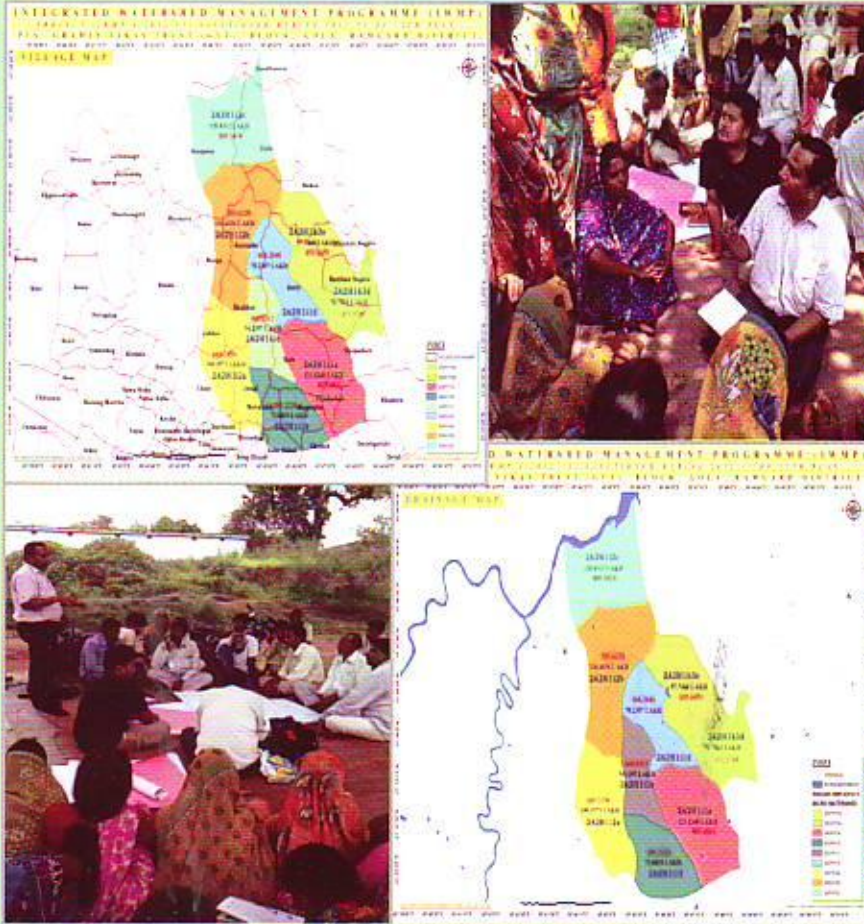


# समेकित जलछाजन प्रबंधन कार्यक्रम

गोला जलछाजन (IWMP - IV/2012-13)

रामगढ़ झारखण्ड



प्रायोजक  
झारखण्ड राज्य जलछाजन मिशन  
ग्रामीण विकास विभाग  
झारखण्ड सरकार



आयोजक  
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## PROGRESS REPORT

# WADI

Block - SUNDERPAHARI  
District - GODDA (JHARKHAND)



**Funded by:**  
**National Bank for Agriculture and Rural Development**  
**(NABARD)**  
**Under**  
**Tribal Development Fund (TDF)**

**Implemented by**



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*Serving for improved & sustainable livelihood*

PIA  
GVT

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### जलछाजन के उद्देश्य

- मिट्टी संरक्षण
- वर्षा जल का संग्रहण
- वृक्षारोपण द्वारा वन क्षेत्र का विस्तार
- बहु-फसली कृषि का विस्तार
- जैव विविधता का संरक्षण एवं विस्तार
- रोजगार के अवसर का सृजन
- आय वृद्धि
- सामुदायिक विकास

### एक परिचय : गोला जलछाजन

जिला : रामगढ़

प्रखण्ड : गोला

पंचायत : 9 (सुतरी, चोकाद, रकुआ, मगनपुर, सोसोकला, हेसापोरा, कोराम्बे, चाडी, बांदा)

कुल गाँव : 27 (चरगी, बामन सगातु, भुईया सगातु, सुतरी, चोपादारु, रकुआ, चकरवाली, चोकाद, खखरा, डुण्डीगाछी, मगनपुर, रोला, जांगी, महलीडीह, सोसोकला, सोसोखुद, भुभुइ, कोराम्बे, चाडी, हरिबन्द, हिसिमदाग, जोभिया, मुरपा, लिपिया, बड़कीपुनु, हेसापोड़ा)

### विस्तृत जानकारी : गोला वाटरशेड, गोला ब्लॉक, जिला- रामगढ़

जलछाजन का कुल क्षेत्रफल	6024.7955 हेक्टेयर
कुल उपचार हेतु क्षेत्रफल	5637.410 हेक्टेयर
कुल परिवार	4507
कुल आबादी	45824
पुरुष	23302
महिला	22522
अनुसूचित जाति	4109
अनुसूचित जनजाति	14140

### INTRODUCTION

"WADI" programme is focused on development of small fruit orchard (Wadi) and restoration of cultivable wasteland through suitable horticultural intervention and soil water conservation measures to restore ecological balance and economic betterment of tribal families to enable them to join mainstream through income enhancement. It is an effective tool for addressing the livelihood problems of the tribal families and reducing out migration for livelihood. The programme is funded under Tribal Development Fund of NABARD.

The Project is being implemented in Sunderpahari block of Godda district and aims to cover 1000 tribal families having about 2-5 acres of land for growing the orchard surrounded by timber tree species. These tree species would cater to fuel; fodder and other small timber needs of the tribal family while processing of the fruits, direct selling of fruits and inter crop output of initial years to the market will act as income sources for the families. The project also covers the soil conservation, water resource development like minor irrigation structures, health issues, women development and other social sector parameters. People's participation is the most important ingredient of the project and it is a family centric programme.

The programme covers educationally and economically very backward rural communities of 28 nos. of villages with tribal concentration over 50% in 3 phases in a span of 7 years. The implementation of the project was phased as 200+400+400 wadis in first, second and third year of implementation. The achievement was 176 wadis in first year, 461 in second year and balance was completed in third year. For each identified tribal family one acre of land (approx) have been under taken for developing an orchard (WADI) by planting combination of 30 Amrapali variety of mango, 10 Mallika variety of mango and 30 Cashew plants as fruit species along with 200 multipurpose timber plants in the border. However, drastic mortality of cashew plant forced to change the crop with guava (L-49) as second crop.

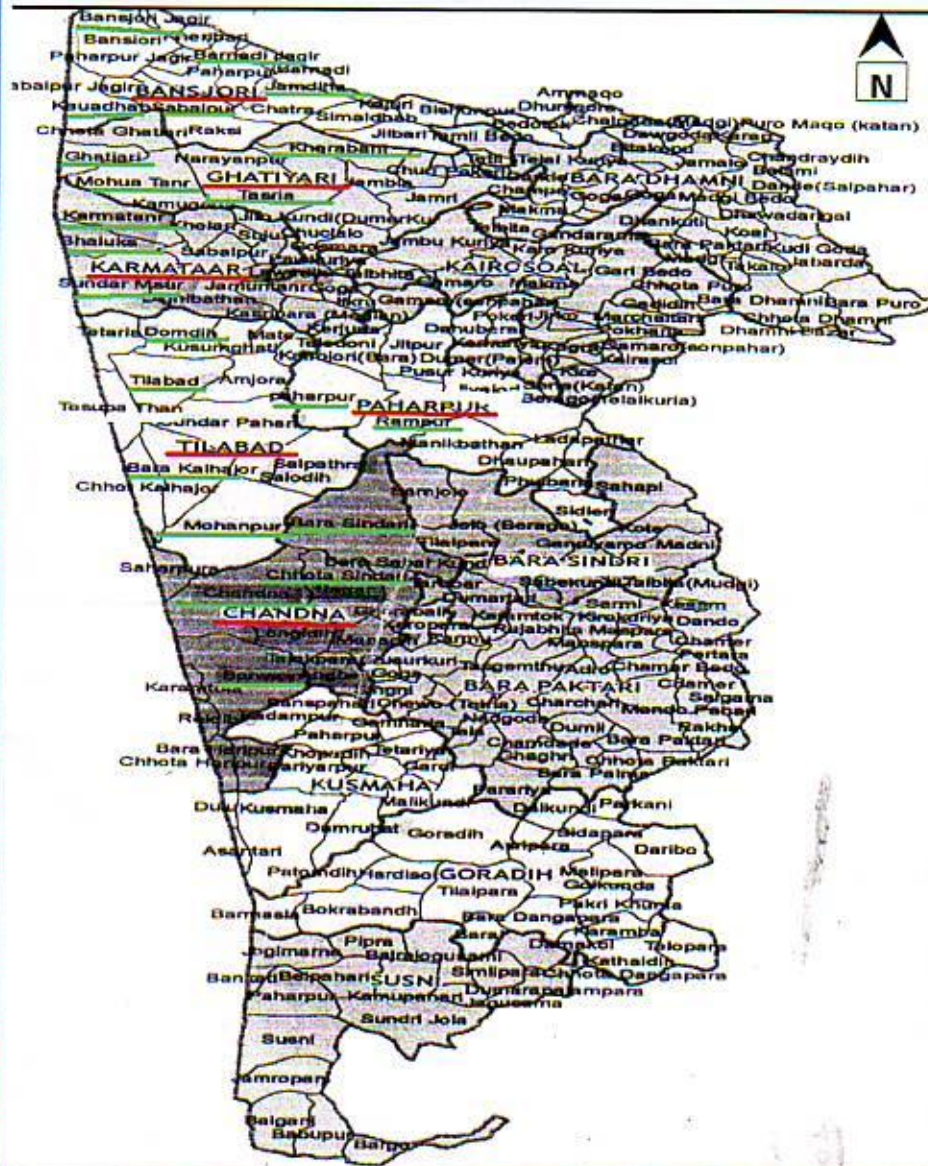
### **WADI: Phase - I (2010-11), II (2011-12), & III (2012-13)**

The project has so far covered 176 nos. of tribal families (WADI) of 10 villages during the year 2010-11, additional 461 families of 14 villages during the year 2011-12 and 363 families of 21 villages during the year 2012-13 grouped in six GP across the Sunderpahari block. The geographical distribution of villages on the map of Sunderpahari block and year wise distribution of the Wadis in the block is as under:

## अनुजलछाजन का ब्यौरा

क्रम संख्या	वाटरशेड कोड	नाम	कुल क्षेत्रफल (हेक्टेयर)	ग्राम
1	2A2H1h3d	बामन सगातू वाटरसेड	471.3475	चरगी, बामन सगातू, भूर्इया सगातू, चोपा दारु, सुतरी
2	2A2H1h3e	रकुआ वाटरशेड	651.6451	रकुआ, बामहन सगातू, भूर्इया सगातू, सुतरी
3	2A2H1i1a	रोला वाटरशेड	809.4931	चाकरबली, चोकाद, चोपादारु, दूरदीगछी, खखरा, मगनपूर, रोला, सुतरी
4	2A2H1i1b	मगनपूर वाटरशेड	491.226	चोकाद, जांगी, महलीडीह, मगनपूर, रोला, सोसोकला, सोसोखुर्द
5	2A2H1i1c	जांगी वाटरशेड	360.9312	भुभुई, जांगी, कोराम्बे, रोला, सुतरी
6	2A2H1i1d	सुतरी वाटरशेड	486.2646	भुभुई, कोराम्बे, रोला, सुतरी
7	2A2H1i2 a	चाड़ी वाटरशेड	669.3150	भुभुई, चाड़ी, हरीबन्द, जोभीया, जांगी, महलीडीह, मुरपा, सोसोकला, सोसोखुर्द
8	2A2H1i2b	कोराम्बे वाटरशेड	909.6228	भुभुई, हेसापोड़ा, कोराम्बे, लिपिया, मुरपा, रकुआ, सुतरी
9	2A2H1i2c	हेसापोरा वाटरशेड	805.5410	बड़कीपुनु, गन्धौनिया, हेसापोड़ा, लीपिया

### Location map of WADI villages Sunderpahari, Block, Godda



## संपादित प्रवेश मूलक कार्य

### 1 वृक्षारोपण



० कुल क्षेत्रफल - 24 हेक्टेयर ० कुल वृक्ष - 3600 आम के पेड़ ० लाभान्वित परिवार - 43

### 2 केंचुआ खाद उत्पादन



० कुल युनिट- 40

### 3 मिट्टी जॉच प्रशिक्षण



### 4 कुओं मरम्मत/तीकरण



० कुल संख्या 11 ० लाभान्वित परिवार - 135

### 5 क्षेत्र भ्रमण



### 6 कम लागतबोरी बंधान



० कुल - 4 ० सिंचित क्षेत्र-12 हेक्टेयर

**GRAMIN VIKAS TRUST****WADI - Sunderpahari, Godda  
Village wise number of Wadis**

Block	Name of village	No. of Wadi				Total
		1 <sup>st</sup> Batch	2 <sup>nd</sup> Batch	3 <sup>rd</sup> Batch part 1	3 <sup>rd</sup> Batch part 2	
Sunder pahari	1. Sundermore	23	48	25	25	121
	2. Tilabad	28	4	14	0	46
	3. Mohanpur	13	0	0	6	19
	4. Chandana	10	0	0	15	25
	5. Bada Sindri	36	0	0	0	36
	6. Bada Kalajhor	13	0	0	0	13
	7. Rampur	14	0	6	0	20
	8. Rampur Pranik Tola	14	0	0	0	14
	9. Bada Dighi	14	0	20	10	44
	10. Chota Dighi	11	0	0	0	11
	11. Bhaluka	0	17	3	0	20
	12. Karmatanr	0	21	6	0	27
	13. Ghatiyari	0	71	0	0	71
	14. Mahuatn	0	37	4	0	41
	15. Tasaia	0	51	2	0	53
	16. Bansjori	0	43	6	0	49
	17. Paharpur	0	19	0	0	19
	18. Kowadhab	0	69	0	25	94
	19. Kamramarni	0	13	2	6	21



**WADI - Sunderpahari, Godda**  
**Village wise number of Wadis**

Block	Name of village	No. of Wadi				Total
		1 <sup>st</sup> Batch	2 <sup>nd</sup> Batch	3 <sup>rd</sup> Batch part 1	3 <sup>rd</sup> Batch part 2	
	19. Kamramarni	0	13	2	6	21
	20. Rakso	0	26	5	0	31
	21. Jamdiha	0	32	35	7	74
	22. Khairabari	0	10	0	0	10
	23. Bada Naditola	0	0	35	0	35
	24. Langodih (Chandana)	0	0	0	40	40
	25. Borwa	0	0	0	13	13
	26. Rajabhita	0	0	0	35	35
	27. Chatra	0	0	0	13	13
	28. Jiyajori	0	0	5	0	5
	<b>Total</b>					

### Programme Components

#### A. Agro- Horti Development

##### I. Plantation of Fruit Saplings

Mango (*Mangifera indica*) is native species of India and can be grown anywhere. Based on its high value as a delicious fruits, used widely direct or processed, was chosen as main crop. Similarly Cashew was considered as second horticultural crop initially but was later changed with guava due to its very high mortality. The existing crop pattern and year-wise plantation of said fruits are as under:

**Year wise plantation of fruit saplings**

S.N	Species	2010-11	2011-12	2012-13	
1.	Mango	a. Amrapali	5560	14450	13030
		b. Mallika	1790	4710	3730
2.	Guava	L-49	10500	27200	21550
	Total				



**Planting material for WADI**



**II. Plantation of boundary (timber) plants**

The forest plants for the border suggested in the project considering the fuel wood, wooden poles and timber requirements of the wadi family and generation of some additional income by selling surplus produce were procured as species of sisam, gamhar, mahogany, acacia for the farmers.

The year wise plantation of forest species are as under:

**Year wise plantation of forest saplings**

Species	2010-11	2011-12	2012-13
Sisso, Mahogany, Acacia, Ber	35200	92200	82600

**III. Pit Digging and field Preparation**

The layout of WADI was explained to farmers through various awareness meetings and exposure to successful WADIs. The plant combination and spacing was explained for better plant growth, canopy management and better utilization of inter space for growing inter crops. Pit was prepared of 1mX1mX1m and filled with compost, neem/karanj oil cake and fertilizer before plantation. Ploughing of field was also made and paid under provision of the project.



Pit Digging in WADI fields



Plantation and Maintenance

### IV. Application of Compost & Fertilizers:

As the soil of project area is acidic in nature, lime has been applied @ 1-2 kg/pit, as per the need to reduce the acidity. Similarly as the soil fertility is very low in the area, NPK mixture @ 0.7-1.0 kg. /pit and 20-25 kg/pit compost has also been applied during the pit filling for fruit plots. The lime and the chemical fertilizer have been provided by GVT where as the required quantity of compost has been arranged by the farmers from their own resources, against which they have been paid Rs.500 per wadi.

### V. Application of Insecticides & Pesticides:

To protect plants from insect/pest attack, Karanj Cake/Neem Cake Powder has been applied @ 1-2 kg/pit during the pit filling for fruit plots. Apart from this, Phorate 10% (20 gms.), Chloropyriphos, Endosulphan, Endophil M 45- & Rogor is applied by the farmer regularly and payments are made for the same as per the project guidelines. Farmer has also been provided with sprayer and other equipments for the same under small equipment support head.



Use of Sprayer

### VI. Crop Programme:

As, the people have very limited land where they practice traditional varieties of seed and get comparatively low yield, the programme activities under this component aim at increasing the productivity through introducing new varieties, new technology, cultural practices etc. through successful demonstration.

Under the crop development programme farmers were provided with 200 kg of Black gram seeds of improved variety so that the 1 acre land of farmers could be brought under the complete cultivation. Similarly, in the second and third year Black gram, nizer, kulthi, mustard, paddy seeds and pigeon pea have been distributed.



**Paddy and Mustard Crop in WADI**

**VII. Fencing for Wadi Area**

The 'Open Grazing System' is the common practice in the project area. So, to protect the plants from animal grazing fencing of plants/Wadi area is very much important. The farmers have used the bushes & bamboo poles as dry fencing and 'Thethar', 'Sinduar' available locally as live fence for individual plants as well as entire WADI. For this, farmers are being paid @ Rs.400/- during the first year and Rs. 200/- & Rs.100/- during the next two years for maintenance.



**Different type of fencing adopted in WADI**



**VIII. Pitcher (Pot) Irrigation**

As, the project area is having limited source of irrigation water, 'Pitcher Irrigation Method' is very much suitable. Efficiency of this method of irrigation is very high and much better than the conventional surface irrigation. It also reduces the frequency of watering the plants and there by saving in labour cost. The farmers have used 2 pitchers of 2 liter capacity per plant. The pitchers were made available by the pot makers of project villages @ Rs.7.50-8.00. The farmers have used 14000 nos. of earthen pitchers.



**Installation of pitcher in WADI**

**IX. Weeding, Mulching, Irrigation etc.**

Regular weeding i.e. removal of wild grasses and loosening of soil at root zone for aeration and application of fertilizer after basin formation has been followed to promote growth of plants. The stacking, weeding, mulching work etc are regularly practiced by all the wadi farmers.



**Basin formation in WADI**

**B. Soil Conservation Work****1. Trench**

Trenches have been constructed for almost all the WADIs developed in patches. It served dual purpose of better soil conservation and water storage with retaining soil moisture. At the same time it also helped to reduce attack of grazing in the WADIs. Looking at the success of the approach in many cases farmers have also contributed their wage for trench making activity besides the allocated budget for the same. It also helped to conserve the rain water in such big patches of plantation.



**Trench for soil conservation, Water Harvesting and Fencing**

**C. Water Resource Development**

Godda district receives very little rainfall and Sunderpahari block faces severe draught every year. Hence water resource is one of the important components under the project to increase the irrigation potential in the area to meet the additional requirement. Successful establishment of wadi depends upon the adoption of effective and protective irrigation measures. The emphasis has been given on the protective irrigation during the critical period of moisture stress. In this regard, the following measures have been undertaken:

## GRAMIN VIKAS TRUST

### I. Water Tank (Jalkund)

2-3 nos. of Jalkunds (4m x 1.5m x 1m sized) have been excavated by most of the farmers under the programme. Plastic lined jalkunds were used to harvest rain water and water brought from distant sources in summer for life saving irrigation. Under ICAR convergence about 150 WADIs were provided with 6 jalkunds to meet water requirement of those WADIs.



### II. Construction of New wells and Excavation of New Ponds

Seven nos. numbers of new ring wells have been created in Sundermore (3), Dighi (2), Tilabad (1) and Kowadhab(1) villages to meet such water requirement of WADIs during the year 2010-12. The excavation work of 2 nos. of ponds (at Sundermore and Kowadhab village) has been completed which will serve the irrigation requirement of about 100 wadi farmers besides aquaculture activity as supplementary income source.



### III. Lift Irrigation System:

On demand of wadi farmers, lift/pipe irrigation system have been provided with 4 nos. of diesel operated pumping sets of 8 and 5 HP and delivery pipes in the year 2010-11 where as during the year 2012-13 farmers were also provided with additional delivery pipes and paddle operated pump o lift water for irrigating WADIs. These irrigation facilities have brought more than 550 acres of land under vegetable production.



**D. Training & Capacity Building**

**I. Farmers training & Demonstrations:**

The farmers training on different subjects of WADI are being organized time to time to capacitate the farmers. During wadi awareness programme visual training programmes (CD developed by BAIF) are also being organized.



**WADI Awareness Meeting at Kowadhab and Badanadi**

**II. Exposure visit:**

During the year 2010-11 a group of 35 farmers were taken to Banka for exposure visit of WADI. Again in the year 2011-12, PRI representative and 60 farmers were taken to Bero, Ranchi for exposure to successful WADIs.

**III. Training to PIA staff**

The implementing team members of WADI are regularly trained on various aspects of WADI.

**IV. Group & Federation**

The farmers of 1st & 2nd phase from 28 nos. of villages of Sunderpahari block have formed the wadi samities and have opened Samiti bank accounts. The farmer of new villages (3rd phase), are also organized themselves and the process is on progress.

**E. Trainings under Women Development Programme**

Sl. No.	Particulars	Date	Place	No. of Trainees
1	Training on Vermi composting	28.09.2012	Karmatand	45
2	Training on Vermi composting	28.09.2012	Kowadhab	65
3	Training on Bamboocraft		Jamdiha	35
4	Training on Apiary		Bansjori	22
5	Training on Aquaculture	27-28 .06.2013	Ranchi	18

**F. Health Awareness Camp and Health Support**

Sl. No.	Particulars	Date	Place
1	Health Camp and Distribution of Water Filter	14.10.2012	Kowadhab
2	Health Camp	25.04.2013	Tasaria

**E. Documentation & Publicity**

Some location signboards and flex boards displaying the wadi information have been fixed at different places to make aware & save the people from different diseases. Apart from this, the leaflets on different issues have also been published time to time.

**F. Women Development****I. Promotion of Women Self Help Groups (SHG)**

Creation of people's organizations and institutions is one of the major components of the programme. Prior to this project it had been found that in almost all the project villages the women SHGs were formed but amongst them, only a very few were found functional. So, it has been decided that rather the formation of new SHGs, the old groups might be revived & strengthened. 5 such groups are involved in production of bamboo handicrafts and nursery raising activities.

**II. Kitchen gardening & nutrition supply**

Provision for promotion of kitchen gardening under the 'Health Programme' has been made under the project to improve the health condition of the women and children specifically as well the other members of the family and also to ensure the women participation in the programme. Under this, the improved varieties of vegetable seeds have been distributed among the women farmers. Important vegetable seeds provided include radish, brinjal, tomato, bitter gourd, bhindi,

pumpkin, bottle gourd, amaranthus, sweet potato etc. which has been successfully utilized not only for family consumption but also some income augmentation. Every year farmers are being provided with good quality and high yielding variety of vegetable seed.

#### **I. Convergence of other activities in the area**

##### **I. Well under convergence**

Under convergence one well has been constructed at Jamdiha village WADI by Dept. of Forests. Under MGNREGA also four no. of wells are approved and awaited. Besides two ponds has also been constructed in Bansjori village.

A group of 35 people from Santahl Pargana region were trained on aspects of plantation and taken to WADI plots for exposure under Integrated Watershed Management Programme of Jharkhand State Watershed Mission, Govt. of Jharkhand

##### **II. Farmers Managed Mini Soil Testing Kit' Project**

NABARD, Jharkhand has awarded 5 units (150 nos. of participants) of Farmers Managed Mini Soil Testing Kit Programme under its 'Rural Innovation Fund (RIF)' to Gramin Vikas Trust for Godda, district. Under this programme, GVT has organized 5 nos. of three days training programme for 150 nos. of participants on said subject till date. The objective behind the project is to train the unemployed youths on said subject so that they can able to test the soil and can recommend the proper doze of fertilizers to concerned farmer at their field. The participants would get the soil testing mini kit after completion of the said training programme. This will also give an additional income to the beneficiaries.

##### **Yield/Output of WADI**

The plantation made during first year has now already started showing the fruits of hard labour of farmers and are in fruiting stage. In the year 2012-13 about 20 farmers have harvested mango. Besides fruit sale all farmers involved in the programme have been harvesting intercrops of rabi and kharif upto Rs. 4-5 thousand per WADI per year. This has resulted not only in land development and land improvisation but also reduced the rate of migration of such marginal farmers who have been leaving behind their family and fields in search of labour work.



## Glimpses of WADI



Striving for improved & sustainable livelihood

## ग्रामीण विकास ट्रस्ट

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