RURAL COMMUNES

Date of Start of Core Support – 1st October 2015
Ongoing Year – 2nd Year

Core Manpower in Position

Sr.	Name	Education	Designation
1	Omkar Kulkarni	MBA (HR & Marketing)	Programme Officier
2	Ajinkya Pisat	MSc. Environment Science	Technical Supervisor
3	Aswini Gyakar	B.Sc. Agriculture	Agri- field Assistant

Contact Person – Muneer Alavi
Anchor Person – Vaishali Gawandi

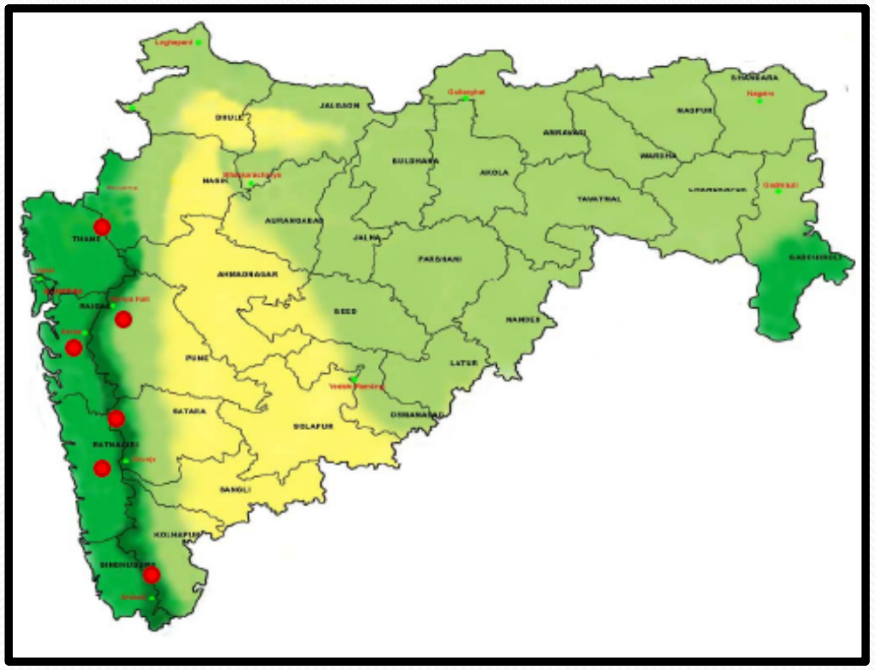
Approved Core Activities

Manpower	
1. Programme officer 2. Programme Professional 3. Technical Supervisor	
Permanent Equipment	**Consumables**
1. Soil and Water Testing Equipments 2. Survey Eqipments 3. Water Management 4. Processing Units Equipments	1. Raw Materials for Nursery Technologies 2. Glasswares 3. Soil Testing Kits 4. Raw Materials for Crop Intensification 5. Irrigation Systems 6. Spring Development / Rainwater Harvesting 7. Processing & Value Chains
Trainings	**Approved Core Activities (adaptive R & D and Allied Activities**
Nursery Technologies Crop Intensification Horticulture Spring Development / Harvesting Processing & Value Chains	Nursery Technologies Crop Intensification Horticulture Spring Development / Harvesting Processing & Value Chains

Methodology

- Studied the problems and issues related to livelihood by DST Core team
- Planning of Participatory Technology Development
- Initial activities – Building up rapport, situation analysis and Mobilisation
- Crystallisation, Planning, designing, Implementation and sharing results
- Dissemination of the innovative methods

Location Map of project area



Target Geographical Area of Operation:

WG – Western Ghat (Pune & Satara)
SK – South Konkan Coastal Zone (Ratnagiri & Sindhudurg)
NK- North Konkan(Thane & Raigad)

Land Use Pattern

- The area is one of the world's ten "Hottest Biodiversity Hotspots"
- Western Ghats (WG) or Sahyadri is a mountain range
- The average elevation: Around 1,200 m
- The average Rainfall : 3,000–4,000 mm and extremes touching 9,000 mm
- The average rain fall in the eastern region of the WG : 1,000 mm to 2,500 mm.

The main crop is Paddy in coastal region & minor millets in plateaus and in sloppy land & pulses, coconut, mango and cashew nuts also.

Areas of influence: village/block/district)

Districts	Block	No of Villages	Total No of HH	Total HH covers in the project	
				ST	SC and OBC
Thane	Vasai	3	1704	300	30
	Jawhar	6	1140	125	0
	Mokhada	6	1680	135	0
Raigad	Khalapur	5	648	140	45
	Pen	5	2412	135	35
	Karjat	6	1195	175	0
	Alibaug	3	1605	110	0
Pune	Maval	9	1836	145	90
	Khed	5	810	147	2
Ratnagiri	Jaigad	3	738	110	2
	Chiplun	6	1740	244	6
	Khed	6	1413	150	2
Sindhudurg	Sawantwadi	5	2140	0	229
Total	**13 Blocks**	**68**	**19061**	**1916**	**441**

Total 2357 HH will covered under the project
81% tribal House Holds

Approved Core Activities

Training

I. Nursery Training:

Training total 452 beneficiaries comprising of small & marginal farmers, women SHG members and landless

Topics Covered

- Soil selection
- Preparation of Raised Bed Nursery
- Preparation of Mat Nursery
- Seed Treatment
- Cutting
- Treatment using Root Care
- Sowing Period
- Selection of Bags
- Pest Management
- Water Management
- Weed Management

Benefits / Outcomes

Target Beneficiaries have learnt techniques such as

- **soil selection**
- **raised bed nursery / mat nursery preparation**
- **seed treatment,**
- **Cutting**
- **sowing period & other management techniques for Vegetable Cultivation, SRI, Horticulture Nursery, Medicinal Plants and other crops.**

II. Crop Intensification

Cluster and village wise training for the Progressive and small & marginal farmers.

Venue	No of Parti-cipants	Topics Covered
Oct 15 to Mar 16		- Seed Treatment - Seed Germination - Sowing - Land Preparation - Transplantation - Distance - Water Management - Pest Management - Weed Management - Harvesting
Bhivpuri	788	
Thokerwadi, Shirwata and Kundli	2216	
Apr 16 to Aug 17		
Bhivpuri	255	
Thokerwadi, Shirwata and Kundli	650	
Jawhar	483	

Benefits / Outcome

- Understanding of whole concept of Sustainable Agriculture following Intensification System of Crops
- Soil testing
- Seed selection
- Seed treatment
- Germination
- Sowing
- land preparation
- proper distance
- Water management
- pest and weed management
- timely harvesting

III. Horticulture

Total 647 tribal farmers and SHG members trained in –

- **Classification of horticulture plants**
- **Its structure**
- **plants growth & development**
- **environmental factors affecting plants Growth & Development such as light, temperature, nutrient supply, moisture and atmosphere**
- **marketing of horticulture plants**

Benefit / Outcome

Technical knowledge on how to classify horticulture plants; Its structure; plants growth & development; environmental factors affecting plants Growth & Development such as light, temperature, nutrient supply, moisture and atmosphere

IV. Spring development / Rainwater Harvesting

Trained total 140 members from Village Rainwater Harvesting and Village Watershed Committee of Jaigad & Chiplun, Ratnagiri; Shedashi ,Wavoshi & Bhivpuri, Raigad; Thokewadi, Pune and Jawhar , Palghar.

Trained in –

- **Spring Identification**
- **Spring Catchment Area Treatment**
- **Spring Cleaning**
- **Construction of Spring Box**
- **Storage and Supply of Water**
- **Various Rainwater Harvesting Structures**
- **Repair & renovation of existing water structures**

Benefit / Outcome

Learnt how to identify Spring

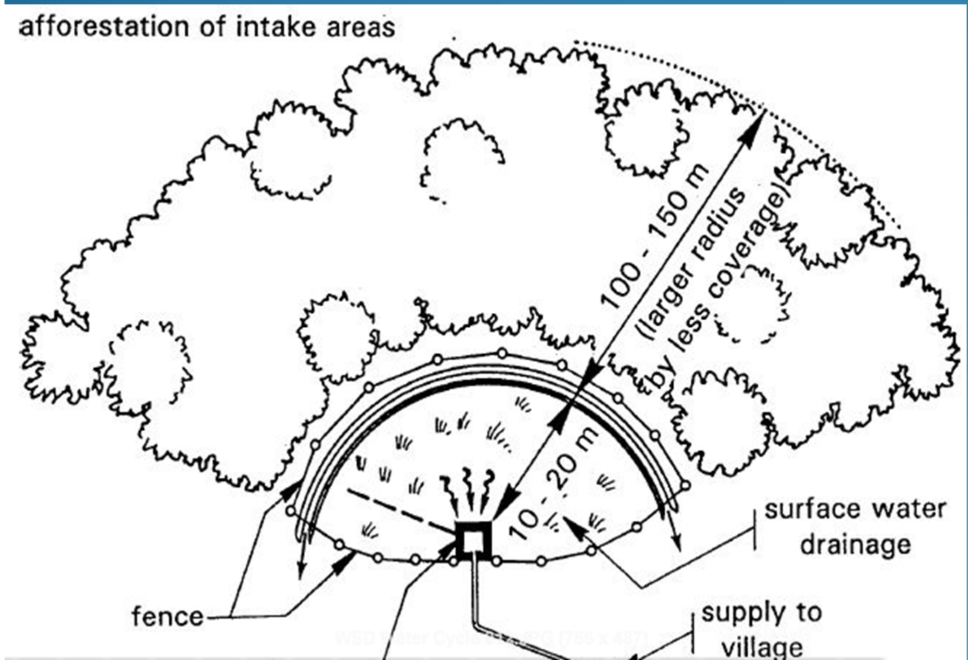
Technical aspects of Spring Catchment Area Treatment

Spring Cleaning

Construction of Spring Box Storage

Supply of Water

Repair & renovation of existing water structures, etc.


afforestation of intake areas
100 - 150 m
(larger radius by less coverage)
10 - 20 m
surface water drainage
fence
supply to village


SEA

V. Processing and Value Chain

- Training in Cashew Processing Units
- Special training to SHG members by Vigyan Ashram Pabal in Pickle Making
- RC DST team along with the livelihood experts conducted the training for Bhivpuri SHG specially practical demonstration on how to use solar dryers, processing of other food products, mango, karvanda, chilli, turmeric, drying of leafy vegetables, etc.
- RC team has conducted the special training for the SHG from Hitvardini organisation, Jambulpada-Pali . Total 30 members were trained in operation & maintenance of Cashew Processing Unit

Benefit / Outcome

- practical training on how to operate cashew processing unit such Boiling, Drying, Cutting, Pilling,
- Training in Packing and Pricing
- Marketing
- semi processing and processing of agriculture produce and other crops

Approved Allied Core Activities

Nursery Technologies:

Gliricidia nursery (10,000 plant capacity) - as nitrogen fixing plants and instead of urea, Gliricidia are used as nutrient

Nutrient Rich Raised Bed Nurseries during Kharif & Rabbi Season

Mat Nursery

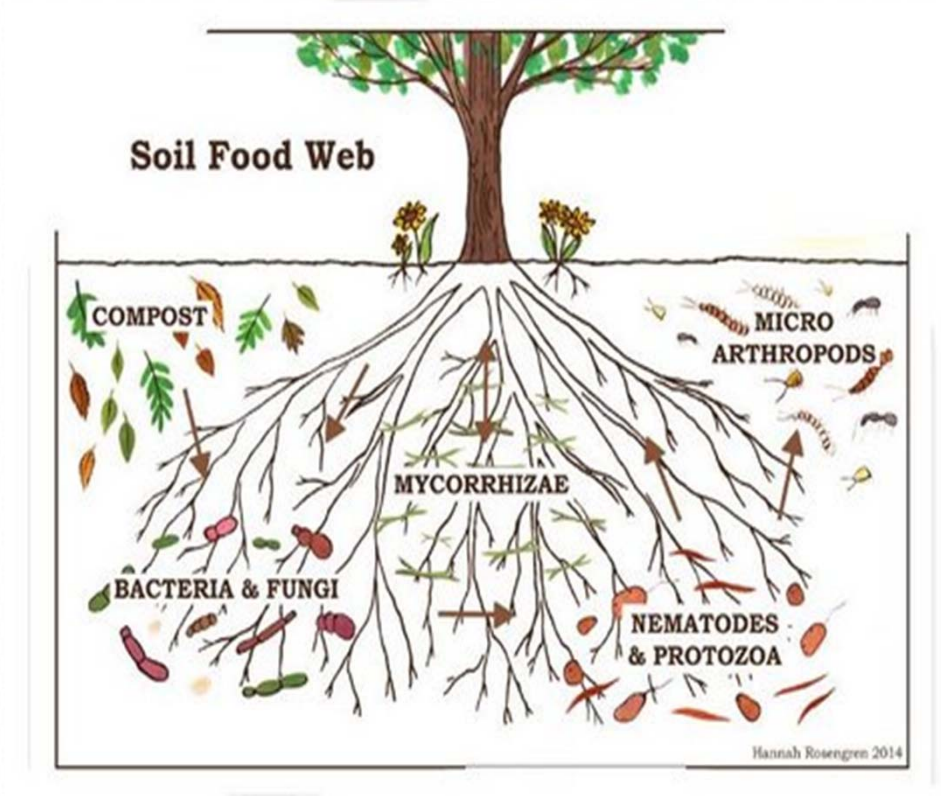
Output / Benefits / Advantage

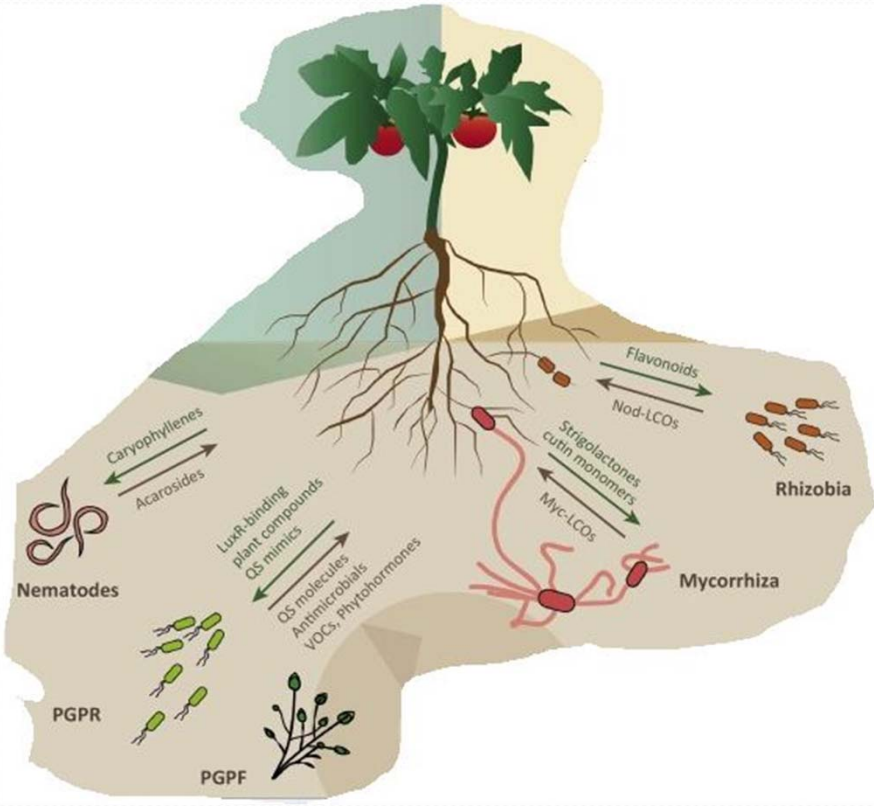
- Farmers acceptable of Nutrient Rich Raised Bed Nurseries instead of Rabb Techniques
- Use of Organic Fertilisers & Green Manures instead of Chemical Fertilisers
- Healthy & Disease Free Saplings
- Increase the seed germination rate
- Easy Transplantation without disturbing soil root

Crop Intensification

- Climate Resilience Agriculture through promotion of STEP Process
- Soil sample collection, tested and has been strengthened by adding green manure, gypsum, borax and zinc sulphate
- Studying the effects of soil pH on plants growth and crop wise suitable soil pH
- Promotion of cultivation of minor millets, pulses, oil seed, medicinal plants, vegetable for healthy life and nutrition
- Promotion of Vertical Bag Agriculture for Landless, Women SHG Members, in Schools and Aanganwadis for their daily diet and nutrient management

Application of Living Organisms, Bio Fertilisers and Bio Pesticides






2015/12/04

Beneficiaries

No	Crops of Demonstration	No of Farmers
1	Paddy	197
2	Finger Millets	155
3	Pearl Millets	82
4	Groundnut	350
5	Pigeon Pea	181
6	Maize	91
7	Sorghum	45
8	Soyabean	32

Special Intervention / Allied activities

Shade Net in 5 revenue villages

Village	Total Farmers	Length (m)	Width (m)	Area Sq.m
Kogda	2	28	28	784
Jamsar	2	22	34	748
Chambar-shet	10 (SHG Members)	64	16	1024
Ghivanda	2	34	28	952
Sakharshet	2	22	16	352

Marketing of Cucumber in Nashik wholesale market

Currently cultivating capsicum

Per Bhat – Direct seed sowing

convince the farmers for adopting technology of Direct Seed Sowing commonly known as “PER BHAT” i.e. without mud ploughing. Direct seeded crops require less labor and tend to mature faster than transplanted crops. In this method, plants are not subjected to stresses such as being pulled from the soil and re-establishing fine rootlets. However, they have more competition from weeds.

Seed Plot

Special effort has been made to initiate & promote seed plot activities with famers from Thokerwadi Cluster. The main objective of this is to promote quality seed production of foundation and certified seed classes.

Promoted “Phule Samruddhi” a new high yielding variety of rice (a variety developed by crossing Indrayani, a long slender, scented variety with Sonsali, a long slender and high yielding variety of Rice) and Paddy Indrayani variety.

Power Tiller

In 6 revenue villages of Jawhar, SHGs have been provided the Power Tiller. The SHG members and the two local youths from each village have been trained how to operate, maintain and prepare regular inventory.

Gram Panchyat	Hours	Acre	Amt	Expen-diture	Net Profit
Ghivanda	43	21.5	15108	6600	8508
Kogda	65	82.5	22779	5120	17659
Jamsar	84	42	29638	12188	17450
Sakhar-shet	61	30.5	21610	5050	16560
Chambha-rshet	45	22.5	15800	4500	11300
Dabheri	11	5.5	4000	1500	2500
Total	309	204.5	108935	34958	73977

Village Community Seed Banks

Set up of Community Seed Bank at Village Level

Farmers and Community Seed Bank members trained in

- Collection of seeds, seed selection, weighing, packing, storing and maintaining inventory and record.

Spring Development / Rainwater Harvesting

- Identified the 14 spring at Jaigad, Ratnagiri, 3 springs at Thokerwadi, 1 spring in Chiplun, 6 springs at Shedashi, Raigad.
- Detail study of each springs by the RC DST Core team along with technical experts and local field staff. Studies the depth, source of spring water, height, length, water availability, etc.
- Spring development planning along with Technical experts.
- Developed total 4 springs – 3 at Jawhar and 1 at Kumbarli village, Chiplun. The spring development comprises of cleaning of spring area, protection & revitalization of micro spring catchment area, spring box, soil traps, collection of water in storage tanks, water distribution through pipelines for village water supply and agriculture

Spring Development

Village Water Supply and Irrigation

Benefit / Outcome

- Water availability for second crop
- Availability of drinking water during drought period
- Directly benefitting to local communities in vegetable cultivation during Rabbi Season

Rainwater Harvesting

Renovation and repair of Stone Bund, Check Dam, Well repairing, well deepening, desilting of lakes and construction of new check dams at Wadeshwar Thokerwadi and Jawhar, Palghar. Other than this catchment area treatment.

Village Name	Structures / Catchment area Treatment
Wadeshwar	Repair and renovation of 1 well
Dabheri	Repairing of Well - 2 Repair of stone bund – 8 Acres
Ghiwanda	Repairing of Well – 2 Repair of stone bund – 15 Acres
Sakarshet	Construction of New Check Dam – 1
Kogda	Desilting of Check Dam - 2 Construction of New Check Dam – 1
Sakarshet	Desilting of Check Dam – 4 Catchment Area Treatment – Continuous Contour Trench – 3 Acres
Jamshet	Disilting of Check Dam – 4 Catchment Area Treatment – Continuous Contour Trench – 8 Acres Dilting of Lakes – 2

Special efforts

Helped 6 farmers to get benefit of Government Scheme (Agriculture Department) for digging of farm ponds (locally called shet tale).

Agriculture Department has already sanctioned & released initial 50% of the amount to the farmers to start the work and the balance 50% they will released once the farmers complete the whole work (digging farm ponds & laying plastic sheets).

Activity Indicator / Deliverables

Activity Indicator	Deliverables
Expertise Developed	• Expertise in Intensification System of Crop & Tree • Expertise in use of bio-fertilisers, bio-pesticides and documentation of the results • Learned the basic 6 (six) principles and actual implementation of the principles on farm and required adaptations with small alterations in the principles. • Developed skills in identifying and handling risks of implementation of technologies for Kharif season • Develop skills for starting processing units of Cashew nut and small enterprise development activities like Papad making, Agarbatii, Detergent Soap

Activity Indicator / Deliverables

Activity Indicator	Deliverables
Technologies developed and dissemination innovations	• Disseminate Sowing of groundnut technology as per the POPs within 153 farmers and provided technical guidance, conducted follow-up of Plots and regular monitoring. • Provided guidance and distribution of Vegetables saplings of cowpea, capcicum and spinal cord • Provided guidance for cultivation of wheat following SWI (System of Wheat Intensification) practices • Vertical bags agricultural technologies implemented with 138 farmers. • Water shed and rainwater harvesting activity in the region of Jawahar along with ICRISAT technical support. • Nursery for RET species for instance Dashmula Plants and its propagation

Activity Indicator	Deliverables
Business Model Developed	• Developed workable technologies & business models for Processing & Value Addition Units for Cashew Nuts, Papad, Agarbatti, Detergent Soap. • Vertical Bag Agriculture with landless families – income source by selling of excess vegetable to nearby local markets • Livelihood interventions for increase in income through backyard poultry and goat farming along with innovative techniques
Training Programmes / workshops organised	• SHG – Value Addition, Processing, Packaging and marketing of cashew nut, Different papads, detergent soap and agarbatti • Nursery raising technology – nutrition rich raised bed nurseries • Corp Intensification Training – SRI, SRT and SWI • Formation of KSS (KisanShetyShala), Farmers Groups / Association, Village Watershed Committee, Village Rainwater Harvesting Committee. • Training in Spring Development and Rainwater Harvesting • Training for Understanding the concept of seed bank, Importance of seed treatment, Functionary of seed bank. • Training & Technical guidance for Seed Plot

Activity Indicator	Deliverables
Technology benefits to society	• Technologies related to Agriculture, Rainwater Harvesting are definitely benefitting to the rural poor and society as a whole for water and livelihood security • Small Scale Enterprise Development Activities by 4 SHG and total 42 members is being benefitting • 6 SHGs from Jawhar are benefitting through Nursery Raising and Power Tiller activities
Involvement of beneficiaries and local organisation	• Rural Communes actively involved in beneficiaries and local organisations in participatory development of Sustainable Models as per need in order to enhance their livelihood security. Local organisations and youth mandals are involved and help for motivation and expansion of the project

Recommendation & Follow-up Action

Recommendation of GMW 13 & 14th May 2016	Follow-up Status
The group is in its first year of core support. Close monitoring of activities would be necessary	-Close monitoring by RC's Trustees on regular basis. - As per request , our external area specific experts visiting and assess the work and guide the Core Team. e.g. Dr. Ulhas Paranjpe and Dr. Himanshu Kulkarni were visit and adviced on rainwater harvesting and spring development. -Similar exercises were done for other thrust areas
Bio-safety, eco-safety of the organisms being dealt with should be carefully studied	Further follow-up needs to done with CTARA, IIT-Bombay for studying bio-safety & eco-safety of the organisms that we are promoting and applying in the fields. Recently we have approached MCRC Chennai for their "Alternative Analytical Technology (AAT) for soil Nutrient analysis through image processing Chromatograms", which we are in process of setting up. This will help in analysing the three primary nutrients, six micronutrients, addition to macro and micro nutrients, pH and EC, fungi are determined through AAT. It will further help in application of bio organisms and bio fertilisers. Further our team is studying the effects of soil pH on plants growth and crop wise suitable soil pH.

Recommendation of GMW 13 & 14th May 2016	Follow-up Status
New innovations also need to be attempted in areas of their strength.	After the detail study of project villages new crops as per climatic conditions are promoted such as Black Watan in Thokerwadi Cluster. The team has been making genuine efforts to promote climate resilience agriculture to combat the efforts of current climate change. Details table study has been conducting for drought management through land management, rainwater harvesting, suitable crops, farm mechanization and nutrient management.
Should seriously consider moving into secondary sector focusing on technological intervention and not restrict itself to primary sector alone.	After initial interventions the team has now focusing on technological interventions such as STEP process in Sustainable Agriculture – setting up a soil testing lab and after the soil analysis application of required organisms and nutrients. Set up the SHG micro enterprise development units and trained the team how to use the technologies of drying using solar dryers and operating of cashew nut processing units. Promoted the power tiller, shade net for agriculture interventions.

Recommendation of GMW 13 & 14th May 2016	Follow-up Status
Many activities; can be clustered integrated and make a priority in terms of intervention. Need to define market value chains clearly!	As stated earlier RC always being following a Comprehensive Approach, now we have formulated a cluster of interventions systematically and implementing step wise approaches.
Suggestions made earlier by visiting expert team should be taken up for necessary follow up.	While implementing each of the core thrust areas and interventions we are revisiting the suggestions made by earlier visiting experts and trying to integrate and follow their suggestions seriously and systematically.

Budget Utilised under Core Support

Head as per Sanctioned	Amount Sanctioned	Year wise Expenditure Incurred			Total Expenditure
		Oct 15 to Mar 16	Apr 16 to Mar 17	Apr 17 to Aug 17	
Manpower	7,20,000	12,000	6,48,000	2,20,000	8,80,000
Consumables	6,43,062	1,03,020	2,12,849	94,480	4,10,349
Travel	75,000	35,110	65,423	18,093	1,18,626
Adapttive R& D, FieldTesting, Demonstration	60,000	39,102	27,228		66,330
Contingencies	44,942	21,726	32,124		53,850
Overheads	74,903	23,429	29,929	63,653	1,17,011
Total	16,17,907	2,34,387	10,15,553	3,96,226	16,46,166

Major Equipment Procurred

I. Soil & Water Testing Equipment		
No	Equipment	Price
1	Rotary Shaker	35437
2	Centrifuge	14062
3	Drying Oven	40000
4.	Soil Nutrient Analysis through Image Processing by MCRC	
i.	Chromatogram Box	11000
ii	Drying Table	15000
iii	Weighing Machine	12000
iv	Filter Paper Marking – Punch Machine	30000
v	Wooden base dye	10500
vi	Soil Analysing Equipment	45000
II. Survey Field Equipments		
1	Digital Level	1,20,000
2	Small Instruments	32,500

III. Water Management		
No	Equipment	Price
1	Treadle Pumps	16,404
2	Hand Pumps	7245
IV. Processing Unit Equipments		
1	Cashewnut Processing Unit	78,975
2	Solar Food Processing Unit	1,61,265
3	Low Cost Storage Unit	80,600
4	Chilly Cutting Machine	98,175
5	Sealing Machine	29,812
6	Awla Cutting Machine	25,500

Publication s	Successfully Case Studies of various target groups are prepared The team is in process of preparing the training modules and small booklets on each of the Thrust Areas
Patent Applied / Granted	Low cost local need based Technologies developed and if applicable we will apply for the patent
Award / Recognition / State Level Intervention	All the technologies are developed as per the need of local communities. RC is closely associating with various Government Departments and whenever approached actively helps in district & state level planning like Watershed Planning (DPR), Livelihood Action Plan and leveraging various government schemes like farm pond, dairy, livelihood activities, etc.

Linkages with S & T Institutions / other NGOs

Technical Institute / NGO	Networking for
CTARA, IIT Bombay	Low Cost Appropriate Rural Technologies like Treadle Pump, Vertical Shaft Brick Kiln
ACWADAM, Pune	Understanding of ground water and Management
ARTI, Pune	Nursery & low cost Green House
SEED, Hyderabad	Food Processing Units; solar dryer, Value addition and skill development training
Jalvardhini, Mumbai	Rainwater Harvesting
Rajkumar Agro Eng, Ambika, Sequio	Bio Fertilisers and Bio Pesticides and other Institutions.
Vigyan Ashram Pabal	Understanding of Enterprise development and set up of value addition and processing unit
AMM Murugappa Chettiar Research Centre, Chennai	Alternative Analytical Technology for soil testing and set up of laboratory.

Work Remaining to be done

The core team has made a genuine effort to understand each and every thrust areas of Rural Communes, DST RC Core Areas and the ongoing activities in each RC field areas. Although in initial stage the team has faced some difficulties as the field areas are new to them. Once they started visiting each village and develop the rapport with villagers, the planned activities are smoothly and successfully implementing with active participation of community based organisations and local communities.

As stated above now we are in process of setting up AAT Soil Testing Lab hence the balance amount of Non-Recurring Items (equipment) will be utilized to purchase & fabricate soil testing equipment and materials.

Any Questions ?

Thank You