

**Format for Submission of Annual Progress Report by CPIs  
(April 2011 – February 2012)**

**COMPONENT: 3 (SLRS)**

**1. Sub-project code and title:**

**Project Code:** 30036

**Title:** Harmonizing biodiversity conservation and agricultural intensification through integration of plant, animal and fish genetic resources for livelihood security in fragile ecosystems

**2. Principal Investigator:** Dr. I.S. Bisht

**3. Lead Institute:**

**National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi-110 012**

**4. Co-partners (Name and address):**

1. Dr. B.K. Joshi/ Anand Jain, NBAGR, Karnal (Haryana)
2. Dr. J.K. Jena/ Kuldeep Lal, NBFGR, Lucknow (U.P.)
3. Dr. S.R. Maloo, MPUAT, Udaipur (Raj.)
4. Dr. J.K. Sharma, CSK-HPKV, Palampur (H.P.)
5. Dr. Ramesh, P., Krishi Vigyan Kendra, ANGRAU, Adilabad (A.P.)
6. Dr S. N. Jadhav, AP State Biodiversity Board, Hyderabad (A.P.)
7. Sh Shailendra Tiwari, Seva Mandir, Udaipur (Raj.)

**5. Duration of the Sub-project: 4 yrs.**

Date of commencement: 10.09.2009

Date of completion: 31.03.2013

Extension (if any): Not known

**6. Total budget of sub-project: 937.58 Lakhs**

Change in budget (if any):

## 7. Research Achievements/Innovations:

(List five in bullet form, not more than 3 lines each)

### a) From April 2011 to February 2012

Objectives	Achievements
1. Assessment, documentation and valuation of on-farm agro-biodiversity for livelihood and food security	<ul style="list-style-type: none"> <li>• Bioresource inventorization including population biology studies of crop landraces, animal breeds and fish fauna continued. Plant germplasm/animal breed/fish resources characterization is in progress.</li> <li>• Carrying capacity of the traditional production systems being assessed based on farm/non-farm income of farmer households.</li> </ul>
2. Assessment of economic potential of target species <i>vis-a-vis</i> cost and effect of conservation	<ul style="list-style-type: none"> <li>• Data generation on uniqueness and usefulness of all elite and other lesser known local genetic resources used in subsistence farming is underway for their future potential use.</li> <li>• Data being generated on economic potential of elite local landraces and animal breeds for livelihood security of local farmers.</li> <li>• Similarly, potential of fish fauna, <i>Labeo fimbriatus</i>, <i>L. calbasu</i>, <i>L. dero</i> and <i>L. dyocheilus</i> in Adilabad; <i>L. rajasthanicus</i>, <i>L. goniuis</i>, <i>Puntius sarana</i> and ornamental fish culture in Udaipur, and trout farming in Chamba have been noticed profitable to local farmers.</li> </ul>
3. Development of an information management system to facilitate planned intervention for conservation, sustainable utilization of targeted species/ population and enhanced market access	<ul style="list-style-type: none"> <li>• Peoples Biodiversity Register (PBR) in two village clusters of Udaipur (Chanawada/Nala and Som/Bamti) and one (Jheri, Kerameri) village cluster in Adilabad district have been developed. Ten more BMCs have been formed in Adilabad district for biodiversity management at community level.</li> <li>• Efforts on developing community information system and using information for action plan are currently underway.</li> </ul>
4. Adding value to targeted species/ populations through technological interventions for enhancing rural livelihood security	<ul style="list-style-type: none"> <li>• Seed production of elite landraces of various crops (red rice, rajmash and local maize in Chamba; Malan and Sathi maize, redgram, kasuri methi and local sorghum in Udaipur, and local sorghum, redgram, scented rice (Chittimuthyalu) in Adilabad taken up for developing seed chain and distribution to farmers for enhanced production.</li> <li>• Enough seed quantity of elite landraces (about 50q) is available at Community Seed Banks established in all village clusters for use by the farmers.</li> <li>• “Adding value” to local landraces from processing and packaging is underway and marketing interventions being explored.</li> <li>• Breed improvement interventions continued by providing superior breeding bucks, cattle bulls, poultry and AI interventions in all districts.</li> <li>• Animal health and nutrition management interventions continued in all three districts.</li> </ul>
5. Capacity building in agro-	<ul style="list-style-type: none"> <li>• About 12 training and awareness camps on various aspects of</li> </ul>

biodiversity management for livelihood security	genetic resource management and use have been organized in which local farmers participated and got benefited.
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**b) From inception to Feb, 2012**

<b>Objectives</b>	<b>Achievements</b>
1. Assessment, documentation and valuation of on-farm agro-biodiversity for livelihood and food security	<ul style="list-style-type: none"> <li>About 70% area of all districts systematically explored for bioresource inventorization.</li> <li>Data on general farming practices, carrying capacity of the traditional production systems etc. are being documented.</li> <li>Loss of biodiversity over time and space is being assessed.</li> <li>Studies on population biology are currently underway.</li> </ul>
2. Assessment of economic potential of target species <i>vis-a-vis</i> cost and effect of conservation	<ul style="list-style-type: none"> <li>Crop, animal and fish genetic resource for various benefit enhancing “add-value” interventions identified and currently being investigated for nutritional and livelihood security of local farmers.</li> <li>Data generation on uniqueness and usefulness of all other lesser known local genetic resources used in subsistence farming is underway for their future potential use.</li> <li>Genetic resources for “add-value” intervention in plant, animal and fish are as follows:</li> </ul> <p><b>Plant</b></p> <ul style="list-style-type: none"> <li><u>Chamba</u>: Red rice, rajmash and maize (popping and sugary type)</li> <li><u>Udaipur</u>: Maize (Malan and Sathi), Sorghum (Desi jowari), redgram</li> <li><u>Adilabad</u>: Scented rice (Chittimuthyallu), sorghum, red gram, green gram and black gram</li> </ul> <p><b>Animal</b></p> <ul style="list-style-type: none"> <li><u>Chamba</u>: Local cattle, gaddi sheep and goat</li> <li><u>Udaipur</u>: Gir cow, Surti buffaloes, Sirohi goats and Sonadi sheep</li> <li><u>Adilabad</u>: Non-descript local animal: cow (Ponganur, Ongole, Red Kandhari), buffalo (Surti type), goat (Osmanabadi, Konkan Kanyal, Jamunapari), sheep (Nellore)</li> </ul> <p><b>Fish</b></p> <ul style="list-style-type: none"> <li><u>Chamba</u>: Rainbow trout, Arctic Char, Common carp, Snow trout</li> <li><u>Udaipur</u>: <i>Labeo rajasthanicus</i>, minor carps, <i>Channa marulius</i>, integrated aquaculture and ornamental fish culture</li> <li><u>Adilabad</u>: Carps - <i>Labeo rohita</i>, <i>Cirrhinus mrigala</i>, <i>Labeo calbasu</i>; catfishes - <i>Mystus</i> sp, <i>Wallago attu</i>; eel, <i>Mastacembellus armatus</i>; featherback, <i>Notopterus notopterus</i>; small indigenous species, <i>Chanda nama</i> and freshwater prawn, <i>Macrobrachrium rosenbergii</i>. Besides, a total of 84 fish species have been recorded from the three districts and economic potential of some minor local fish resources is being worked out.</li> </ul>

<p>3. Development of an information management system to facilitate planned intervention for conservation, sustainable utilization of targeted species/ population and enhanced market access</p>	<ul style="list-style-type: none"> <li>• Developing community information system and using information for action plan is currently underway. CBRs and local knowledge documentation system is being worked out. BMCs (12 nos.) have been formed in Adilabad district. Similar efforts are underway in other districts as well.</li> <li>• Potential options to "add value" to local resources, currently underway, are being implemented through collaboration between the community and the national GR system.</li> </ul>
<p>4. Adding value to targeted species/ populations through technological interventions for enhancing rural livelihood security</p>	<p><b>Improving the material itself</b></p> <ul style="list-style-type: none"> <li>• Over 400 on-farm and on-station demonstration trials conducted.</li> <li>• &gt; 80 ha area in Chamba, 50 ha in Udaipur and 350 ha in Adilabad currently under traditional landraces of above crops with an average of about 400 farm households involved under crop component in each district.</li> <li>• Breed improvement interventions (goat, cattle, poultry) using locally available superior germplasm has started creating desired impact and farmers are greatly benefited participating in these interventions.</li> </ul> <p><b>Improved farmers' access to genetic materials</b></p> <ul style="list-style-type: none"> <li>• CBRs/PBRs have been developed in 3 village clusters and for other village clusters are underway.</li> <li>• Community Genebanks have been created in almost all project intervention sites and seed of local landraces is available for distribution to farmers.</li> <li>• About 10 Diversity fairs for plant and animal genetic resources have been organized.</li> <li>• Elite local animal breeds (goat, cattle, and poultry) have been purchased from local cattle fairs and distributed among the farmers for breed improvement.</li> </ul> <p><b>Increasing consumer demand</b></p> <ul style="list-style-type: none"> <li>• "Adding value" through packaging, processing and organic farming is currently underway.</li> <li>• Potential of local crop landraces for various value added products like Malan maize papad in Udaipur; popping jowar in Adilabad and packaging and processing for red rice and rajmash of Chamba; redgramm in Udaipur and Adilabad have been worked out.</li> </ul>
<p>5. Capacity building in agro-biodiversity management for livelihood security</p>	<p>About 22 training and awareness camps on various aspects of genetic resource management and use have been organized in which local farmers participated and got benefited</p>

## 8. Salient achievements/innovations:

(List two achievements with half page write-up and high resolution photographs- jpg format)

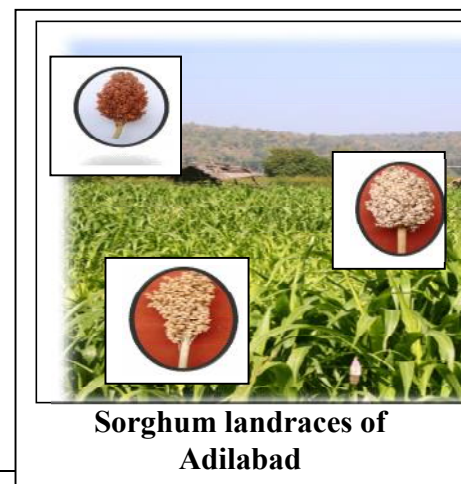
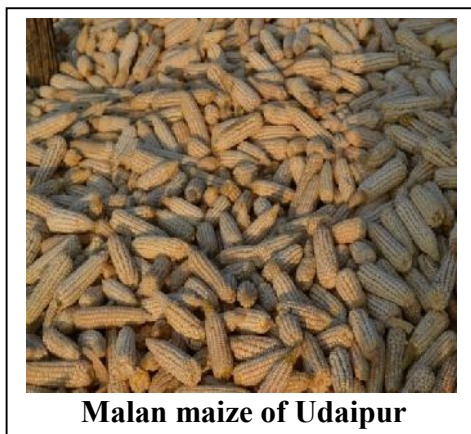
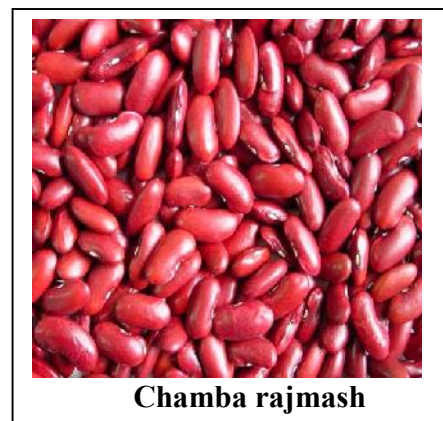
### a. Revival of elite local crop landraces, animal breeds and fish resources

- The local crop landraces viz. red rice, rajmash and maize (popping and sugary type) in Chamba; maize (Malan and Sathi), sorghum (Desi jowari) and redgram in Udaipur, and scented rice (Chittimthyallu), sorghum, red gram, green gram and black gram in Adilabad have the proven potential for bringing sustainability in production systems. The elite strains have been identified and duly included in the local seed chain for bringing more area under cultivation and enhanced production.
- Characterization of local animal breeds and identification of elite strains of local cattle, gaddi sheep and goat in Chamba; Gir cow, Surti buffaloes, Sirohi goats and Sonadi sheep in Udaipur, and cow (Ponganur, Ongole, Red Kandhari), buffalo (Surti type), goat (Osmanabadi, Konkan Kanyal, Jamunapari) and sheep (Nellore) in Adilabad for distribution among farmers have been duly addressed.
- Identified major native cultivable fish species and their potential areas for captive propagation and their utilization in raising brood stock in selected District:  
Adilabad (A.P.) - *Labeo fimbriatus* (Chitra rohu), *L. calbasu*, *L. dero* and *L. dyochielus*  
Udaipur (Raj.) - *L. goniatus*, *Labeo sp.* and *L. boggut*  
Chamba (H.P.) - *Schizothorax richardsonii*.
- First record of extended distribution of a fish species *Tor tor* in the peninsular region of India (from Adilabad district of Andhra Pradesh).
- First baseline data documented on length-weight relationships and condition factor of Indian snow trout *Schizothorax richardsonii* from river Ravi and its tributaries of District Chamba.

### b. Exploring various "adding value" interventions to local resources for livelihood security of local farmers

- Local crop and animal breed improvement efforts through strengthening the local seed network for the elite landraces and identification of elite local breeds for distribution among local farmers in all three districts have started creating desired impact. Farmers have been greatly benefited participating in these interventions. More than 50q seed of local landraces is currently available for distribution among farmers in local seed chain.

- Efforts to register the local landraces with PPV&FR Authority and characterization and subsequent registration of non-descript animal breeds, as also the development of CBRs/PBRs have been helpful in farmer empowerment and their IPR protection. Community Gene banks have been created in almost all project intervention sites.
- Elite strains of established animal breeds and elite strains of local non-descript breeds have been distributed to farmers for breed improvement.
- The potential of local fish fauna for livelihood security of farmers including potential of ornamental fish farming is being worked out.
- “Adding value” to plant, animal and fish products through packaging, processing and organic farming has great marketing potential to local resources fetching premium price in local and distant markets.
- Besides, several other interventions including health, nutrition and improved housing management of livestock; integration of fisheries interventions with vermi-compost and poultry; rain-water harvesting structures (e.g. farm pond technology of Adilabad) are in operation and adding value to local resources.
- About 3,000 farm households are involved in various project interventions in all three districts and carrying capacity of the farm sector is being worked out. Exploring the best use of locally available crop, animal and fisheries resources for economic development of local farmers is currently underway.





**Ongole bull (Adilabad)**



**Sirohi goat (Udaipur)**



**Gaddi sheep (Chamba)**



**Local poultry (Udaipur)**



**Fish Culture in micro watersheds (Udaipur)**



**Ornamental fish culture (Udaipur)**



**Community Seed Bank at Udaipur**



**Common Resource Centre, Adilabad**



**Packaged rajmash at Chamba**



**Maize (Malan) Papad**



**Popped sorghum**



**Farm Pond Technology (Adilabad)**



**Vermicompost unit (Udaipur)**



**Compost ready for sale (Adilabad)**



**c. Financial Management**

Statement of budget released and utilization (since inception): ( ` lakh)

<b>Sl. No.</b>	<b>Lead centre/ Co-partners</b>	<b>Total Sanctioned Budget</b>	<b>Fund Released upto Dec 2011</b>	<b>Fund utilized upto Dec 2011</b>
1.	NBPGR, New Delhi	203.01	104.98	69.97
2.	NBAGR, Karnal	119.06	43.72	20.77
3.	NBFGR, Lucknow	121.71	79.14	56.24
4.	CSK-HPKV, Palampur	159.88	101.71	83.7
5.	MPUAT, Udaipur	156.93	100.66	77.58
6.	ANGRAU, Hyderabad	64.56	36.95	27.64
7.	APSBDB, Hyderabad	100.96	57.07	43.52
8.	SEVA MANDIR, Udaipur	11.40	4.756	2.59
	<b>Total</b>	<b>937.51</b>	<b>528.99</b>	<b>382.01</b>

**d. Details of CAC/CIC /CMU meetings held:**

<b>Sl. No.</b>	<b>Operationaliza tion of Governance (as applicable)</b>	<b>Dates of meetings</b>	<b>Agenda discussed (points in brief)</b>	<b>Follow-up action taken</b>
1.	CAC	13th Sept. 2011	<ul style="list-style-type: none"><li>• Review of project progress</li><li>• Success stories, if any.</li><li>• Future programme i) for remaining project period and ii) for 2011-12 duly quantified on quarterly basis with success indicators for periodic reporting thereon.</li><li>• Areas needing strengthening with enhanced budget etc.</li></ul>	The action points on recommendations of CAC are being addressed by all project partners
2.	CIC	13th Sept. 2011	<ul style="list-style-type: none"><li>• Reviewing the objective-wise activities and achievements and problems/constraints faced in implementation.</li></ul>	Interaction meetings are held at periodic intervals and constraints/problems faced are resolved.
3.	CMU	-	-	-

**e. Meetings/seminars/trainings etc. organised**

<b>Organizer (Name &amp; Address)</b>	<b>Details of Meetings/ Seminars/ Trainings, etc.</b>	<b>Duration (From-To)</b>	<b>No. of Personnel trained</b>
CSK-HPKV, Palampur (H.P.)	National Training of Veterinary Officers on Biodiversity Conservation on Sustainable Livelihoods	19-21 January 2012	20
APS-Biodiversity Board	Training to selected farmers in fish hatchery management	15-30 August 2011	6

**f. Participation in Conference/meetings/seminars/trainings/Radio talks etc.**

<b>Participant (Name &amp; Address)</b>	<b>Details of Meetings/Seminars/Trainings/ Radio talk, etc.</b>	<b>Duration (From-To)</b>
Dr. S.N Jadhav, APS- BDB, Hyderabad	Radio talk	Jan 2012
Dr. P. Ramesh, KVK, Adilabad	Radio Talk on importance of land races in human health and food security	31 <sup>st</sup> May, 2010

**g. Publications during 2011-12:**

Lal K K, Singh R K, Pandey A, Gupta B K, Mohindra V, Punia P, Dhawan S, Verma V, Tyagi L K, Khare P, and Jena J K 2011. New Distribution Records of Tor Mahseer *Tor tor* (Hamilton, 1822) in the Peninsular India. *Journal of Applied Ichthyology* (under review) (NAAS rating 7.3)

**h. Media products developed/disseminated:**

<b>CD, Bulletins, Brochures, etc. (Year wise); title</b>	<b>No. of copies</b>	<b>Distribution</b>
<b>APS Biodiversity Board, Hyderabad</b>		
Value added products of fish ( <i>Chepala vantakalu</i> ) (in Telugu)	1000	500
Stall feeding to the animals ( in Telugu)	1000	400
Ornamental fishes – an introduction (in Telugu)	1000	350
Formation of BMCs (English)	500	200

Vermi compost development (Video)	100	10
Vermi compost Pamphlets	1000	500
<b>CSK-HPKV, Palampur</b>		
Vaigyanik dhang se makka utpaadan (Hindi)	900	700
Vaigyanik dhang se rajmash ka beej utpaadan (Hindi)	900	700
Faslon ki upaj badhane ke liye mittee ki jaanch ka mehatwa (Hindi)	900	700
Pahari chhetron mei murgi palan (Hindi)	1000	500
Murgiyun ke rogauno ka upchar (Hindi)	1000	500
Pashuon ka swasthya parikshan (Hindi)	1000	500
Pashuon ka prathmik upchar (Hindi)	1000	500
Pashuon mei jehrile paudhon se hone wali bimariyan (Hindi)	1000	500

**i. Cumulative list of Patents (if any):**

Title of patent	Developed by (Name & Address)	(Granted/Filed)	Patent No./ Application No.
Nil			

**j. Knowledge products developed:** (Applicable to component 1 only): N.A.

**k. Assets Generated:**

Equipments/Vehicles/Research facilities created from starting to Feb 2012

Sl. No.	Lead centre/ Co-partners	Equipment (Make & Model)	Vehicle (Make & Model)	Date of purchase	Amount spent (` in lakhs)
1.	NBPGR, New Delhi	GPS		16/03/2011	1,21,800/-
		Digital Handy Cam		16/03/2011	40,050/-
		Multimedia with accessories		31/03/2011	2,47,219/-
		Laptop with software and accessories		23/02/2011	82,380/-
		Computer with software and accessories		08/03/2011	2,78,658/-
		Photocopier		10/03/2011	95,760/-
		Need based minor equipment's in project monitoring unit		31/03/2011	70,753/-
	NBAGR, Karnal	Digital hancam/camera		15/02/2011	53,750/-
		Desktop computer and Printer		31/03/2011	90,163/-
		UPS - 1 Kva		31/03/2011	16,500/-
		GPS		31/03/2011	28,125/-
		Balance and measuring tapes		31/03/2011	14,904/-

NBFGR, Lucknow	Computer with four monitors (workstation) and accessories (Acer make), 1no.		25/10/2010	99477/-
	Sampling equipments			
	a) Sony Digital camera, GPS, Caliper etc., 3 nos.		25/03/2010	241832/-
	b) Portable Multiparameter equipment, 2 nos.		11/01/2011	298849/-
	c) Refrigerator (LG make)		16/12/2010	49500/-
	d) Deep freeger (Blue star), 1 no.		16/12/2010	9950/-
	Fish finder (Humminbird make), 1 no.		04/10/2010	237900/-
	Fish sample carriers, 1no.		04/10/2010	117000/-
	Profile projector (visual presenter ), 1 no.		11/03/2011	144000/-
CSK-HPKV, Palampur	Digital Camera		2/2/2011	48,500/-
	Seed Containers and need based items		31/3/2011	1,93,375/-
	Seed Cleaner and grader		31/3/2011	2,76,000/-
	Mini Rice Mill		Feb.2011	1,34,463/-
	GPS System			94,163/-
	HP Desktop Computer			1,51,183/-
	External Hard Drive			12,624/-
	LaserJet printer			16,425/-
	HP Laptop			1,54,062/-
	Office Furniture			25,000/-
MPUAT, Udaipur	Travis		12/10/2010	31,200/-
	Animal		10/11/2010	1,64,390/-
	Medicines		16/12/2010	84,001/-
	Sirohi Breeding Bucks		25/12/2010	31,200/-
	Floating cages		11/02/2011	4,11250/-
	Foot Sprayers & Duster		22/01/2011	20,250/-
	Chaffing		6/02/2011	67,200/-
	Computers		11/02/2011	1,95,495/-
KVK, Adilabad	GPS - GPSMAP : 60		28/10/10	39,676/-
	Sony HDD Handy Cam			39,900/-
	HP Compaq Presario desktop computer.			49,995/-
	APC 550 VA UPS			
	HP Photo Smart B20 9A Printer			
	HP Compaq Presario desktop computer. (4)		21/08/10	1,99,980/-
	APC 550 VA UPS (4)			
	HP Photo Smart B20 9A Printer (4)			
	Table (5)			12,500/-
	Chairs(5)			14,500/-
	Office table (1)			6,200/-
	Seed storage container		30/10/10	41,600/-
	Seed storage container			
	Seed storage container			
Seed storage container			29,120/-	

		Office table (4)			20,000/-
		Racks (10)			35,000/-
		Neelkaman Chairs (80)			28,000/-
		Tarpaulin (400 microns) (8)		30/10/10	36,182/-
		Seed Graders Junior-II (4)		30/10/10	4,60,000/-
		Screens for seed grader			13,000/-
	APS-BDB, Hyderabad	GPS			18,720/-
		Digital handy cam			29,700/-
		Computer with software and accessories			27,500/-
		Exploration kit			19,000/-
	Seva Mandir, Udaipur	GPS		June 2010	21,497/-
		Computer with software and accessories		April 2010	48,950/-
		Sony Digital Camera		1.1.2012	7,441/-

### I. Infrastructure facilities developed:

Sub-Project Leader and Partners	Infrastructure developed	Numbers/Size/ Capacity	Amount ( ` )
MPUAT, Udaipur	Vermicompost units	30	1,64,400/-
CSK-HPKV, Palampur	Poly houses	4 (2 of 104m <sup>2</sup> & 2 of 40m <sup>2</sup> )	3,42,280/-
	Poly lined tanks	4 (10.5m x 4.5m x 3 m)	2,46,003/-
	Vermicompost sheds	12'x6'	1,42,000/-
	Trout culture ponds	4 Nos (195 m <sup>2</sup> each)	3,99,980/-
	Composite fish farming pond	9 Nos (99 m <sup>2</sup> , 101 m <sup>2</sup> , 500 m <sup>2</sup> (2 Nos), 424 m <sup>2</sup> (5 Nos),	5,98,350/-
	Portable hatcheries (2 Nos)	2 Nos (2170x420x170m each)	3,98,840/-
	Fibre glass tanks	4 Nos (2 Nos of size 1.5mx1.0mx0.75m and 2 Nos of 2.0mx1.5mx1.0m size)	2,00,000/-
AP State Biodiversity Board, Hyderabad	Fish Rearing ponds-3	length: 25m, width: 20m, depth: 1.5-2.5m	77,200/-
	Water Harvesting Ponds-2	length: 25m, width: 20m, depth: 1.5-2.5m	
	Jheri Surjapur	Length: 10 m, width: 10 m, Depth: 9m.	
	Jheri Pembani	Length: 30 m, Width: 20 m, Depth: 1-1.5 m	45,625/-
	Bheemini	length: 30 m, width-20 m, depth: 1.5	36,000/-

		-3.0 m.	
	Hatchery	3 units	6,39,600/-
	Vermi compost unit	1 unit: 35' x 20'	46,190/-
	Cage	1 floating cage (3m x 3m x 2m)	93,589/-
	PVC liner	02 Pond liner	1,70,760/-
	Scoller, Exhibition boards, Notice board	1 Scoller, 1 Exhibition boards, 1 Notice board	47,308/-

**m. Revenue generated (cumulative upto Feb, 2012)**

(From sale of farm produce, patents, commercialization, trainings, etc)

<b>Sub-Project Leader and Partners</b>	<b>Source of revenue</b>	<b>Amount ( ` )</b>
MPUAT, Udaipur & APS-BDB, Adilabad	Sustainability fund	~ 1.00 lakh

**n. Personnel involved in sub-project**

<b>Leader and Partners (Name &amp; Address)</b>	<b>Regular</b>				<b>Contractual</b>			
	<b>Sc.</b>	<b>Sr. Sc</b>	<b>Pr. Sc.</b>	<b>Tech.</b>	<b>RA</b>	<b>SRF</b>	<b>TA</b>	<b>Others</b>
<b>NBPGR, New Delhi and its regional stations</b>								
Dr. K. C. Bansal, Consortium Leader			Director					
Dr. I.S. Bisht, CPI			✓					
Dr. M. Dutta			✓					
Dr. B. S. Phogat		✓						
Dr. S. K. Malik		✓						
Dr. K. C. Bhatt		✓						
Dr. Hanuman Lal		✓						
Dr. S.K. Yadav		✓						
Dr. D.B. Parakh		✓						
Dr. R.K.Tyagi			✓					
Dr. Veena Gupta			✓					
Dr. SushilPandey		✓						
Dr. Anjali Kak		✓						
Dr. J. C.Rana			✓					
Dr. N. K. Dwivedi			✓					
Dr. S.K. Chakrabarty			✓					
Dr. S. R Pandravada		✓						

Dr. N.Sivaraj		✓						
Mr. N. Sunil		✓						
Dr. Z. Abraham			✓					
Dr. Archna Singh					✓			
Sh. P. B. Singh					✓			
Sh. Firoz Ahmad					✓			
Sh Ravi Shanker								✓
Dr. Pancha Ram						✓		
Dr. R. Jairam						✓		
Mr. Pawan Kumar						✓		
<b>NBAGR, Karnal</b>								
Dr. B.K. Joshi Programme Leader (AGR)			Director					
Dr. Anand Jain, CCPI			✓					
Dr. P. K. Vij			✓					
Dr.M.S.Tantia			✓					
Dr. N. K. Verma			✓					
Dr. R.A. K Aggarwal			✓					
Dr. K. N. Raja	✓							
Dr. R. Radha Rani				✓				
Mr. Raj Kumar						✓		
Mr. Pankaj Sharma						✓		
Mr. Preetham Muneshwar						✓		
<b>NBFGR, Lucknow</b>								
Dr. J. K. Jena (Programme Leader – Fish)			Director					
Dr. K.K.Lal, CCPI			✓					
Dr. V. Mohindra		✓						
Dr. P.Punia		✓						
Dr. U. K. Sarkar,		✓						
Sri A.K. Pathak		✓						
Dr. L.K. Tyagi		✓						
Sh. Rajeev Kumar Singh		✓						
Dr. R S Patiyal				✓				
Sh.BrijKishor Gupta					✓			
Smt.SmitaDhawan						✓		
Sh. Suresh Chandra						✓		
Sh.A.K. Dwivedi						✓		
<b>CSK-HPKV, Palampur (H.P.)</b>								
Dr. J. K. Sharma, CCPI			✓					
Dr. Alok Sharma,			✓					

Dr. T. R. Sharma			✓					
Dr. R. C. Chauhan			✓					
Dr. G. D. Sharma,		✓						
Dr. M. C. Rana		✓						
Dr. GopalKatna	✓							
Dr. ShivaniKatoch	✓							
Dr. Devesh Thakur	✓							
Dr. B. G. Mane	✓							
Sh. Sapan Sharma					✓			
Dr. NishantVerma						✓		
Sh. Jai Singh						✓		
<b>MPUAT, Udaipur</b>								
Dr. S. R. Maloo, CCPI			Dean					
Dr. ArvindVerma		✓						
Dr. S. P. Tailor			✓					
Dr. V. P. Saini		✓						
Dr. Fatehlal Sharma		✓						
Dr. (Mrs) Shashi Jain		✓						
Sh. B. L. Dangi						✓		
Sh. VikasLuhar						✓		
<b>KVK, Adilabad (ANGRAU, Hyderabad)</b>								
Dr. N. Manohar Reddy			Deputy Director Research					
Dr. P. Ramesh, CCPI			✓					
Sh. Eshwar Charan						✓		
<b>AP State Biodiversity Board, Hyderabad</b>								
Dr. S. N. Jadhav, CCPI			Addl. Pr. Chief Conservator of Forests & Member Secretary					
Dr. R. Hampaiah			Chairman APSBDB					
Dr. M. V. Reddy			Director Deptt of Animal Husbandary					
Dr. Manmohan Singh			Commissioner Deptt of Fishries					
Dr. Shilpi Bhardwaj						✓		
Sh. G. Shailu						✓		
<b>SevaMandir</b>								
Sh. Shailendra Tiwari,			In-charge					



CCPI			NRD Unit					
Sh.NiranjanAmeta			Associate					

**o. Honour and Awards related to outcome of sub-project**

Sub-Project Leader and Partners	Name of personnel	Honour/Award (with date)
Nil		

**p. Linkages and collaborations (specific to project activities)**

Sub-Project Leader and Partners	Linkages developed
NBPGR, New Delhi and other consortium partners (CSK-HPKV, Palampur; MPUAT, Udaipur; KVK (ANGRAU) Adilabad, and APS-BDB, Hyderabad)	Linkages with line departments (Agriculture, Veterinary, Fishery) for various add-value interventions particularly animal nutrition and health management, AI interventions for breed improvement, and incorporating local crop landraces in agricultural extension packages.

**q. Status of employment generation (man-days/year)**

Lead centre/ Co-partners	Employment generation upto March 2012	Employment generation during April 2011 to Feb 2012
Data being generated		

**r. Action taken for post NAIP sustainability of the sub-project activities:**

Revival of local landraces, animal breeds and fish fauna, and various add-value interventions to these resources will help in bringing sustainability to traditional farming systems in these disadvantaged districts. Further, the marketing interventions to local bioresources will bring livelihood security through economic development.

**s. E&S frameworks developed and implemented? (If applicable)**

Environmental			Social		
Positive effects	Negative effects	Mitigation measures taken to minimize the negative effects	Positive effects	Negative effects	Mitigation measures taken to minimize the negative effects

<p>Cultivation of local varieties linked with low-input, or organic, farming can support farming systems through improving agroecosystem health and stability</p>	<p>Nil</p>	<p>N.A.</p>	<ul style="list-style-type: none"> <li>• High price premia for traditional landraces in domestic and international markets.</li> <li>• No variety alone satisfies all of the farmers' concerns.</li> </ul>	<ul style="list-style-type: none"> <li>• Anti-farmer policy distortions.</li> </ul>	<ul style="list-style-type: none"> <li>• Social recognition by promoting non-economic rewards for conservation of agro-biodiversity.</li> <li>• Marketing support through labelling system not only provides direct rewards to growers, but also help to raise public consciousness of the importance of diversity and the need for public policies to sustain it.</li> </ul>
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**t. Performance Indicators ( Proforma will be sent to CPIs separately)**