFF	10	10	20	800	KVK	---„---
10	06/10/09	Rejuvenation of old mango orchard	Mango production	---„---	---„---	3	OFF	15	05	20	800	KVK	---„---
11	15/10/09	Improved cultivation practices of Bitter gorurd	Bitter gourd production	---„---	---„---	5	OFF	10	10	20	800	KVK	---„---
12	12/11/09	Improved cultivation practices of Chilies	Chillies production	---„---	---„---	2	OFF	15	10	25	800	KVK	---„---
13	12/01/10	Rejuvenation of old sapota orchard	Pruning techniques	---„---	---„---	2	ON	10	10	20	1600	KVK	---„---
14	16/02/10	Improved cultivation practices of okra	Okara production	---„---	---„---	2	OFF	15	05	20	800	KVK	---„---

Sl. No.	Date	Title of the course	Thematic area	Discipline	Client	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/ specify if others)	Name of the Course Incharge
								Male	Female	Total			
15	18/05/09	Soft wood grafting in Mango	Grafting technique	Horticulture	Rural youth	10	OFF	20	10	30	6000	KVK	Shri. JB Save
16	14/07/09	Nursery management	Nursery	---„---	---„---	10	ON	20	10	30	12000	KVK	---„---
17	11/09/09	Upgrading of local mango by side grafting	Grafting technique	---„---	---„---	3	ON	20	10	30	12000	KVK	---„---
18	21/10/09	Pruning techniques in sapota orchard	Pruning technique	Horticulture	Extension Functionaries	02		10	10	20	800	KVK	---„---

Table: 3.1 Action Plan for Training Programmes Discipline: Agril. Extension

Sl. No.	Date	Title of the course	Thematic area	Discipline	Client	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/ specify if others)	Name of the Course Incharge
								Male	Female	Total			
1	15/04/09	Formation and functioning of farmers scientist forum	Formation of group	Extension	Farmers and farm women	02	OFF	10	10	20	800	KVK	VM Jadhav
2	21/04/09	Formation and functioning of farmers scientist forum	Formation of group	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
3	20/05/09	Awareness about soil and water conservation practices	Awareness about soil and water conservation practices	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
4	26/05/09	Keeping of farm records	Keeping of farm records	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
5	04/06/09	Functioning of SHG's	Functioning of SHG's	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
6	19/06/09	Functioning of SHG's	Functioning of SHG's	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
7	16/07/09	Training programme on various agriculture schemes	Agriculture schemes	---„---	---„---	02	ON	10	10	20	800	KVK	---„---
8	11/09/09	Formation of commodity wise farmers group	Commodity wise farmers group	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
9	17/09/09	Functioning of SHG's	Functioning of SHG's	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
10	22/09/09	Awareness about soil and water conservation practices	Awareness about soil and water conservation practices	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
11	05/10/09	Keeping of farm records	Keeping of farm records	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
12	20/10/09	Keeping of farm records	Keeping of farm records	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
13	18/11/09	Training programme on various agriculture schemes	Agriculture schemes	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
14	10/12/09	Training programme on various agriculture schemes	Agriculture schemes	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
15	12/01/10	Keeping farm records	Keeping of farm records	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
16	19/01/10	Functioning of SHG's	Functioning of SHG's	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---

17	16/02/10	Functioning of SHG's	Functioning of SHG's	---„---	---„---	02	OFF	10	10	20	800	KVK	---„---
18	09/03/10	Training programme on various agriculture schemes	Agriculture schemes	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
19	23/06/09	Leadership development	Leadership development	---„---	Rural youth	03	ON	10	10	20	2400	KVK	---„---
20	09/09/09	Entrepreneurship development in tribal youth.	Entrepreneurship development	---„---	---„---	05	ON	10	10	20	1600	KVK	---„---
21	13/10/09	Entrepreneurship development in tribal youth.	Entrepreneurship development	---„---	---„---	05	OFF	10	10	20	4000	KVK	---„---
22	05/11/09	Training programme on various agriculture schemes	Agriculture schemes	---„---	---„---	2	ON	10	10	20	1600	KVK	---„---
23	15/12/09	Leadership development	Leadership development	---„---	---„---	03	ON	10	10	20	2400	KVK	---„---
24	16/02/09	Entrepreneurship development in tribal youth.	Entrepreneurship development	---„---	---„---	05	OFF	10	10	20	800	KVK	---„---
25	04/06/09	Awareness about Agricultural Mechanization	Agricultural Mechanization	---„---	Extension Functionaries	02	ON	10	10	20	1600	KVK	---„---
26	07/07/09	Communication of Agril. Technology and its adoption	Communication of Agril. Technology and its adoption	---„---	---„---	02	ON	10	10	20	1600	KVK	---„---
27	22/10/09	Agro Tourism through SHGs	Agro Tourism	---„---	---„---	02	ON	15	10	25	2000	KVK	---„---
28	05/01/10	Organic Farming- need of hour	Organic Farming	---„---	---„---	02	ON	15	10	25	2000	KVK	

IMPACT STUDY ON FRONT LINE DEMONSTRATION OF NIGER PRODUCTION TECHNOLOGY

1. INTRODUCTION

Front line demonstration of oilseed & pulses crop is one of the major mandates of KVK. Front Line Demonstration on Niger oilseed crop was implemented in Nagarmoda village of Jawhar tehsil of Thane district since last 3 years. All the farmers did not adopt the recommended practices at the same rate and same time. The study need to be dealt with the question regarding early adopters and late majority. Socio economic & other behavioural aspects of farmers might be facing certain constraints particularly security of inputs & marketing of Niger.

The study will be focus towards these aspects also. With this background the present investigation entitled "Impact of FLD on adoption of Niger production Technology" is to be plan and implement with the following objectives.

2. OBJECTIVES:

2.1 To study the personal & Socioeconomic profile of Niger grower

2.2. To study the level of adoption of improved practices of Niger cultivation by the farmers.

2.3. To know the constraints faced by the farmers in adoption & their suggestion to overcome it.

3. METHODOLOGY

It includes following information.

3.1. Location of the study: The study will be conduct in Nagarmoda village of Jawhar tehsil of Thane district where the FLD on Niger oilseed crop implemented since last 3 years.

3.2 Sampling procedure:

3.2.1. Selection of the village: Nagarmoda village will be selected where the FLD implemented since last 3 years. Thus, the purposive sample selected for the study.

3.2.2. Selection of the respondents: The total 90 Niger growers will be selected.

3.2.3. Designing of Interview schedule:

It is based on objectives of the study will be prepare in Marathi language in order to get accurate response for the Niger grower

3.2.4. Collection of Data

The data will be collected by personal interview method.

4. Variables & Measurements

It is broadly classified into

4.1. Independent variables

4.2. Dependent variable

4.1. Independent variables

4.1.1 Age
4.1.2. Education
4.1.3. Size of Land holding
4.1.4. Farming Experience
4.1.5. Social participation
4.1.6. Annual income

4.2. Dependent variable

4.2.1. Adoption level of the farmers about improved technology of Niger production.

5. Statistical methods

5.1. Frequency distribution
5.2. Percentage distribution
5.3. Mean
5.4. Standard deviation

Table: 3.2 Action Plan for Vocational Training Programmes (Agriculture and allied enterprises)

Sl. No.	Date	Thematic area	Title of the Course	Duration (days)	Venue (On/Off campus)	No. of Participants			Anticipated Expenditure (Rs.)	Source of fund (KVK/specify if others)	Name of the Course Incharge
						Male	Female	Total			
		Rural Youth									
1	12/10/09	Bee-keeping	Bee keeping	03	ON	20	-	20	2400	KVK	Shri. VM Jadhav
2	09/11/09	Production of organic inputs	Vermiculture and vermicompost preparation	03	ON	20	-	20	2400	KVK	Shri. BM Kushare
3	07/12/09	Soil Testing	Collection of soil sample and analysis	03	ON	20	-	20	2400	KVK	Shri. Ghadge
4	14/09/09	Protected cultivation of vegetable crops	Cultivation of vegetable crop	05	ON	20	-	20	4000	KVK	Shri. JB Save
5	15/06/09	Nursery Management of Horticulture crops	Nursery management	10	ON	20	-	20	8000	KVK	Shri. JB Save
6	07/10/09	Training and pruning of orchards	Sapota rejuvenation	03	ON	20	-	20	2400	KVK	Shri. JB Save
7	20/10/09	Poultry production	Intensive poultry management	15	ON	20	-	20	12000	KVK	Dr. Kondhari
8	23/11/09	Quail production	Quail production	05	ON	20	-	20	4000	KVK	Dr. Kondhari
9	07/01/10	Entrepreneurship development	Entrepreneurship development	05	ON	20	-	20	4000	KVK	Shri. VM Jadhav
			Sub Total			**180**		**180**			
		Women									
10	07/12/09	Value addition	Preparation of sapota products	03	ON	-	20	20	2400	KVK	Shri. JB Save
11	21/12/09	Goat rearing	Goat rearing	03	OFF	-	20	20	2400	KVK	Dr. Kondhari
12	11/01/10	Post Harvest Technology	Post harvest technology in sapota	03	ON	-	20	20	2400	KVK	Shri. JB Save
13	09/02/10	Poultry production	Intensive poultry management	10	ON	-	20	20	8000	KVK	Dr. Kondhari
14	14/03/10	Entrepreneurship development	Entrepreneurship development	05	ON	-	20	20	4000	KVK	Shri. VM Jadhav
			Sub Total			**-**	**80**	**80**			
			Total			**180**	**100**	**280**			

Table: 4 Action Plan for Extension Activities

Sl. No.		Date	Name of the Village	Topic	Expected number of participants			Anticipated Expenditure in rupees	Name of the chief guest
					Male	Female	Total		
1	**Field days**	22/05/09	Charoti	Summer rice	20	20	40	800/-	
2		24/05/09	Urse	Summer Groundnut	20	20	40	800/-	
3		20/06/09	Talasari	Poultry keeping	20	20	40	800/-	
4		14/10/09	Waki	Vermicompost	20	20	40	800/-	
5		20/11/09	Nagarmoda	Niger field day	20	20	40	800/-	
6		28/11/09	Kosbad	Vegetable cultivation	20	20	40	800/-	
7		07/12/09	Kosbad	Kitchen garden	20	20	40	800/-	
8		10/01/09	Waki	Kitchen garden	20	20	40	800/-	
9		12/02/09	Savaroli	Bengal gram	20	10	30	800/-	
Kisan Melas & Agril. Exhibition									
1		20/10/09	Kosbad	Vegetable cultivation and marketing	200	300	500	50000/-	
2		20/01/10	Kosbad	Vegetable cultivation and marketing	200	300	500	50000/-	
Seminars									
1		12/10/09	Kosbad	Agro tourism	50	25	75	KVK	
2		18/04/10	Kosbad	Rain water harvesting	50	25	75	KVK	
1	**Film Shows**	09/06/09	Kosbad	Paddy cultivation	20	20	40	200/-	
2		17/07/09	Kosbad	INM on paddy	20	20	40	200/	
3		23/09/09	Kosbad	IPM on paddy	20	20	40	200/	
4		15/09/09	Kosbad	Vegetable Cultivation	20	20	40	200/	
5		20/10/09	Kosbad	Honey bee keeping	20	20	40	200/	
6		10/11/09	Kosbad	Poultry production	20	20	40	200/	
7		16/12/09	Kosbad	Fisheries production	20	20	40	200/	
8		09/01/10	Kosbad	Drudgery reduction	20	20	40	200/	
9		16/02/10	Kosbad	Piggary production	20	20	40	200/	
10		20/03/10	Kosbad	Formation of SHG	20	20	40	200/	
11		15/04/10	Kosbad	Soil & Water cons.	20	20	40	200/	

Table: 5 Action Plan for Other Extension Activities

S.No.	Particulars	Topic	Subject	Name of the Scientist
	Radio Talk	Fodder production	Livestock	Dr. Kondhari
1		Intensive poultry management	Livestock	Dr. Kondhari
		Dairy management	Livestock	Dr. Kondhari
		Goatary management	Livestock	Dr. Kondhari
		Identification of sick animal	Livestock	Dr. Kondhari
		Vegetable production	Horticulture	Shri. JB Save
		Wild date palm production	Horticulture	Shri. JB Save
		Dry land horticulture	Horticulture	Shri. JB Save
		Sapota rejuvenation	Horticulture	Shri. JB Save
		Value addition in fruits and vegetables	Horticulture	Shri. JB Save
		Post harvest technology	Horticulture	Shri. JB Save
		Seed production in rice	Horticulture	Shri. JB Save
		Planning of Kharif season	Agronomy	Shri. BM Kushare
		Pulses production	Agronomy	Shri. BM Kushare
		Oilseed production	Agronomy	Shri. BM Kushare
2		Contract Farming	Agril Extension	Shri. VM Jadhav
		Rain water harvesting	Agril Extension	Shri. VM Jadhav
		Entrepreneurship development	Agril Extension	Shri. VM Jadhav
		Agro tourism	Agril Extension	Shri. VM Jadhav
1	TV show	Wadgul farming	Horticulture	Shri. JB Save
2		Intensive poultry management	Livestock	Dr. Kondhari
		Rain water harvesting	Agril Extension	Shri. VM Jadhav
		IPM & INM in rice	Agronomy	Shri. BM Kushare
	News Paper coverage	Fodder production	Livestock	Dr. Kondhari
1		Intensive poultry management	Livestock	Dr. Kondhari
		Dairy management	Livestock	Dr. Kondhari

S.No.	Particulars	Topic	Subject	Name of the Scientist
		Goatary management	Livestock	Dr. Kondhari
		Vegetable production	Horticulture	Shri. JB Save
		Wild date palm production	Horticulture	Shri. JB Save
		Dry land horticulture	Horticulture	Shri. JB Save
		Sapota rejuvenation	Horticulture	Shri. JB Save
		Value addition in fruits and vegetables	Horticulture	Shri. JB Save
2		Seed production in rice	Horticulture	Shri. JB Save
		Planning of Kharif season	Agronomy	Shri. BM Kushare
1		Pulses production	Agronomy	Shri. BM Kushare
		Oilseed production	Agronomy	Shri. BM Kushare
		Contract Farming	Agril Extension	Shri. VM Jadhav
		Rain water harvesting	Agril Extension	Shri. VM Jadhav
		Entrepreneurship development	Agril Extension	Shri. VM Jadhav
		Agro tourism	Agril Extension	Shri. VM Jadhav
	Any other (specify)			
2				

Table: 6. Action Plan for management of Crops at KVK Farm:

Total area of the KVK Farm : 20.00 (ha)
Total cropped area : 3.50 (ha)

Sl. No.	Particulars			Kharif/Rabi							
1	Name of the Crop**			Rice	Rice	Tapioca	Onion Bulb	Niger	Fodder	Sweet potato	Niger
2	Area (ha)			1.00	0.2	0.2	0. 40	0. 5	0.10	0.20	1.00
3	Variety			Karjat- 3	Karjat -7	shrisahaya	White Round	Phule karla	Phule jayawant	Konkan Ashwini	Phule Karla
4	Date of Sowing			10/06/09	12/06/09	01/05/09	15/11/09	20/06/09	12/06/09	15/11/09	25/11/09
5	Purpose/technology demonstrated			Seed production			Assessment of var. demon.				
	Details of inputs used Quantity and Cost (Rs.)	i. Seed		1250	250	2000	2000	125	2000	1000	250
		ii. Fertilizer		4000	800	500	800	250	500	700	500
		iii. Compost		5000	1200	4000	4000	400	3500	1000	800
		iv. Insecticides		1600	400	300	800	400	0	500	800
		v. Herbicides		1800	460	400	450	350	200	400	750
6		vi. Others		2000	500	300	1200	500	1000	300	1000
7	Total cost of inputs (Rs.)			15650	3610	7500	9250	2025	7200	3900	4050
8	Cost of cultn. Other than inputs			18000	4000	4000	8000	2000	3000	2000	4000
9	Total cost of cultivation (Rs.)			33650	7610	11500	17250	4025	10200	5900	8050
10	Expected date of harvest			15/10/09	20/10/09	16/02/09	18/04/09	10/10/09	12/02/10	20/03/10	05/02/10
11	Yield (q/ha)	Grain	Yield	40	09	0	70	2.5	10000 sets	-	6.00
			Rate (Rs./Q)	1200	1200	1500	400	7500	0.50	-	18000
		Straw	Yield	40	08	-	-	-	10000 kg	20000 Cuttings	-
			Rate (Rs./q)	100	100	-	-	-	100	0.25	-
12	Gross Income (Rs.)			52000	11600	12000	28000	7500	15000	5000	18000
13	Net Income (Rs.)			18350	3990	3500	10750	3475	5000	2000	9950

Sl. No.	Particulars			Kharif/Rabi							
1	Name of the Crop**			Rice	Rice	Finger millet	Finger millet	Castor			
2	Area (ha)			0.5	0.5	0.05	0. 05	0.5			
3	Variety			Karjat- 5	Karjat - 7	Dapoli -1	Dapoli -3	Aruna			
4	Date of Sowing			12/06/09	12/06/09	11/06/09	11/06/09	20/06/09			
5				Assessment of var. demon.	Assessment of var. demon.	Varietal Assessment		Diversification of crop			
	Details of inputs used Quantity and Cost (Rs.)	i. Seed		600	600	20	20	400			
6		ii. Fertilizer		2000	2000	30	30	550			
7		iii. Compost		2000	2000	50	50	700			
8		iv. Insecticides		700	700	30	30	250			
9		v. Herbicides		900	900	50	50	650			
10		vi. Others		1000	1000	20	20	300			
	Total cost of inputs (Rs.)			7200	7200	200	200	2800			
	Cost of cultn. Other than inputs			8100	8100	8100	400	2000			
	Total cost of cultivation (Rs.)			15300	15300	15300	600	4800			
	Expected date of harvest			20/10/09	20/10/09	16/10/09	16/10/09	15/01/09			
11	Yield (q/ha)	Grain	Yield	20	20	75kg	75kg	05			
			Rate (Rs./Q)	1200	1200	1000	1000	2000			
		Straw	Yield	20	20	-	-	-			
			Rate (Rs./q)	100	100	-	-	-			
12	Gross Income (Rs.)			26000	26000	750	750	10000			
13	Net Income (Rs.)			10700	10700	150	150	5200			

Table: 7 Action Plan for Management of Demonstration Units at KVK

S.No.	Particulars	Dairy Unit	Poultry Unit	Goatry Unit	Piggery Unit	Fishery Unit	Apiary Unit
1.	Names of Breed		RIR/ Black Astrolorp				*Apis indica*
2.	Number available		2000				15 boxes
3.	Cost of inputs(Rs)		110000				1500
4.	Cost of production other than inputs (Rs)		18000				4000
5.	Total cost of production (Rs)		128000				5500
6.	Yield per animal/unit (specify the quantity)		-				50 Kg
7.	Gross income(Rs.)		148000				10500
8.	Net income(Rs.)		20000				5000
9.	Number of beneficiaries		400				30

Sl. No.	Particulars	Sericulture	Nursery unit	Mushrooms	Vermiculture	Home Science	Any other (Specify eg. Bio-control Unit etc.)
1.	Names of Breed		(Mango- 5000, Sapota-5000 Black Jamun- 1000 Aonla-1000 Cashew-1000 Wild datepalm –5000 Khirani –5000 Bamboo –100000 Teak - 10000		*Udrilis ugenia*		
2.	Number available		25000 Nos		160 bags		
3.	Cost of inputs(Rs)		112000		10000		
4.	Cost of production other than inputs (Rs)				10000		
5.	Total cost of production (Rs)				20000		
6.	Yield per animal/unit (specify the quantity)						
7.	Gross income(Rs.)		250000		37000		
8.	Net income(Rs.)		117400		17000		
9.	Number of beneficiaries		35		40		

Table: 8 Action Plan of Soil and Water testing Laboratory

Month	No. of soil samples to be analysed	No. of water samples to be analysed	No. of plant samples to be analysed
April 09	500	05	-
May 09	500	10	-
June	300	05	-
July	50	10	-
August	50	05	-
September	50	05	-
October	50	05	-
November	120	05	-
December	150	05	-
January 09	200	05	-
February 09	350	05	-
March 09	450	05	-
Total	**2770**	**70**	

Table: 9. Action Plan for Production of seeds/planting material

Sl. No.	Name of the crop	Name of the Variety	Quantity/Number to be produced
1	Rice	Karjat- 3	90 qtl
2	Rice	Gurjari	20 qtl
3	Cucumber	Shital	02 qtl
4	Onion	White Round	50 Kgs
5	Mango	Kesar	5000
6	Sapota	Kalipatti	5000
7	Black Jamun	Bahadoli-1	1000
8	Aonla	Chakaiya	1000
9	Cashew	Vengurla-4	1000
10	Wild datepalm	Local Selection	5000
11	Khirani	Local	5000
11	Sweet potato	Ashvini/ Amroli	10 qtl.

Table: 10 Training programmes on Rain Water Harvesting

Date	Title of Training Programme	Clientele	Duration (No. of days)	No. of participants		
				Male	Female	Total
12/05/09	Awareness about rain water harvesting structures Awareness about rain water harvesting structures	PF	02	10	10	20
22/05/09	Awareness about rain water harvesting structures	PF	02	10	10	20
09/06/09	Awareness and motivation of RWH	PF	02	20	-	20
21/09/09	Awareness and motivation of RWH	PF	02	20	-	20
14/09/09	Awareness and motivation of RWH	PF	02	10	10	20
16/12/09	Awareness and motivation of RWH	PF	02	10	10	20
06/02/09	Awareness and motivation of RWH	PF	02	20	-	20
18/03/09	Awareness and motivation of RWH	PF	02	20	-	20
20/05/09	Awareness about rain water harvesting structures	RY	02	10	10	20
20/05/09	Awareness about rain water harvesting structures	RY	02	10	10	20
24/06/09	Awareness about rain water harvesting structures	RY	02	20	-	20
12/10/09	Awareness about rain water harvesting structures	RY	02	10	10	20
19/12/09	Awareness about rain water harvesting structures	RY	02	10	10	20
06/06/09	Awareness about rain water harvesting structures	EF	02	20	05	25
16/10/09	Awareness about rain water harvesting structures	EF	02	20	05	25
22/12/09	Awareness about rain water harvesting structures	EF	02	20	05	25
		Total		**240**	**95**	**335**