



KFW



BATTUVANIPALLI KfW SOIL PROJECT

-: Project Completion Report :-



Submitted to:

The Chief General Manager,
NABARD-APRO,
Hyderabad.



Submitted by

The Chief Executive Officer,
Accion Fraterna,
Anantapuramu.



Project Completion Report

1. Name of the Project: **Battuvanipalli KfW Soil Project**

2. General details

a) Name of the PFA: **Accion Fraterna Ecology Centre**

b) District: **Anantapuramu**

c) Villages covered: **Battuvanipalli**

d) Area covered (ha): **950 ha**

e) No. of HHs covered: **215**

3. Sanction Details

a) Date of Sanction of Project: **NB.AP.FSDD/KFW CC-01/2660-19/2016-17, dated 27 February 2017**

b) Date of Completion of Project: **30.04.2020**

c) Financial Details: **Rs. 45,97,000.00**

(Amt. in Rs.)

S. No.	Particulars	Project Measures (A)	Project Management (B)	Total grant support (C=A+B)	Farmers' contribution (D)	Total (C+D)
1	Grant sanctioned	35,40,000	10,57,000	45,97,000	0.00	0.00
2	Grant released	35,40,000	10,57,000	45,97,000	0.00	0.00
3	Grant utilized	35,36,780	10,57,000	45,93,780	50,000.00	0.00
4	Balance grant, if any (2-3)	3,220	0	3,220	0.00	0.00

d) Unutilized balance grant refunded to NABARD: 00.00

e) Date and other details of refund of unutilized grant to NABARD: 00.00

f) Sanction details as per the project components:

(Amt. in Rs.)

S.No.	Particulars	Amount sanctioned	Amount utilized	Balance amount
1	Soil and water conservation	766000	766000	0
2	Soil health improvement and productivity enhancement	1148000	1147350	650
3	Sustainable NRM and climate resilient farming, livelihood and food security	350000	349310	690
4	Mitigation of CC risk	845000	845000	0
5	Capacity building, institutional development and knowledge management	250000	248120	1880
6	Watershed Knowledge management	56000	56000	0
7	Management and supervision cost	1057000	1057000	0
Total				

4. Project Implementation (Target vs. achievement vis-à-vis project outputs):

a) **Output 1: Soil and Water conservation**

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
Water Absorption Trenches (1m x 1m x 1m)	Cum	1426	147,000	1426	146,988	100	100
Farm pond (10 m x10 m x 3 m)	No's	1	72,000	1	72,000	100	100
Check Dam Repair/Check dam 784	No's	1	389,000	1	389,310	100	100
Bund Planting-Teak	Kg	301	19,000	301	19,000	100	100
Agave suckers may be planted for gully stabilization in place of (1) & (2) above.	No's	9723	54,000	26868	53,736	100	100
Pasture development and Sylvipasture models may be attempted in the Village common land and Grazing lands.	Kg	143	5,000	143	5,000	100	100
Fodder tree species - Glyricidia, Avise, Seema thangedu etc..	Kg	300	5,000	300	5,000	100	100
Horticulture (where irrigation facility is available with farmer)	No's	11	75,000	3775	75,000	100	100
			766,000		766,034		

b) Output 2: Soil health improvement and productivity enhancement

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
Soil testing and issuing soil health cards (Nos)	No's	66	20,000	66	20,000	100	100
One time deep ploughing (ha)	Ha	68	228,000	65	228,786	96	100
Summer Ploughing (ha)	Ha	60	135,000	59	135,415	98	100
land Reclamation of problem soils	Ha	11	127,000	11	126,798	100	100
Bio fertilizer: Vermi compost (tons) and Neem cake (tons)	Ha	50	45,000	50	45,000	100	100
Tank silt (TSA)	No's	828	439,000	818	437,230	99	100
Micronutrients	Kg	69	129,000	70	129,005	100	100
Organic farming demos	Ha	12	25,000	12	25,000	100	100
			1,148,000		1,147,234		

c) Output 3: Promotion of Sustainable NRM, CCA farming practices and food security

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
Inter cropping or Mixed Cropping	Ha	100	131,000	98	131,182	99	100
Crop rotation	Ha	33	43,000	32	43,000	97	100
Alternate varieties or Introduction of new CC resilient varieties	Ha	26	34,000	26	34,000	100	100
Alternate crops	Ha	48	42,000	47	41,982	98	100
Seed Treatment	Kg	303	53,000	300	53,000	99	100
Bio control agents Yellow stick cards	Kg	32	27,000	32	26,510	100	98
Kitchen garden/Nutritional garden	No's	140	20,000	150	20,180	107	101
			350,000		349,854		

d) Output 4: Measures to mitigate CC Risk

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
Custom hiring Centre or Agrl. Tool bank	No's	1	650,000	1	650,000	100	100
Village Knowledge Resource Centre	No's	1	170,000	1	170,000	100	100
Thermo meter dry & wet	No's	1	25,000	1	25,000	100	100
			845,000		845,000		

e) Output 5: Capacity Building, institutional building and knowledge management

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
Training to VWDC members on Institutional Aspect, Project Objectives	No's	2	5,000	2	4,380	100	88
Demonstration on Extracts preparation	No's	1	5,000	1	5,120	100	100
Exposure visit on seed bank concept, NPM shop, Commons management and value addition to farm produce.	No's	1	20,000	1	18,338	100	92
Exposure visit of VWDC members and farmers on climate change, risk mitigation and adaptation.	No's	1	20,000	1	21,150	100	100
Training on Sustainable agriculture	No's	4	20,000	4	19,900	100	100
Training on Horticulture	No's	2	10,000	2	10,000	100	100
Training/Exposure on Livestock management, IFS, Value chain and Seed bank/ MVF	No's	2	35,000	2	35,000	100	100
Training on Fodder bank	No's	2	10,000	2	11,105	100	100
Training on Custom hiring farm machinery unit	No's	1	10,000	1	9,870	100	99

Training on Composting techniques	No's	1	10,000	1	10,000	100	100
Training on NPM inputs preparation unit - Ghana jeevaamrutham, Drava jeevaamrutham	No's	1	10,000	1	9,500	100	95
Training/Exposure on Food processing Mango, Tomato, Millets, Bakery	No's	2	50,000	2	50,000	100	100
Training/Exposure on garment making & fashion designing	No's	1	45,000	1	45,000	100	100
			250,000		249,363		

F) Output 6: Watershed Knowledge management

(indicate all the activities sanctioned as per DPR)

Activity	Units	Target Sanctioned		Target Achieved		Physical %	Financial %
		Phy.	Fin.	Phy.	Fin.		
GIS Thematic Maps on soils	No's	1	20,000	1	18,295	100	91
Posters and pamphlet on climate change adaptation	No's	1	10,000	1	10,000	100	100
Documentation of best practice, periodical booklets, case studies & success stories to bring out periodical booklets & CDs/ Audio Visuals	No's	1	26,000	1	26,000	100	100
			56,000		54,295		

5. Maintenance Fund

- a) Total amount of maintenance fund available with VWC since implementation of regular watershed project:
- b) Utilization of Maintenance Fund, during the project implementation period:

S.No.	Activity	Amount (INR)
1	0	0
2	0	0
3	0	0

6. VWC Details

- a) Total no. of VWC members: **13**
- b) No. of women members: **05**
- c) Registration No. and date: **AMC/ATP/DCO/2014/4097**

7. SHG details (the status of SHGs formed prior to sanction of watershed project may also be given)

- a) Total no. of SHGs in the village: **40**
- b) No. of SHGs formed prior to sanction of KfW Soil project: **08**
- c) No. of SHGs credit linked: **Rs. 88,23,500.00**
- d) Total savings generated: **Rs.4,85,000.00**
- e) Total credit extended: **Rs.93,08,500.00**
- f) Income generation activities taken up by the SHGs (give details in brief):
 - i. Small Business (Saree business, Flower business, Hotel etc.)
 - ii. Sheep and Goat Rearing
 - iii. Milch Animals (Cows, Buffalos etc)

There are 40 SHGs functioning actively in the watershed area village. They have taken loans during the current year to the tune of **Rs.1, 43, 56,000/-** for taking up income generating activities like Sheep & Goat Rearing, CB Cows and Buffalos rearing to produce milk, petty shops and etc.

8. FPO(s) details

a) FPO formed (yes/no): **Yes**

If yes,

b) Date of registration: **AMC/ATP/DCO/2014/4097**

c) No. of members: **180 Members**

d) Legal structure (Company/Society/Co-operative/Others pl. specify):

e) Share capital mobilized (in Rs.): **Rs. 19,800.00**

g) Total credit linked (in Rs.): **Rs. 1,00,05,000.00**

h) Equity support from SFAC (in Rs.):

i) Nature of business (give details in brief): **Finance Production with loans**

9. Result framework analysis

S.No.	Output	Indicator	Baseline	Achievement	Source of verification
1.	Existing physical watershed management measures are expanded and aligned with climate change adaption	200-300 ha per watershed treated with additional SWC measures	278 ha	252 ha	M. Books, Photographs Records & Monitoring visit reports.
2.	Farmers utilise sustainable agricultural practices that conserve soils and ground water in order to improve productivity and environmental protection	100-150 ha per watershed area are treated with targeted measures for soil quality improvement	158 ha	289 ha	Soil Health Cards, Photographs, Records, Monitoring reports.
		Training for farmers in climate adapted agriculture (250 -300 per watershed)	277 No's	683 No's	Training Registers, Photographs
		Average increase of participating farmers' income by approx. 25% (300 households per watershed)	25%	38%	Monitoring Reports and House hold survey

10. Impact:

(Impact of the watershed activities (pre and post interventions¹) may kindly be submitted separately as per the baseline formats provided earlier.) – Watershed/Beneficiary level

a. Land use and Agri/agri-allied details

Particular	Current fallows	Net sown area	Net irrigated area	Area under horticulture	Area under agro forestry	Area under farm/block plantation (only forestry species)	Agriculture Details				Production details of agri-allied sector		
							Crop Type	Production Area (ha)	Total Production (qtls)	Average annual income (INR)	Product type	Production	Average annual income (INR)
Pre-watershed	62	524	248	116	0	0	Groundnut	483	3675	17000	Seed & Oil	2979	22000
							Paddy	18	150	15000	Rice	215	25000
							Horticulture	98	1150	28000	Fruit	1318	50000
							Red Gram	51	241	12000	Dall	138	28000
Post-watershed	3	564	258	125	0	0	Groundnut	502.5	4378	21000	Seed	5160	29000
							Paddy	23	180	18000	Rice	272	28000
							Horticulture	125	2350	40000	Fruit	2780	68000
							Red Gram	63	273	16000	Dall	128	43000

¹Pre watershed is before implementation of climate proofing interventions but after completion of regular watershed project with required interventions. Post watershed is after implementation of climate proofing measures in the completed watershed projects.

b. Crop production details

Area and crop production							
Season	Name of the Crop	Area under Cultivation (ha)		Annual Yield (q /ha)		Total production (q)	
		Rain fed	Irrigated	Rain fed	Irrigated	Rain fed	Irrigated
Khariff 2019	Ground Nut	348.00	232.00	12.00	16.00	4,176.00	3,712.00
	Red gram	56.50	38.00	11.50	25.00	649.75	950.00
	Horticulture(Mango)	-	130.00	-	75.00	-	9,750.00
	Tomato	-	43.00	-	420.00	-	18,060.00
	Millets	12.00	15.00	18.00	22.00	216.00	330.00
	Ragi	-	8.00	-	23.00	-	184.00
	Paddy	-	5.00	-	78.00	-	390.00
	Horse gram	9.00	-	12.50	-	112.50	-
	Cowpea	5.00	13.00	8.00	13.00	40.00	169.00
	Vegetables	-	10.00	-	25.00	-	250.00
	Floriculture	-	3.50	9.00	12.00	-	42.00
Total Area in Ha		430.50	497.50	71.00	709.00	5,194.25	33,837.00

Area and crop production							
Season	Name of the Crop	Area under Cultivation (ha)		Annual Yield (q /ha)		Total production (q)	
		Rain fed	Irrigated	Rain fed	Irrigated	Rain fed	Irrigated
RABI 2019	Ground Nut	10.00	467.00	9.00	16.00	90.00	7,472.00
	Red gram	-	50.00	-	25.00	-	1,250.00
	Horticulture(Mango)	-	121.00	-	72.00	-	8,712.00
	Tomato	-	82.00	-	353.00	-	28,946.00
	Millets	-	44.00	-	25.00	-	1,100.00
	Paddy	-	21.00	-	75.00	-	1,575.00
	Vegetables	-	15.00	-	22.00	-	330.00
	Floriculture	-	4.00	9.00	15.00	-	60.00
	Total Area in Ha		10.00	804.00	18.00	603.00	90.00

c. Income details

Average income of the beneficiary			Loans availed by the beneficiary	
Income sources	Average annual income	Share in total income (%)	Loan Availed (Yes/No)	Purpose of loan
Agriculture	49,500	33.58	Yes	Crop Loan
Labour	29,500	20.01	No	-
Sheep & Goat Rearing	48,400	32.84	Yes	Sheeps & Goats
Others	20,000	13.57	Yes	Small Business
Total	147,400	100.00		

d. Financial Inclusion

Village institutions and financial inclusion					Financial Inclusion of HHs		
Type of community institution	No. of groups promoted	Total no. of members	Total savings mobilized (INR)	Total Loan availed (INR)	Particulars	Number of households	Total amount of loan availed (INR)
SHG	40	480	88,23,500	1,86,17,000	HHs with operational savings bank account	252	10,25,00,000
Farmers Club	-				HHs having Kisan Credit Card	0	0
JLG					Crop loan availed by HHs	180	54,00,000
FPO	1	180	1,10,000	35,00,000	Term loan availed by HHs	25	4,50,000
					HHs covered under crop insurance	225	-

e. Output-wise details

S.No	Output 1: Additional Soil and Water Conservation		Output 2A: Soil fertility and productivity enhancement (Measures)		Output 2B: Soil fertility and productivity enhancement (Soil health cards)		Output 3: Sustainable NRM and CCA practices	
	Additional SWC measures	Area treated	Activity	Area treated (ha)	No. of cards issued	Recommendations	Activity	Area treated (ha)
	Check dam	200 ha	Deep ploughing	55 ha			Alternative Varieties	30 ha
	Water Absorption Trenches	10 ha	Summer ploughing	40 ha			Alternative crops	40 ha
	Farm pond	2 ha	land Reclamation	22 ha			Intercropping/Mixed crop	125 ha
	Bund Planation	23 ha	Tank silt Application	26 ha			Crop Rotation	25 ha
	Agave Suckers	21 ha	Bio Control Agents	20 ha			Seed Treatment	305 ha
	Pasture Development	5 ha	Micro Nutrients	60 ha			Kitchen Garden	15 ha
	Fodder Tree spices	2 ha	Bio Fertilizers	50 ha			Agri. Tool Bank	-
	Horticulture	25 ha						

Output 4A: Climate Risk Mitigation Measures (Crop Insurance)			Output 4B: Climate Risk Mitigation Measures (Promotion of FPOs)				Output 4C: Climate Risk Mitigation Measures (Advisory Services)				Output 5: Training and Capacity Building programmes			
Crop	Insured (Yes/No)	Area covered (ha)	FPO	Average no. of members covered	Average share capital mobilized	Credit linkage if any		Type of advisory	Source	Periodicity	No. of farmers covered	Nature of programme	No. of farmers trained	Total cost (INR)
							Credit availed (INR)							
Ground Nut	Yes	416 ha	Battuvanipalli MACS	180	19800			Weather Report	Weather Notice Board	Weekly	Watershed area	27	180	249363
								Agriculture information	Farmer Information Centre	Daily	Watershed area			
								Agri. Techniques	Agri. Implements	Daily	Watershed area			

11. In what ways did the project improve the nutritional security of the beneficiaries?

The climatic risk event drought under Food Security was high in the watershed area and it has got First Rank when consulted with the stakeholders and communities in the year 2016.

Because of this prevailed risk these farmers used to face consequences of getting Low productivity and low income. The other consequences faced by farmers were Low intake of vegetables and fruits. Hence the Nutritional imbalance observed among the people of this watershed area when we initiated this project.

To address these identified major issues and climatic risk events, planned and facilitated to implement the following activities under the **KfW Soil project** which has improved the Nutritional Security of the beneficiaries.

The Nutritional Security of the beneficiaries improved in the following ways by taking up the appropriate interventions such as.

- ◇ **Kitchen Garden:** About **0.25 Ha to 1 Ha** of back yard space has been covered in total with vegetable crops like Bendi, Brinjal, Furrow guard & green leaves like Thotakura, Gongura & Curry leaves by taking up the activity of Kitchen garden. **70** families are consuming vegetables from their own back yard and other **195** families are consuming Vegetables as well as green leaves especially “Gongura” from their Back Yards and agriculture fields which ensures the Nutritional Security to their family members. Facilitated to get Indigenous varieties of Vegetable seeds first and then multiplied for supplying to all other families in the project area.
- ◇ **CCA Farming Practices & Nutritional Security:** The basic commodities required for food and nutritional security are Rice, Ragi, Bajra, Millets, Red gram, Horse gram and Groundnut. But most of the farmers used to raise only Groundnut and Tomato, very few farmers were raising Red gram, Bajra & Ragi. They were not meeting the per capita requirement and there was a remarkable shortfall in production and consumption in the watershed area.
- ◇ **Alternative crops:** promoted alternate crop in 66 ha of land with 185 farmers by replacing the Groundnut with Ragi, Korralu and samalu. The production of

Ragi, Korralu and samalu increased in the area which contributed for nutritional security of the beneficiaries.

- ◇ **Inter cropping:** promoted Inter crops in 100Ha.of land with 201 farmers by bringing back the practice of raising Red gram, Bajra, Sorghum ,Cow pea, Alasanda along with Ground nut crop. The production of Red gram, Bajra, Sorghum ,Cow pea, Alasanda enhanced in the area which contributed for nutritional security of the beneficiaries
- ◇ **Land Reclamation: 25 Ha** of Cultivable waste land was brought under cultivation additionally by taking up the activities of Land levelling and Reclamation of soil and thereby increased the production as well as productivity which contributed for Nutritional security to **50** families by this way.
- ◇ **25** more families followed the same method and brought **10ha** of their cultivable waste land under cultivation additionally started growing crops with their own funds.
- ◇ The other ways like adopting 1.Soil health and productivity enhancement methods 2. Sustainable NRM, CCA farming practices 3. Trainings and exposures also contributed directly or indirectly for improving the Nutritional Security of the beneficiaries by increasing the income as well as knowledge levels of the beneficiaries.

12. In what ways did the project improve livelihoods of the beneficiaries?

The climatic risk events drought, delay in monsoon, intermittent dry spells and rains during harvesting periods under Livelihoods & Agriculture were high & medium in the watershed area and they have got First & Second Ranks when consulted with the stakeholders and communities in the year 2016.

Because of these prevailed risks these farmers used to face consequences of poor crop establishment, frequent crop failure, reduction in crop sowing area, poor quality produce, low productivity, prone to more heat related diseases, less green cover, scarcity of water both for agriculture as well as drinking purpose and low income. Hence the Livelihood opportunities were inadequate within the

watershed area villages. Seasonal migration due to lack of Livelihood opportunities observed among the people when we initiated this project.

To address these identified major issues and climatic risk events, planned and facilitated to implement the following activities under the KfW Soil project which has improved the Livelihood opportunities of the beneficiaries.

The Livelihood opportunities of the beneficiaries improved in the following ways by taking up the appropriate interventions such as.

- ✓ **Soil and Water conservation measures:** The interventions like Earthen Field bunds, new stone revetment, Water Absorption Trenches, Stone Gully Plugs and Rock Fill Dams to Control the Top soil erosion, reduced the scoring effect of the weak field bunds and reduced the velocity of water to minimize the top soil erosion generated livelihood opportunities during the project period and continuing.
- ✓ **Land Reclamation: 25ha** of Cultivable waste land was brought under cultivation additionally by taking up the activities of Land levelling and Reclamation of soil and thereby increased the production as well as productivity which contributed for additional Livelihood opportunities to **35** families by this way.
- ✓ **20** more families followed the same method and brought **10ha** of their cultivable waste land under cultivation additionally and started growing crops through which created livelihood opportunities themselves with their own funds.
- ✓ **Improving Vegetative cover: 75 ha** of land has been covered with fruit bearing trees like Mango, Guava, Lemon and Papaya by taking up the activities of Back Yard plantation & Dry land Horticulture and thereby shifted from routine agriculture to production of fruits. **80** families are getting assured income out these interventions in their own agriculture fields as well as back yards which ensures the Livelihood opportunities to their family members.
- ✓ MACS also a good way to get loans for small business and LH purpose. Above 70 lakhs have been turnover through these MACS.

- ✓ The following ways also contributed for Livelihood opportunities in the watershed area.
- ✓ **50** families purchased CB Cows and getting income out of it in addition to agricultural income by developing their land for grassing purpose and covered **15.00 ha** of land with fodder as well as fodder trees for ensuring the fodder scarcity in the area.
- ✓ Persons who migrated for want of work to other areas came back and taken up vegetable cultivation and taken up the vegetable business. They are getting some income out it in addition to agricultural income.

13. Convergence with Central/State government schemes and CSR programmes, if any:

S.No.	Name of the scheme	No. of beneficiaries covered	Total assistance availed (INR)
1	Drip Irrigation Units(APMIP)	43	Rs. 4,30,000.00
2	Navadanya Seed(GoAP)	123	Rs. 70,500.00
3	Horticulture Plantation(MGNREGA)	54	Rs. 5,48,000.00
4	Horticulture Plantation(RDT FVF)	25	Rs. 2,55,000.00
5	Horse Gram Seed (Do Ag.)	30	Rs. 48,000.00
6	Gypsum (Do Ag.)	70	Rs. 3,68,000.00
	Total	345	Rs. 17,19,500.00

14. Web-based monitoring:

- a) Updated project sanction, release & achievement details: **Yes**
- b) DPR upload: **Yes**
- c) No. of photographs uploaded: **160**

15. Scaling-up of project interventions:

- a) Were any of the project interventions replicated for non-project beneficiaries: **Yes**

b) If yes, details of the replicated interventions:

S. No.	Project Intervention replicated	No. of non-project beneficiaries covered	Source of funds	Impact
1	Soil Tests	50	Own Funds	22 ha of soil fertility was identified
2	Deep ploughing	15	Own Funds	7.5 ha of land brought cultivable
3	Land Reclamation	6	Own Funds	5 ha of land brought cultivable
4	Tanksilt Application	30	Own Funds	22 ha of soil fertility increased
5	Zync Application	80	Agriculture Dept	Yield increased
6	Horticulture	20	RDT FVF	Mango plants
7	Alternative crops	15	Agriculture Dept	Replaced with Ground nut
8	Inter cropping	40	AGRI. DEPT	Replaced with Ground nut
9	Crop Rotation	10	AGRI. DEPT	Replaced with Ground nut
10	Seed Treatment	35	AGRI. DEPT	Replaced with Ground nut
11	Fodder Development	5	AGRI. DEPT	cattle purpose

16. Audit Reports to be submitted: [Annexure - 01](#)

- 2017-2018 – Audit Report
- 2018-2019 – Audit Report
- 2019-2020- Audit Report
- 2019-2020- Audit Report
- Consolidated Audit Report -01-03-2017 to 31-08-2020

17. Success stories to be submitted: Yes

Check dam

Problem Statement explaining the situation before interventions (bullet points)

1. Low water intensity in bore wells
2. Crops are dried out
3. Uncultivable lands are there

Interventions undertaken under KfW Soil project along with challenges faced:

1. 16 bore wells are recharged
2. Hike water intensity
3. Check dam surrounded uncultivated lands are turned different crops



Outcome and success (include numbers – before & after):

1. 16 dried out bore wells are recharged
2. Alternative crops are grow very well
3. Nearly 8 acres of uncultivable land turned to cultivable land

A Toranam² to welcome you....

“Our elders are the main culprits... They never thought that planting trees is good for us... For generations, our village did not have trees, our landscapes are barren. Even for a *Toranam*, we had to collect green mango leaves from other villages (*Toranam* – a garland of fresh green mango leaves called Toranam in Telugu. This is used to decorate doors and houses during festivals and other auspicious occasions). Somehow, we survived droughts and learned to live with droughts and deal with droughts.... With watershed development project in the village, we turned a new leaf in our lives in the village” – Bommayya, an active committee member narrates the greening process of their village, under watershed development project in the village. Indeed, Bhattuvanipally, Kalyandurgam Mandal, Anantapuram District, Andhra Pradesh turned a new leaf in the village.

A green mango leaf....

“Our village had only one open well, from which we all fetched drinking water..... At the advent of bore wells, the open wells became dysfunctional. We dug bore wells deeper and the water is found to be unfit even for drinking – high levels of Total Dissolved Solids and even Fluorosis... Even these bore wells got dried up, as everyone in the village dug so many bore wells. We always had water scarcity... AF arrived at our village and started discussing about water conservation and watershed development projects with the support of NABARD. We did not understand this initially..... After visiting Mallapuram, (a village where AF already implemented watershed development project in the same district), we realised that we could take responsibility of our current actions and be responsible for our future... Watershed development projects provided necessary guidance to us...” – The origins are humble for Bhattuvanipally village, where already established village Mallapuram provided necessary inspiration.



Bhattuvanipally has successfully implemented watershed development project with various water conservation activities, soil conservation activities and also horticultural activities. Several water bodies are created, which recharged the groundwater resources. This helped the village to move towards an alternative economic activity – vegetables and horticulture. From groundnut dominant cropping systems (mono cropping), the farmers moved towards multi crop system – tomato, mango, groundnut and mango crops. Out of 180 farmers, 75 farmers have planted 30000 mango trees in the village. Some farmers also planted orange, sapota and other crops such as flowers, papaya and so on. The water conservation efforts helped to ensure that these plants/ saplings are well watered and protected. Plants that could not survive were replaced and re-planted in subsequent years. “Since this is a new experience in the village, farmers struggled a lot to ensure that these plants survive. About 15 farmers did not have proper water facility. They carried water through tractors and ensured that these plants survived” – Potanna explains the struggles of some of the farmers in this

²Toranam is Telugu word, which means a garland of green mango leaves. This garland is tied to the doors/ entrances to welcome guests and celebrate auspicious occasions and festivals in Andhra Pradesh .

new experiment. Now the village boasts of green cover and a potential high growth economy. Several farmers also established drip systems to ensure that plants get sufficient water and not excess water is supplied.

The watershed project is completed in the year 2017. The farmers quickly learned the benefits of new crops – mainly chilly, tomato and mango. For some farmers, the mango crop started yielding since 2012. During this process, several farmers in the village switched over to mixed cropping system – mango orchid, groundnut, chilly and tomato are most commonly visible in the village now. Thimmarayudu is one such farmer, who switched over to mango and tomato combination. He was able to take two batches of tomato crop per year, as this is a short duration crop (only three months). When there is good monsoon, the bore wells are recharged and the crops could be irrigated from his bore well. In case of dry spells/ droughts, he has to buy water and supply the same to plants through tankers (mounted on tractors). This means additional costs of 600 Rs/ tanker. Each acre of land may require about 20 trips/ season. This means the cost incurred in supplying water to tomato is 12000 Rs/acre. A good monsoon and recharged groundwater will save this additional cost per each acre of land. “When we cultivate tomato in two or three seasons/ year, we know that one of these seasons will be loss making venture, due to price fluctuations. When several farmers cultivate tomato, there is glut in the market and the prices will collapse. If a farmer grows tomato



only once/ year (or only one batch/ year) and if this season matches with the high supply season (glut in the market), the farmer will make huge loss. So we all cultivate tomato at least two seasons per year and recover the entire cost of all batches, through sale of tomato. If one batch fails, other batch will generate enough surpluses....We make efforts to cultivate tomato in “off season”, so that there is good price in the market... But there is a big gamble in the market. Though

watershed protects us from water scarcity, we are not yet protected by market shocks...” - Thimmarayudu explains the logic of number of batches per year under tomato crop and the vacillations with luck. He earned 2.5 lakhs in 2013 and 4 lakhs in 2014. Since there is no good monsoon since 2015, he did not cultivate tomato. However, the mango orchids started yielding in a small way. The come from these orchids was Rs 20,000 in the first year (2012) and it moved up to Rs 1,30,000/- in 2017. He also believes that the mango crop could yield much better, if the monsoon is good. If the monsoon is good, he could take multiple crops also. However, he concludes that the current agricultural situation in the village is much better than the situation where only groundnut was cultivated. There much better incomes in the village and risk is distributed to all seasons of the year.

Bommayya also agrees with this conclusion on Tomato crop. He grows chillies, tomato and mango trees. Sharing his experiences of cultivating chilly crop (which is a long duration crop),he believed that chilly also gives good returns to farmers. During dry spells/ droughts, chilly crop requires water supply from tankers. Obviously this has implications on the costs and profits from this crop. About 24000 Rs/acre is the additional costs incurred for protecting crops from dry spells. At least 50% of this cost is not required, if monsoon is good. However, chilly crop could be stored (dried chillies could be also sold in the marker) and sold at later stages. When compared to tomato, chilly offers

better protection from whimsies of market (though there is a different type of vulnerability for chilly crop).

The mango production is slowly becoming a reality in the village. Due to poor monsoon and long dry spells during 2015,2016,2017 and 2018, there are very limited number of orchids that actually bloomed in the village. This approach (moving towards mango orchids) actually provided green cover to the village and in a way reduced successive investments from farmers on groundnut. They also started getting some income from vegetable crops. Other fruit bearing crops in the village – sweet orange, sapota, seetaphal, jamoon, amla, etc are not in high numbers. Sapota trees are attacked by wild bears, as these wild animals like sapotas very much. Because of the wild bear menace, farmers actually cut all the sapota trees in the village, to protect themselves from wild bears. The mango orchids need careful nurturing and watering. Interventions under watershed project could provide basic water during good and normal monsoons. If the monsoon fails, these water conservation facilities will also perform at low levels of effectiveness. This will have some implications on the yields of the mango orchids. This is also one of the reasons for long gestation period for mango orchids to flourish (bloom and yield with appropriate production capacities) in the village. These experiences should teach a lesson to farmers and policy makers, which options work better for farmers in terms of water availability, green cover and sustained incomes to farmers.

Mouth Full of Safe Drinking Water.....

Ratnamma's routine goes in a relaxed way and there is no tension for her, to manage her household chores. So are her neighbours – Gowri, Bhagya, Manga, Lakshmi. In fact, all women in this village have an advantage. They all have a great comfort in terms of assured supply of drinking water and domestic water. Not only women, all men and children also lead a comfortable life here. "We cannot measure the benefits of the peace of mind we have..." Rantamma gets philosophical while she narrates the new life style and simple comforts that the women in the village have. "We hardly have drinking water problem in our village now..... After completion of watershed project in our village, we see a sea of change in our lives.... Particularly, water for drinking and water for domestic use are always guaranteed by our village level committee. While rest of the villages in our neighbourhood



suffer from water scarcity, our committee ensured that all households have safe drinking water, dependable and continuous water supply through pipes/ taps to the entire village. All houses have a tap connection now... We have a relaxed way of leading our lives, unlike many women in other villages...." – Ratnamma presents the summary of her village story from her perspective.

Among many other villages in Anantapuram district, Bhattuvaanipally stands apart. About 190 families - all citizens of the villages, particularly women of this village are proud about the water affairs in their village.

The situation of the village changed since 2015. Like many other villages in Anantapuram (Andhra Pradesh, India) Bhattuvaanipally village, Kalyandurgam Mandal also had water scarcity. "In fact, tests

conducted by RDT/ AF revealed that water from our drinking water well is contaminated by fluorosis. This was long back..." revealed Ram Mohan, water committee member of the village.

The Water Committee members share the saga of drinking water arrangements in the village. The village crossed several hurdles and learned from their experiences. Naveen continues the water chronicles of the village.... Another well, which is at 3.5 km from the village, was found to be good for drinking water purpose. Villagers contributed in the form of voluntary labour (to dig the channel/ pit for laying the pipe line) and AF/RDT supported in proving other infrastructure (tap and pipeline) to bring water from the well to the village. This system supplied safe drinking water for the entire village for almost 8 years. This system had to be discontinued as this bore well got dried up. Source sustainability is a major challenge in the village. AF established another bore well near Hanuman Temple for supplying safe drinking water. This is exclusively used for drinking water purpose, for some time. Meanwhile, Grama Panchayat also dug a bore well up to 700 ft deep, to supply drinking water. Since this water is found to be unfit for drinking, water from this bore well was used only for domestic purpose. Over a period of time, Grama Panchayat also established a water supply system in the village (overhead storage tank; pipe line network, stand posts, tap connections, etc).

Naveen indicates how the water supply system could not meet the needs the village in terms of safe drinking water. This could be the story and experience of any village in the district. Since several villages in Anantapuram have chronic water shortage, Government of Andhra Pradesh established Sri Ram Reddy Project, a multi village scheme to supply water to 1500 villages in the region. Bhattuvanipally is also integrated in this network/ multi village scheme. However, the water supply from this scheme is not regular. Water from SRRP was pumped to the overhead storage tank in the village. The existing infrastructure established by Grama Panchayat (overhead storage tank, pipe network, stand posts) was used to supply both groundwater (local water) and water from SRRP (non-local). The colour of this water used to be red and it is found to be of poor quality. One does not know which water is the actual culprit. Villagers endured all these arrangements for a long period. Women, who are mainly responsible for running home, had considerable distress and hardship in water related activities. Unpredictable supply, poor quality and also depleting sources of safe water always took away the peace of mind of women in the village.

"We decided to change this, during our watershed project period. With the support of NABARD and AF, Bhattuvanipally implemented watershed development project in the village during 2017-2020. During this project, Village Watershed Development Committee took up a variety of water conservation works in the village. These interventions have shown a good result on water availability in the village. Bore wells are rejuvenated and there was longer life to each bore well. Situation of agriculture also improved. Given this, the Village Watershed Development Committee decided to end the sorrow story of drinking water in the village" – Ramanjaneyulu, Chairman of watershed committee recollects the initial efforts to improve drinking water situation in the village.

In 2015, a Grama Sabha was organised by Village Watershed Development Committee. Leaders from all castes and many citizens participated in this meeting. The purpose of the meeting was to evolve an arrangement for uninterrupted supply of safe drinking water to all families in the village. The villagers are already familiar with Reverse Osmosis Plants (RO Plants). They are also familiar with the challenges of managing these RO plants. To ensure that the RO plant actually runs in an uninterrupted manner, the Village Watershed Development Committee, Grama Panchayat and village leaders decided to follow these norms.

- ✓ A separate and exclusive drinking water committee is to be established with dedicated and committed village leaders.

- ✓ A trained person is to be employed with salary, to operate the plant.
- ✓ Total capital cost has to be shared by villagers (1,00,000Rs); NABARD/ Watershed Project (2,50,000 Rs) and Grama Panchayat(building and power connection).
- ✓ The funds required for meeting the operational costs (salary, electricity bill and other expense) will be mobilised by selling water cards. This monthly water card is sold for 100 Rs/ Family/ Month. The Card Holder could fetch 20 lt water can from the plant during morning/ evening hours.

Within a short period, RO plant was established with the guidance from AF. An old building of Grama Panchayat was renovated for keeping RO Plant. A dedicated bore well was connected to this RO plant. This bore well benefits from the water conservation activities of the watershed project and thus this source is protected from depletion. P Bhogesh, a local youth is appointed for operating the RO plant. He was given basic training on operations and other functions of RO plant. Total Dissolved Solids (TDS) of pre-treated water is about 800 PPM and after treatment, the TDS is kept at 20 PPM. The monthly income of the RO plant (from sale of water cards) is about 9000 to 11000 Rs. The expenditure is about 9000 Rs – including salary of operator (5000 Rs/month); electricity (2000 to 3000 Rs/month) and chemicals/ supplies (1500 Rs/month). There is a surplus of 1.77 lakhs in the bank account of this water committee by the end of July 2019. The capital for replacement of machinery is mobilised as and when required, from contributions from the families.

“Our village had a curse and we got used to live with drinking water scarcity.... When there was only one open well in the village 50 years ago, then also there was water scarcity in the village. I used to wake up very early in the morning at 4 AM (before everyone), fetch water from the open well before anyone could start... I used to try hard not to make any noise while pulling the water bucket from the well, using the pulley... the pulley sound could attract attention of others and they may also come to fetch water at the same time and I may not be able to get adequate water. After that bore wells came. Fluoride contamination and drying up of bore wells also followed. These were the struggles of past... now our committee is capable of supplying safe drinking water to all families, at a nominal cost. This arrangement liberated us from drudgery, anxiety and ill-health. Our children and women are enjoying their life now... watershed project interventions ensured that the bore well source is protected from depletion... Our payment system ensured that this system is not stopped due to lack of financial resources... Our committee takes responsibility of solving the problems that may crop up any time... No wonder that many visitors from other villagers come to our village to learn about watershed projects and its impact on drinking water security...” a confident G Ramanjaneyulu, Chairman of Watershed Committee/ Mutually Aided Cooperative Society in the village beams with pride and joy. All villagers share his sentiment.

A mouth full of safe drinking water..... Drink it for the health of all in the village...

Adventurous Ventures

That Govindu Boya's business is thriving is an understatement.... He is one of those entrepreneurs, who made good sense of one's family tradition and modern institutional support systems that emerged in the village. 'Capital used to be always a challenge for me....' He reminisces about his past life. 'Now, I have a savings of Rs5300 in our village cooperative. I can also borrow money from this cooperative, whenever I need money...' – He is beaming with confidence, about his membership in cooperative in the village. Considering his recent business transaction in July 2019 (which is Rs 13 Lakhs), his savings in the cooperative are very small. However, one could comprehend the sense of pride, confidence and sense of security in his mind. He is leveraging greater support from his membership in cooperative.

Govindu Boya's family is engaged in sheep and goat rearing for generations. Rearing small ruminants is also a profitable business. But in a small drought prone village like Bhattuvanipally in Kalyandurgmandal, Anantapur, Andhra Pradesh, this family tradition could also have several challenges – scarcity of fodder, water and vaccination services are the most prominent issues that a herd owner has to confront in the village. Flock size remained small and the engagement with livestock remained like a burden in some years. Govindu was always tentative about maintaining a flock. 'feeding the goats and sheep is not a small task... my wife and I used to roam around our village and also villages in the neighbourhood.... There was no fodder and lands are kept fallow. There were no crops. Not even a blade of fodder to graze... I was selling the goats and sheep almost in distress...' He recollects the distant past and his gambles with livestock rearing business.

During monsoon in 2019, Govindu has a comfortable state of affairs, as far his business is considered. He has all figures on his figure tips. Under the cool shadow of a tamarind tree, he could teach you a couple of lessons on business, while keeping a careful eye on the flock. The sheet rock under the tamarind tree offers a perfect place for learning about some business secrets on goat and sheep, from the expert....

"I was not sure about the business about goats and sheep, though there is good profit in this sector... I was not capable of taking decisions in time that could make profits. I thought it is good for us, to work as labourers Infact we made some good amount of money, while these works are implemented in the village. We both worked as labourers in the village for a long period. But, when we joined the cooperative in the village, my thoughts changed. Palaarapu Venktatesh, Bommanna, Lalitha, Sekhar and Chikkamma are our group members. Each one of us borrowed money from the cooperative. We are also regularly saving money in the cooperative. This process of savings and borrowing money from cooperative triggered some more confidence in my mind. Meanwhile, our village situation also changed, after watershed project, which is very conducive to livestock business. I thought I will borrow money from cooperative and engage in livestock business. I borrowed three times from cooperative, a total amount that I borrowed is Rs 2 Lakhs rupees so far. I repaid all these loans in time....' - The cooperative gave him a new confidence to take up an adventurous venture, but building on his traditional occupation.

"My wife and I used to buy goats and sheep in the fairs initially. Initially, we were committing several mistakes in the choice of animals. We learned hard way. We were consistently making mistakes on the choice of animals, age, qualities, number and so on. After realizing this, I started observing how others are buying goats and sheep, what are their considerations. I used to observe all negotiations

and type of issues that are being discussed during these transactions in the fairs.... I learned a great deal of the business tricks, during the conversations with buyers and sellers in the fairs..." He shared his methods of learning about the livestock trading and subsequent steps, with a sense of achievement.

"After borrowing money from cooperative, I purchased goats and sheep. My learning from the observations helped to make good decisions on these steps. Initially, I purchased only small number of ruminants. I slowly increased this number. Now, I buy about 100 goats and sheep in a single deal. I may spend about Rs 5 lakhs also for this purpose. I realized that I should not keep the flock for too many days at home. After three months, I should sell them. Then only, I get good profit. I need to calculate the cost of fodder and vaccination expenses. I also buy fodder and keep some stock at home. Currently, I have six quintals of maize at home for feeding my current flock. I spent about 12000 Rs for this. This has implications on the profit. If I spend too much time on a batch of goats and sheep, my profit will come down. I watch my own costs (time spent by my wife and me) and make an assessment when should I sell them, so that my time is also productively used and there is profit for my time too. I calculate the daily wage for my wife and me, which is included in the total cost of the venture. Since I borrow money from cooperative, I need to be aware of the implications of interest that I have to pay. So the cost of capital is an important factor that influences the profit from business...I keep a close tab on expenses – fodder costs, vaccination and my own time. A combination of these factors will lead to decisions on the right time for selling the animals – how many, at what price and where. I also get baby goats and sheep during this period. I will sell them or keep them for some more time, depending on my financial needs. The flock size is always dynamic. I realised the selling June and January gives good profits. It makes a good business sense to sell the animals before rainy season. This reduces the risk of business. One can avoid diseases; animal mortality, feed related expenses – if we sell before monsoon...." - getting some practical lessons on going about business and tips in controlling the costs from an unusual teacher is an unforgettable experience for you.

"Luckily, after watershed projects, our village has good greenery. There are several tree plantations in the village. These lands are also available as these trees have grown up and there is fodder in between these grown up trees.... I also take land on lease for grazing my flock. There is also water in the village for my livestock. In fact, livestock owners from other villages come to our village, for feeding, grazing and water now... the advantage of watershed projects is immense on biomass and water...." – Govindu is emphatic about the enabling systems in the village, after watershed development projects in the village.

"Sometimes, I do a quick business too. Recently, I purchased 100 sheep at 6000 Rs each, by spending Rs 6 Lakhs. I sold them within a week time with a profit of 300 Rs/sheep. I made 30000/- within a week. During this month (July 2019), I did a business of Rs 13 lakhs. All these are short term transactions. I buy animals and sell them within a short period for some profits. Money is always circulating and generating profits for me.... Now, I also have 500 goats and sheep. I have access to good water and fodder, thanks to watershed projects in the village. I learned to administer vaccination doses to my animals, to protect them from any disease. The loans from the cooperative are always available to me.... I am making good profits from my family occupation...." Govindu is proud about his ventures and adventures.

All this children are studying now. His eldest son is studying engineering in Vijayawada and two younger ones in Navodaya Schools at Anantapuram. He is happy about his family members and his own enterprise. Govindu's story projects the potential of support systems such as regenerated natural resources (after watershed development projects) and local functioning financial institution.

Govindu has grown up as an entrepreneur from a livestock rearer. Livestock is a major contributor to rural economy, which is a result of efforts from several successful entrepreneurs like Govindu Boya.

A Journey towards Cooperation....

“We did not stop at conservation of water under watershed development projects... we travelled a long distance....” - G Ramajeneyulu, Chairman of Watershed Committee/ Mutually Aided Cooperative Society (MACS) of Bhattuvanipally, Kalyandurgam Mandal, Anantapuram District, Andhra Pradesh, India shares his travelogue with you. You cannot miss the sense of pride and honesty in his voice. While there are several watershed projects in the country that end up with construction of check dams, the Village Watershed Committee of Bhattuvanipally, Anantapuram District moved the envelop further. This village established a vibrant and functional village level cooperative that functions like a backbone to the rural livelihoods in the village.

“Like a typical watershed project committee, we mobilized villagers to conserve soil, water and promoted plantations in the village. These interventions are very necessary for our basic needs. But they are not sufficient. Under the guidance of ActionFraterna and NABRD, we constituted a Mutually Aided Cooperative Society with the villagers as members. However, we were not sure why we need this cooperative society and how to make it work for us... We struggled a lot initially and learned lessons hard way....” Bommayya and Ramanjeneyulu share the details of their journey from watershed projects to people’s cooperative.

The village had a history of cooperation on financial matters. In 1995, a youth committee was formed to manage the funds that were collected by selling tummakampa (*ProsopisJuliflora*) trees in village. The Grama Panchayat got about Rs 30,000/- by selling these tummakampa trees. The Youth Committee was giving loans to villagers and each person was expected to repay the loan by 12th Jan of each year, with interest. This system was effectively running for a long time. Since this their “own” money, the villagers are honest and did not disobey any collective decision. However, when they formed a cooperative society in the village, during the watershed development project, the behavior of villagers was very different. They got matching grant from NABARD under livelihoods promotion fund, which was used to give loans to member of the cooperative. Everyone thought that there is no need to return this money.

“.... I guess, we hurriedly formed the cooperative society, without realizing why we are doing what we are doing. There was big fanfare, celebrations, shamiyanaas, membership drives, etc. Though our share capital (100 Rs) and membership fee (10 Rs) are small, we are born with golden spoon. Under NABARD watershed projects, we got a grant – Rs 10,00,000/- for promoting livelihoods. With great fanfare, we distributed ‘loans’ to all members... About 180+ members received loans from MACS initially and everyone was happy.... All of us thought there is no need to repay this money, as this was given by NABARD. In fact, the MACS leadership/ committee members also do not know how to move forward and did not consider loans as an issue. We realized that we did not have any clear and firm discussions, rules and commitments regarding loan repayments. This point could as well be the end of our journey....” reflected the key leaders of the MACS, after functioning effectively for about four years by the end of July 2019.

“We realized that there is a great potential of cooperatives in the rural economy and livelihoods, we are able to drive the agenda firmly. We realized this after visiting Mulakanoor Cooperative Society in Karimnagar District, Telangana. After seeing the deadlock in our financial affairs, AF organized series of meetings and also an exposure visit to Mulakanoor Cooperative Society. This exposure visit opened our eyes. We learned the importance of leadership and firm action on financial aspects from this cooperative. This is a major milestone in our journey.....” - Bommayya recollects the important event in his life as a cooperative member.

“After returning from the exposure visit, we started visiting the homes of all members and insisted that they should repay the loans. During these meetings and visits, we explained about our history of managing our own funds earlier and indicated that the funds mobilized from government agencies like NABARD is also our own money and we need to be responsible for managing this fund. They never expected that someone will knock their doors for collecting dues, particularly when the funds are from government sources. We implored them that the amount borrowed by them was not only public money, but also their own money. In the interest of one’s own financial growth, they should return the money. The reactions of members were mixed. Some of them politely agreed; some of them immediately paid, some of them were angry and some of them felt insulted. Few members challenged the committee members to make payments first, before asking others/ common members. This was a good challenge. All committee members paid their dues within no time. This gave us moral strength to demand the same behavior from every member. About 40% of the members returned loans quickly and 60% of the members took their own time and slowly repaid. This was a great experience for us and we gained considerable strength in this process. We realized the importance of commitment, patience, persistence and firm action on financial issues. When we recovered all the dues, we organized a Maha Sabha and invited all members again and presented a report to them. We invited representatives of AF, NABARD, police and other government departments. We also narrated the new system and protocols for financial transactions under MACS purview. We wanted to implement all good lessons that we learned in a hard way..... This was a step forward in a decisive way...” – A new phase in the journey is getting kick started during this Maha Sabha, towards a financial security and self-dependent arrangements. It was challenging and exciting too.

185 cooperative members are organized into 36 smaller groups. Each member has a choice to select his/ her group members. Compatibility and trust among the members are the main criteria for group formation. It is mandatory that each member saves 100 Rs/ month at Cooperative. This helped the cooperative to improve their financial muscle and working capital. Each member made a notional investment in the cooperative in the form of a bond for Rs 10500/-. The grant that the cooperative received is converted into these bonds, which is considered as investment from each member. The Cooperative pledged to give 6% interest to members on this. The financial capital accumulated from NABARD grant (which is converted into Bonds) and member’s savings is used to give loans to members for a variety of purposes. The interest rate is fixed according to the loan amount borrowed. Higher the amount borrowed, higher the interest rate. The interest collected so far is Rs 536420/-. 9th day of every month is dedicated for making payments to cooperative (repayments and savings). Late payments will attract huge penalties. The penalties collected during year 2018-19 is Rs 26,850/-. The turnover of cooperative is Rs 70 lakhs. The cooperative governing body ensures that all norms are followed without any gap.

Cooperative did not put any restrictions the purpose of the loans. Members could borrow money for any purpose – agriculture; livelihoods; asset creation (gold, land, livestock, house, etc). The members

could also borrow for any emergency purpose. The Joint Liability Groups (JLGs) are expected to ensure that all members follow discipline in financial transactions. At any point of time, only limited number of members of the group gets the loan. Once these members repay the loan, other members will get the loan. All members have to give assurance/ stand guarantee to the members. Depending on the individual's performance, each member gets loans of varied amount. Performance of group is also considered as basis for giving new loans. Loan repayment is fine tuned to crop seasons, but not necessarily linked to success of crops.

Deebayya, Parvati, Ramanujamma, Marekka, Eedamma, Sannamji, Varalakhmi, Kesava, Gangadhar and Saraswati are part of a Joint Liability Group in the village. Debayya borrowed four times so far. He borrowed a total amount of Rs 1,50,000/-, ranging from Rs 20,000/- to Rs 50,000/-. He borrowed money to establish a shop in the village and improved his stocks each year, with the money that he borrowed. Sannanji also borrowed Rs 1,45,000/- from MACS in last four years. Each year she borrowed an amount of Rs 20000 to Rs 45000/-. She improved her livestock flock (goats) with the loan that she borrowed. After repaying the loans and meeting her survival needs, she is able to accumulate a flock that consists of 12 goats, 18 baby goats. Each year she sold goats and earned good profits. Marekka borrowed Rs 1,00,000/- and cultivated vegetables. She borrowed four times an amount ranging from Rs 20,000/- to Rs 40,000/-. She also supported her son to buy an auto rickshaw and supported him to earn his own income. Each member of MACS is writing a success story, with the financial support from MACS.

While formal financial institutions are not able to reach out to rural communities, cooperatives societies that emerged from watershed projects are showing a new hope to rural masses and supporting them in various ways. Ramjanjenayulu, Bommyya, Ganganna, Nagendra and several others of this cooperative are ahead of villagers in other parts of the country. They could realize their initial limitations and quickly overcome them through commitment and discipline. Their journey had several twists and predictable hurdles. Through guidance from supporting agencies, their own savings and discipline, they embarked on a new journey towards financial self-reliance. Assets and experiences created during watershed development projects took a new shape in the form of cooperation among farmers.

Let every watershed committee travel in this route..... Bon Voyage.

18. Activity wise photographs to be submitted: [Annexure-02](#)

19. Beneficiary list to be submitted:

Deep ploughing:

Sl.No	Farmer name	Activity	Survey No	Treated Area (Acres)	Spent Amount (in Rs.)
1	H Muthyalappa	Deep ploughing	152-1	2 Acres	
2	H Choudanna	Deep ploughing	319-1A	2 Acres	
3	H Ramanjineyulu	Deep ploughing	309	2 Acres	
4	H Nagendra	Deep ploughing	152-1	2 Acres	
5	H Ramanjineyulu	Deep ploughing	285	2 Acres	
6	HC Ramanjineyulu	Deep ploughing	309	2 Acres	
7	H Hanumanna	Deep ploughing	309	2 Acres	
8	H Dhanunjaya	Deep ploughing	324	2 Acres	
9	H Mareppa	Deep ploughing	300-1	2 Acres	
10	H Ganganna	Deep ploughing	384-1	2 Acres	
11	H Chidananda	Deep ploughing	309-3	2 Acres	
12	H Govindu	Deep ploughing	309-3	2 Acres	
13	C Raghavendra	Deep ploughing	152-13	2 Acres	
14	H Sivanna	Deep ploughing	396	2 Acres	
15	D Adinarayana	Deep ploughing	183-2	2 Acres	
16	G Naveen	Deep ploughing	224-2	2 Acres	
17	T Anjineyulu	Deep ploughing	106-1	2 Acres	
18	P Venkataswamy	Deep ploughing	102-1C	2 Acres	
19	P Venkatesulu	Deep ploughing	354	2 Acres	
20	K Gajendrappa	Deep ploughing	183	2 Acres	
21	B Madhu	Deep ploughing	286	2 Acres	
22	B Laxanna	Deep ploughing	4100-1	2 Acres	
23	D Lokesh	Deep ploughing	300-4	2 Acres	
24	G Venkatesulu	Deep ploughing	272-2	2 Acres	
25	H Eranna	Deep ploughing	296-3	2 Acres	
26	K Thimmappa	Deep ploughing	304-2	2 Acres	
27	P Narayana	Deep ploughing	125	2 Acres	
28	K Kesalaiah	Deep ploughing	150-1	2 Acres	
29	B Narayana	Deep ploughing	266-1	2 Acres	
30	H ganganna	Deep ploughing	272-3	2 Acres	
31	T Pathanna	Deep ploughing	272-6	2 Acres	
32	Golla Narasimha	Deep ploughing	158-1	2 Acres	
33	B Dhanunjaya	Deep ploughing	271-6	2 Acres	
34	B Narayana	Deep ploughing	138	2 Acres	
35	K Govindu	Deep ploughing	283-2	2 Acres	
36	Venkatesulu	Deep ploughing	410-2	2 Acres	
37	Rajesh	Deep ploughing	159-1	2 Acres	
38	Chikkanna	Deep ploughing	154	2 Acres	
39	Chikkamma	Deep ploughing	250-1	2 Acres	
40	Ramanjineyulu	Deep ploughing	127-3	2 Acres	
41	Nagabhushana	Deep ploughing	263-1	2 Acres	

42	Lokesh	Deep ploughing	263-10	2 Acres	
43	B Ramanjineyulu	Deep ploughing	26	2 Acres	
44	B Obulapathi	Deep ploughing	123	2 Acres	
45	P Narayanaswamy	Deep ploughing	271-4	2 Acres	
46	B Yerriswamy	Deep ploughing	271-2	2 Acres	
47	Chandrayudu	Deep ploughing	270-4	2 Acres	
48	M Adinarayana	Deep ploughing	270	2 Acres	
49	P Bommaiah	Deep ploughing	288-6	2 Acres	
50	B Anjineyulu	Deep ploughing	266-3	2 Acres	
51	B Sathyamaiah	Deep ploughing	274	2 Acres	
52	C Ramanjineyulu	Deep ploughing	289	2 Acres	
53	G Peddi Reddy	Deep ploughing	300	2 Acres	
54	P Nagaraju	Deep ploughing	270	2 Acres	
55	Peddapalli Ramanji	Deep ploughing	271	2 Acres	
56	K Gopal	Deep ploughing	284-2	2 Acres	
57	M Vannuruswamy	Deep ploughing	216	2 Acres	
58	P Nagaraju	Deep ploughing	294-2	2 Acres	
59	P Polanna	Deep ploughing	349	2 Acres	
60	Chinna Anji	Deep ploughing	123-1	2 Acres	
61	Palanna	Deep ploughing	127-2	2 Acres	
62	Y Bommaiah	Deep ploughing	332-2	2 Acres	
63	G Anasuyamma	Deep ploughing	232	2 Acres	
64	G Hanumanthrayudu	Deep ploughing	125-1	2 Acres	
65	G Ram Mohan	Deep ploughing	346-2	2 Acres	
66	H Umesh	Deep ploughing	346-3	2 Acres	
67	H Ramamurthy	Deep ploughing	346-4	2 Acres	
68	H Ramanna	Deep ploughing	198-1	2 Acres	
69	Punna Ramanji	Deep ploughing	162	2 Acres	
70	B Gopal	Deep ploughing	296	2 Acres	
71	B Anjineyulu	Deep ploughing	410	2 Acres	
72	B Eranna	Deep ploughing	411	2 Acres	
73	B Anjineyulu	Deep ploughing	283-4	2 Acres	
74	G Ramesh	Deep ploughing	152-1	2 Acres	
75	K Bheemanna	Deep ploughing	118	2 Acres	
76	B Ramnjineyulu	Deep ploughing	120	2 Acres	
77	P Sriramulu	Deep ploughing	121-1	2 Acres	
78	P Narayana	Deep ploughing	132-1	2 Acres	
79	GC Ramanjineyulu	Deep ploughing	246	2 Acres	
80	A Ravi	Deep ploughing	271-4	2 Acres	
81	P Mohan	Deep ploughing	350-3	2 Acres	
82	P Srinivasulu	Deep ploughing	255-1	2 Acres	
83	B Venkatesulu	Deep ploughing	242-3	2 Acres	
84	G Manjunatha	Deep ploughing	283-3	2 Acres	
85	A Ravi	Deep ploughing	319-1	2 Acres	
86	H Polanna	Deep ploughing	283-7	2 Acres	
87	G Narayanaswamy	Deep ploughing	289-1	2 Acres	
88	P Bommaiah	Deep ploughing	354-3	2 Acres	
89	GP Narayana	Deep ploughing	300-1	2 Acres	

Tank silt Application:

Sl.No	Farmer name	Activity	Survey No	Treated Area (Acres)	Spent Amount
1	P Ramanjineyulu	Tank silt Application	127-2	10 Trips	
2	G Narayanaswamy	Tank silt Application	274	10 Trips	
3	G Savitamma	Tank silt Application	289-3	10 Trips	
4	G Chandrayudu	Tank silt Application	271-5	10 Trips	
5	H hanumanna	Tank silt Application	309	10 Trips	
6	H Durgamma	Tank silt Application	152-1	10 Trips	
7	H Thimmakka	Tank silt Application	347	10 Trips	
8	H varalaxmi	Tank silt Application	309	10 Trips	
9	H parvathi	Tank silt Application	327	10 Trips	
10	H Thimmarayudu	Tank silt Application	327	10 Trips	
11	H Ratnamma	Tank silt Application	327	10 Trips	
12	H Subbamma	Tank silt Application	152-1	10 Trips	
13	H Anjineyulu	Tank silt Application	223	10 Trips	
14	H Boddu Thimmappa	Tank silt Application	327	10 Trips	
15	H Govindu	Tank silt Application	309-1	10 Trips	
16	H Ramanjineyulu	Tank silt Application	309-1	10 Trips	
17	H Potti Thimmappa	Tank silt Application	319	10 Trips	
18	Guddella Vannurappa	Tank silt Application	269	10 Trips	
19	H Polanna	Tank silt Application	284-7	10 Trips	
20	H Choudakka	Tank silt Application	347	10 Trips	
21	V Anjineyulu	Tank silt Application	412-1	10 Trips	
22	V Gopal	Tank silt Application	4122	10 Trips	
23	B Syamala	Tank silt Application	167	10 Trips	
24	B Akkamma	Tank silt Application	410-4	10 Trips	
25	H Choudanna	Tank silt Application	319	10 Trips	
26	H ganganna	Tank silt Application	228	10 Trips	
27	H Ramanjiuneyulu	Tank silt Application	309	10 Trips	
28	H Laxmidevi	Tank silt Application	284-6	10 Trips	
29	K Govindu	Tank silt Application	347-2	10 Trips	
30	H Ratnamma	Tank silt Application	327	10 Trips	
31	MC Nagaraju	Tank silt Application	347	10 Trips	
32	MC Thimmanna	Tank silt Application	347	10 Trips	
33	P nagaraju	Tank silt Application	128	10 Trips	
34	B Polanna	Tank silt Application	277-6	10 Trips	
35	B Eranna	Tank silt Application	410-4	10 Trips	
36	B Yerriswamy	Tank silt Application	271-6	10 Trips	
37	B Venkatesulu	Tank silt Application	410-1	10 Trips	
38	G narasimhulu	Tank silt Application	271-3	10 Trips	
39	G Narayana Choudary	Tank silt Application	289-1A	10 Trips	
40	B Madhu Sudhan	Tank silt Application	28	10 Trips	

41	B Anil	Tank silt Application	423	10 Trips	
42	H Gangadhara	Tank silt Application	309-2	10 Trips	
43	E Hanumakka	Tank silt Application	274	10 Trips	
44	B Anjinamma	Tank silt Application	287-2	10 Trips	
45	G Anand Kumar	Tank silt Application	222-1	10 Trips	
46	T Pathanna	Tank silt Application	271-6	10 Trips	
47	Rajesh	Tank silt Application	230-1	10 Trips	
48	G Hanumanthrayudu	Tank silt Application	230-2	10 Trips	
49	k Eswar	Tank silt Application	327	10 Trips	
50	B Obulapathi	Tank silt Application	167	10 Trips	
51	H Ramanji	Tank silt Application	152-3	10 Trips	
52	B Akkamma	Tank silt Application	277-3	10 Trips	
53	K Thimmappa	Tank silt Application	283	10 Trips	
54	C Raghavendra	Tank silt Application	179	10 Trips	
55	K Mani	Tank silt Application	347	10 Trips	
56	P Venkataswamy	Tank silt Application	128	10 Trips	
57	T Bommana	Tank silt Application	106	10 Trips	
58	D Lokesh	Tank silt Application	300-1	10 Trips	
59	TC Mareppa	Tank silt Application	327	10 Trips	
60	GP Adimurthy	Tank silt Application	126	10 Trips	
61	H Gangamma	Tank silt Application	228	10 Trips	
62	H Govindamma	Tank silt Application	152	10 Trips	
63	HP Choudanna	Tank silt Application	223-2	10 Trips	
64	HC Choudanna	Tank silt Application	389	10 Trips	
65	H Nagabhushana	Tank silt Application	228	10 Trips	
66	H Marekka	Tank silt Application	269	10 Trips	
67	GC Thimmarayudu	Tank silt Application	287	10 Trips	
68	H Bhagyamma	Tank silt Application	389	10 Trips	
69	G Venkatesulu	Tank silt Application	272	10 Trips	
70	H Polanna	Tank silt Application	309	10 Trips	

Trainings and Exposure Visits:

Sl.No	Farmer name	Activity	No's	Spent Amount (in Rs.)
1	K Ramu	Training/Exposure	1 No	Rs. 500
2	V Eranna	Training/Exposure	1 No	Rs. 500
3	B Narayana Swamy	Training/Exposure	1 No	Rs. 500
4	H Thimmappa	Training/Exposure	1 No	Rs. 500
5	Ramanna	Training/Exposure	1 No	Rs. 500
6	Mareppa	Training/Exposure	1 No	Rs. 500
7	G Thimmarayudu	Training/Exposure	1 No	Rs. 500
8	H Anhineyulu	Training/Exposure	1 No	Rs. 500
9	M Thimmappa	Training/Exposure	1 No	Rs. 500

10	Ramanji	Training/Exposure	1 No	Rs. 500
11	H Raja Gopal	Training/Exposure	1 No	Rs. 500
12	H Rammurthy	Training/Exposure	1 No	Rs. 500
13	MC Thimmanna	Training/Exposure	1 No	Rs. 500
14	GV Ramanjineyulu	Training/Exposure	1 No	Rs. 500
15	K Sivaiah	Training/Exposure	1 No	Rs. 500
16	G Anjineyulu	Training/Exposure	1 No	Rs. 500
17	H Yerriswamy	Training/Exposure	1 No	Rs. 500
18	B Chandrayudu	Training/Exposure	1 No	Rs. 500
19	T Polanna	Training/Exposure	1 No	Rs. 500
20	N Nagendra	Training/Exposure	1 No	Rs. 500
21	P Bommaiah	Training/Exposure	1 No	Rs. 500
22	Anjinappa	Training/Exposure	1 No	Rs. 500
23	GC Ramanjineyulu	Training/Exposure	1 No	Rs. 500
24	G Narayanappa	Training/Exposure	1 No	Rs. 500
25	G naveen Prasad	Training/Exposure	1 No	Rs. 500
26	T Pathanna	Training/Exposure	1 No	Rs. 500
27	G Indiramma	Training/Exposure	1 No	Rs. 500
28	Prabhavathi	Training/Exposure	1 No	Rs. 500
29	B laxmidevi	Training/Exposure	1 No	Rs. 500
30	P Choudamma	Training/Exposure	1 No	Rs. 500
31	H Vannuruswamy	Training/Exposure	1 No	Rs. 500
32	G maruthi	Training/Exposure	1 No	Rs. 500
33	H Ramanjineyulu	Training/Exposure	1 No	Rs. 500
34	Lakshmidevi	Training/Exposure	1 No	Rs. 500
35	Manjula	Training/Exposure	1 No	Rs. 500
36	Chandrakala	Training/Exposure	1 No	Rs. 500
37	Anjinamma	Training/Exposure	1 No	Rs. 500
38	Syamalamma	Training/Exposure	1 No	Rs. 500

GIS Thematic MAPS of Battuvanipalli Soil Project: ANNEXURE-03

20. DDM's Observations and recommendations