Annual Progress Report
2009-10

COMPONENT 3

May 2010
Annual Progress Report
2009–10

COMPONENT 3

May 2010
Realization of complexities affecting sustainable food production about a decade back, started attracting attention towards profitability, rural employment, poverty alleviation, marketing, policy issues etc. Research and research investment were not considered continuing linear relationship with enhanced production. It is with this realization at global level that brought into focus the agricultural innovations aiming to achieve same goals that were being achieved till end of 20th century. In India National Agricultural Innovation Project is one such largest national initiative of ICAR in collaboration with the World Bank. Key objective of this project is “to contribute to the sustainable transformation of Indian agricultural sector from primarily a food self-sufficiency to more of a market orientation in support of poverty alleviation and income generation”. This is to be achieved through collaborative development and application of agricultural innovations by all stakeholders. The project sanctioned on 8 April, 2006 became effective on 18 September, 2006. Phase I of the project is over on 31 March, 2010 and we are in Phase II of project implementation.

The project is addressing its objective through four components. These are (1) ICAR as the catalyzing agent for management of change in the Indian NARS, (2) Research on production to consumption systems (Value Chains), (3) Research on sustainable rural livelihood security, (4) Basic and strategic research in frontier areas of agricultural sciences. The objective of component-3 is sustained improvement in the incomes and well being of farm families mainly in disadvantaged areas which have so far been left behind in development.

Good results have started emerging from sub-projects sanctioned under this component. Efforts of Dr A.P. Srivastava, National Coordinator (Component-3) for coordinating, monitoring and guidance to CPIs and CCPIs in project implementation are praiseworthy. Administrative and financial support provided by Shri Kumar Rajesh, Under Secretary and his team and Shri Devendra Kumar, Director (Finance) and his team are appreciable. Keen interest, guidance, monitoring and direction of Dr S. Ayyappan, Secretary DARE and Director General, ICAR, Chairman, PMC and NSC deserve special acknowledgement and thanks.

May 2010

(Bangali Baboo)
National Director
The objectives of the Component-3 of NAIP are: (i) to improve the livelihood security of the rural people living in the selected disadvantaged regions through technology-led innovation systems, encompassing a wider process of social and economic change, and covering all the stakeholders; and (ii) to foster partnerships, pool competence and resources from conventional and non-conventional sources and to build social capital for better ownership and a sustainable model for rural development.

I am happy to present the Annual Progress Report of the Component-3 for the Year 2009–10 on the progress of implementation and highlights of the achievements done so far under this component.

The continued guidance and support extended by Dr. Bangali Baboo, National Director, NAIP is gratefully acknowledged. The support and cooperation received from Mr. Devedra Kumar, Director Finance and Mr Kumar Rajesh, Under Secretary (Procurement) for streamlining of financial, procurement and other fiduciary related aspects is appreciated. Timely direction and monitoring of Dr S. Ayyappan, Secretary DARE and Director General, ICAR deserve special acknowledgement and thanks.

I would like to thank all the Consortia Principal Investigators and their partners along with their host organizations in implementing this unique project.

The guidance and support received from Dr Paul S. Sidhu, Task Team Leader and his team at the World Bank is greatly appreciated.

It is my earnest hope that the time lag of 16 months in implementation of this project will soon get bridged as the project implementation is being fast tracked.

I appreciate the efforts done by M/s Consulting Engineering Services, M&E Consultants in preparing this report.

(A.P. Srivastava)
National Coordinator
# Contents

*Abbreviations* ix

*Executive summary* xi

1 Introduction 1

1.1 Objectives of the Component 3 1

1.2 Budget Allocation – Planned and Actual 1

1.3 Approved projects call wise (Summary Tables) 2

1.4 M & E System at Consortia level 2

2 Sub-projects-wise Research Progress 4
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>Artificial Insemination</td>
</tr>
<tr>
<td>BAFI</td>
<td>Bhartia Agro-Industries Foundation</td>
</tr>
<tr>
<td>BQ</td>
<td>Blank Quarter</td>
</tr>
<tr>
<td>BVP</td>
<td>Bharti Vidyapeeth</td>
</tr>
<tr>
<td>CAC</td>
<td>Consortium Advisory Committee</td>
</tr>
<tr>
<td>CIC</td>
<td>Consortium Implementation Committee</td>
</tr>
<tr>
<td>CIGs</td>
<td>Common Interest Groups</td>
</tr>
<tr>
<td>CLIS</td>
<td>Computerised Land Information System</td>
</tr>
<tr>
<td>CMU</td>
<td>Consortium Monitoring Unit</td>
</tr>
<tr>
<td>CPI</td>
<td>Consortia Principal Investigators</td>
</tr>
<tr>
<td>CSWCR&amp;TI</td>
<td>Central Soil and Water Conservation Research and Training Institute</td>
</tr>
<tr>
<td>DAP</td>
<td>Diammonium Phosphate</td>
</tr>
<tr>
<td>DST</td>
<td>Department of Science and Technology</td>
</tr>
<tr>
<td>FMD</td>
<td>Foot and Mouth Disease</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environmental Funding Agency</td>
</tr>
<tr>
<td>GoM</td>
<td>Group of Ministers</td>
</tr>
<tr>
<td>GSDA</td>
<td>Groundwater Survey and Development Agency</td>
</tr>
<tr>
<td>HDPE</td>
<td>High Density Polyethylene</td>
</tr>
<tr>
<td>HHs</td>
<td>Households</td>
</tr>
<tr>
<td>HS</td>
<td>Haemorrhagic Septicemia</td>
</tr>
<tr>
<td>HYV</td>
<td>High Yielding Variety</td>
</tr>
<tr>
<td>ICAR</td>
<td>Indian Council of Agricultural Research</td>
</tr>
<tr>
<td>ICRISAT</td>
<td>International Crop Research Institute for Semi Arid Tropics</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IFS</td>
<td>Integrated Farming System</td>
</tr>
<tr>
<td>IIT</td>
<td>Indian Institute of Technology</td>
</tr>
<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
</tr>
<tr>
<td>INM</td>
<td>Integrated Nutrient Management</td>
</tr>
<tr>
<td>IPM</td>
<td>Integrated Pest Management</td>
</tr>
<tr>
<td>ITDA</td>
<td>Integrated Tribal Development Agency</td>
</tr>
<tr>
<td>IWMI</td>
<td>International Water Management Institute</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring &amp; Evaluation</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MREGS</td>
<td>Mahatma Gandhi Rural Employment Guarantee Scheme</td>
</tr>
<tr>
<td>NABARD</td>
<td>National Bank for Agriculture and Rural Development</td>
</tr>
<tr>
<td>NAIP</td>
<td>National Agricultural Innovation Project</td>
</tr>
<tr>
<td>NARS</td>
<td>National Agricultural Research System</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Government Organisations</td>
</tr>
<tr>
<td>NREGS</td>
<td>National Rural Employment Guarantee Scheme</td>
</tr>
<tr>
<td>NSC</td>
<td>National Steering Committee</td>
</tr>
<tr>
<td>PAD</td>
<td>Project Appraisal Document</td>
</tr>
<tr>
<td>PIP</td>
<td>Project Implementation Plan</td>
</tr>
<tr>
<td>PIU</td>
<td>Project Implementation Unit</td>
</tr>
<tr>
<td>PMC</td>
<td>Project Management Committee</td>
</tr>
<tr>
<td>PMTS</td>
<td>Project Monitoring and Tracking System</td>
</tr>
<tr>
<td>PPR</td>
<td>Peste de Petits Ruminants</td>
</tr>
<tr>
<td>PRA</td>
<td>Participatory Rural Appraisal (PRA)</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RPC</td>
<td>Research Programme Committee</td>
</tr>
<tr>
<td>SAUs</td>
<td>State Agricultural Universities</td>
</tr>
<tr>
<td>SFAC</td>
<td>Small Farmers Agri-Business Consortium</td>
</tr>
<tr>
<td>SHGs</td>
<td>Self Help Groups</td>
</tr>
<tr>
<td>SRI</td>
<td>System of Rice Intensification</td>
</tr>
<tr>
<td>TAG</td>
<td>Technical Advisory Group</td>
</tr>
<tr>
<td>TOR</td>
<td>Terms of Reference</td>
</tr>
<tr>
<td>TTC</td>
<td>Technology transfer clubs</td>
</tr>
<tr>
<td>VO</td>
<td>Village Officers</td>
</tr>
<tr>
<td>WASSAN</td>
<td>Watershed Support Services and Activities Network</td>
</tr>
<tr>
<td>WHB</td>
<td>Water Harvesting Bunds</td>
</tr>
<tr>
<td>WHS</td>
<td>Water Harvesting Structure</td>
</tr>
</tbody>
</table>
Executive Summary

Under component 3, thirty-three projects covering 92 districts were operational during the period under report. There was large variation in the soil type and topography, climate and rainfall pattern, demographic pattern, socio and economic status of the farmers, limited accessibility with poor or negligible road network etc. A large number of districts are naxalite prone areas with frequent violence and bundhs. The sub projects aim to develop a model for sustainable rural livelihood security of landless, small and marginal households of the target districts. Enhancement in income, employment generation and nutritional security are the major objectives of these sub projects. Baseline survey was conducted and location specific integrated farming system, capacity building and social mobilization through formation of different SHG were designed and implemented in target areas.

The major crop interventions across all clusters included introduction of improved variety of crops, introduction of horticultural crops, enhancement in cropping intensity and intercropping. Increase in productivity of livestock based income generating activity included providing mineral feed supplement, health care, AI, introduction of goatary, piggery and poultry. Interventions on natural resource management through rain water harvesting; improving water use efficiency, management of degraded land was introduced in all the clusters. Income generating activities such as lac cultivation, mushroom cultivation, vermi composting, tasar silk cultivation was introduced wherever it had potential. The other major activities included establishing infrastructure and deploying ICT equipment for site specific knowledge empowerment through Village Resource Centers; strengthening existing community based organizations (CIGs, SHGs and VOs) and enabling the new ones to participate in productive enterprises through capacity building; Linkages established with concerned departments and agencies such as ITDP, GSDA, NREGS and NABARD.

The consortia responded to the droughts, insufficient and delayed rainfall in various parts of the country with various mitigation measures.

Some of the salient achievements are as under:

1. A substantial increase in productivity of different crops has been reported by different consortia. Some of these are as follows:
   - Maize 58%, Paddy 72%, Soyabean 15.9%, Castor 41.9%, Mustard 28.2%, Wheat 31.6%, (SDAU)
   - Cotton 126%, Soyabean 29%, Jowar 243%, Linseed 79%, (BAIF)
   - Average increase in yield of wheat, summer mung and urd was 60–90% (CSAUAT, Kanpur)

2. The promising technologies finding wider applicability are SRI in rice cultivation, lac cultivation, integrated rice-fish-poultry system, water harvesting, and laser leveling etc.
EXECUTIVE SUMMARY

3. A large number of vermi-compost units (1,161 nos.) have been created during this period. This is an environment friendly income generating activity.

4. Vegetable production with appropriate market linkage is another major activity being accepted by the farmers. As reported an additional income of ₹ 1,670, ₹ 13,302, ₹ 22,372, ₹ 14,771, ₹ 21,985, ₹ 33,143 from Cabbage, chilli, cluster bean, okra, brinjal and capsicum respectively were obtained from one hectare of area.

5. Live stock and aquaculture based interventions such as poultry, goatry, piggery, AI, estrous synchronization, mineral based feed supplement are being accepted by farmers as major source of income.

6. Water harvesting and water saving systems (HDPE pipes, MIS etc.) has tremendous scope of up-scaling.

7. An Omega oil processing unit has been created at BVP, Pune.

8. CRIDA Hyderabad has created a network of tube wells through pipelines for sharing water across 26 ha owned by 17 farmers.

9. Cultivation of in-situ Azola as feed in the backyard for protein source in poultry feed (100–200 g/day) and cattle @ 1 kg/day has reduced the dependence on costly protein feed beside nitrogen fixing advantage in vegetables and rice.

10. Linkages established with concerned departments and agencies such as ITDP, GSDA, NREGS and NABARD (BAIF), Rainwater harvesting through farm ponds and mainstreaming digging of farm ponds through NREGS (Seethagundi cluster, Adilabad), Support of NABARD for upscaling activities in BCKV, West Bengal are some of the examples of linkages developed by various consortia.

11. Eight consortia actively responded to mitigation measures for drought in most parts of the country this year. The strategies for the target districts in Uttar Pradesh, Bihar, Jharkhand, Maharashtra, Andhra Pradesh and Karnataka were planned and implemented.

Sustainability

Efforts are being made to ensure sustainability of the gains beyond the project period. A concept of sustainability fund has been developed. Self Help Groups (SHGs), Commodity Interest Groups (CIG), Agricultural Producer Groups, their federations are being developed, strengthened to ensure maximum return to the farmers. SHGs have been formed under the project for pickles making, vermi-compost, mushroom production, medicinal plants and floriculture, mechanized leaf plates and bowls making etc. The fund has contribution from the beneficiaries which will be used by the famers once the project is over. MPUAT, Udaipur is leading the way in development of sustainability fund with ₹ 1.28 crore already collected. Other consortia are also following the example. Guidelines for creation and management of this fund has been prepared and shared with proponents.
Performance Indicators

Performance indicators are described below:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline values</th>
<th>Performance as on March 2010</th>
<th>Target by the end of the Project (as per PAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of consortium developed technologies made available</td>
<td>0</td>
<td>452</td>
<td>620</td>
</tr>
<tr>
<td>No. of improved technologies adopted</td>
<td>0</td>
<td>413</td>
<td>165</td>
</tr>
<tr>
<td>No. of farmers using NAIP technologies</td>
<td>0</td>
<td>59,617</td>
<td>6,00,000</td>
</tr>
<tr>
<td>Increase in agriculture services and processing enterprises in project area</td>
<td>0</td>
<td>630</td>
<td>55%</td>
</tr>
<tr>
<td>Increase in agriculture-based employment in participating farming households (Man years) (@ 42 man days/household/year)</td>
<td>0</td>
<td>8,983</td>
<td>18,000</td>
</tr>
<tr>
<td>No. of farmer groups involved in project component activities</td>
<td>0</td>
<td>2,700</td>
<td>600</td>
</tr>
</tbody>
</table>

The performance indicators are satisfactory and it is expected that all the PAD targets would be achieved. It has, however, been observed that still there is a need for more clarity in reporting the production and processing technologies released and adopted. Technologies are not merely technical processes to produce certain products; they should also be financially viable from the point of view of the entrepreneurs.
The livelihood security of about 80% of the poor living in the rural areas has to be improved through the agricultural and allied sector interventions based on farm and non-farm activities and the disadvantaged areas and vulnerable groups should be accorded priority attention. A major impetus for such a transformation has to come through development, dissemination and application of technologies and the pooling of knowledge, competence and resources of all stakeholders (public sector, private sector, NGOs, Civil Society organizations, development departments, etc.) with deliberate and cost effective investments in building partnerships, consortia and shared governance in target environments. This NAIP-Component aims to strengthen the knowledge and innovation potential of a consortium of stakeholders in harsh environments that have livelihood improvement potential.

One of the criteria for selecting areas for Component 3, therefore, is the ‘inherent potential’. The NAIP provides policy support, platform, technical packages and partnerships for exploiting this potential. It is also noted that livelihoods in low potential areas should focus particular attention to various support and off-farm activities, and the status of migrations, etc.

1.1 Objectives of Component 3

The specific objectives of Component 3 are as follows:

(i) To improve the livelihood security of the rural people living in the selected disadvantaged regions through technology-led innovation systems, encompassing a wider process of social and economic change, and covering all the stakeholders, and

(ii) To foster partnerships, pool competence and resources from conventional and non-conventional sources and to build social capital for better ownership and a sustainable model for rural development.

1.2 Budget Allocation – Planned and Actual

Under this component, an amount of ₹ 2,665.0 million have been sanctioned to 33 sub-projects for implementation. Three projects have been sanctioned under GEF funding for the sanctioned budget of ₹ 311.148 millions. The summary of sanctioned amount under Component 3 is given below:

<table>
<thead>
<tr>
<th>No. of consortia</th>
<th>Number of participating institutes</th>
<th>Amount sanctioned (₹ million)</th>
<th>Amount sanctioned per consortia (₹ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As consortia leader</td>
<td>As consortia partner</td>
<td>2,665.00</td>
</tr>
<tr>
<td>33</td>
<td>33</td>
<td>149</td>
<td>2,665.00</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>14</td>
<td>311.15</td>
</tr>
</tbody>
</table>
The budget sanctioned and expenditure in 2009–10 and as cumulative expenditure up to March 2010 are mentioned in the following Table. The cumulative budget utilization is 35.59% of total sanctioned budget.

### Details of sanctioned budget and Utilization

<table>
<thead>
<tr>
<th>Total Sanctioned Budget</th>
<th>Budget sanctioned in 2009–10</th>
<th>Expenditure in 2009–10</th>
<th>Cumulative expenditure till March 2010</th>
<th>% of cumulative to total sanctioned budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2665.0</td>
<td>569.4</td>
<td>424.9</td>
<td>948.6</td>
<td>35.59</td>
</tr>
</tbody>
</table>

### 1.3 Approved projects call wise

A total of 36 projects have been approved (Call-1, 2 and 3) on different sectors. Theme-wise and call-wise number of sub-projects are given below:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Call 1</th>
<th>Call 2</th>
<th>Call 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Himalayan Eco-system</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rainfed areas</td>
<td>9</td>
<td>6</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Animal Husbandry</td>
<td></td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Fisheries</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Improvement of degraded areas</td>
<td></td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Coastal and flood zone areas</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td></td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>14</strong></td>
<td><strong>10</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

### 1.4 M & E System at Consortia level

M & E system at consortia and PIU level under Component 3 is given below:

#### M&E activities

<table>
<thead>
<tr>
<th>At consortia level</th>
<th>At PIU level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consortia Advisory Committee</td>
<td>Component and Project level review by O&amp;MPC, O&amp;MAG, PMC, RPC, TAG and respective NCs</td>
</tr>
<tr>
<td>Consortia Monitoring Units</td>
<td>Component level workshops</td>
</tr>
<tr>
<td>Consortia Implementation Committee</td>
<td>Region/State level meetings</td>
</tr>
<tr>
<td></td>
<td>M &amp; E Consultants (CES)</td>
</tr>
</tbody>
</table>

CAC, CIC and CMUs are operating at the consortia level. Numbers of meetings of CAC, CICs and CMUs held up to March 2010 are 75, 72 and 70 respectively.

In addition to the consortia level PIU has been actively involved in M & E activities and 3 Regional Workshops of the component were organized on 10–11 February 2010 at BAIF, Pune, 21–22 February 2010 at CSUA&T, Kanpur and 5–6 March, 2010 at Ranchi to review the
work of all the 36 consortia. M & E consultant has visited 6 consortia under component 3 during the year 2009–10 and all the consortia under component 3 have been facilitated and assisted to complete the baseline survey. Performance indicators are described below:

M & E consultant have also loaded the basic data, objectives and activities of all the consortia and requested the concerned consortia to complete the results framework (targets and achievements of deliverables and outputs) so that PMTS could be operationalized at all the 36 consortia. The work is under progress.
CHAPTER 2

Sub-projects wise Research Progress

Under this heading, 36 sub-projects have been grouped into 7 identified thematic areas. The research progress made under each sub-project is given below:

**Theme 1: Himalayan Eco-system**

1. Sub-project: Livelihood Improvement and Empowerment of Rural Poor through Sustainable Farming Systems in North East India

   (i) Project Code: 30002
   (ii) Sanctioned date: 15.10.2007
       Completion date: 31.03.2012
       Budget (₹ in lakh): 2325.5533
   (iii) Consortia P.I. and Lead Institute: Dr G.C. Munda
        (Name, designation and full address) Central Agricultural University
        Imphal, Manipur
        0364-2570276, 09436107772
        Mundagc@yahoo.com
        kks_neh@rediffmail.com
   (iv) Partners:
        ● ICAR-NEH Region, Barapani
        ● SASARD, Nagaland University
        ● Zilla Parishad, Dhalai, Tripura
        ● Central Agricultural University (CAU), Imphal
        ● Mizoram University, Aizawl
        ● NERIST
        ● ICRI, Regional Centre, Sikkim (Spices Board)
        ● RRTC, Umran
        ● IWMI
        ● ILRI
   (v) Website: Not yet developed
   (vi) Objectives:
       1. Introduction and popularization of improved/HYV of various crops for increasing production.
       2. Dissemination and popularization of sustainable crop production technologies including livestock rearing in fragile hill ecosystem.
       3. Capacity building of farmers through formation of SHGs, training, encouragement of rural women’s activities and their role in farming and mass sensitization programme.
4. Creation of marketing channel through SFAC, NGOs and local merchants for giving remuneration to the farmers.

(vii) Research Progress:
The project is undertaken in 7 backward districts of 7 States of the country. These districts are Mon (Manipur), South Garo Hills (Meghalaya), Upper Sikkim (Sikkim), Dhalai (Tripura), Upper Subansiri (Arunachal Pradesh), Tamenglong (Mizoram) and Saiha (Mizoram). Baseline survey has been completed and following salient features have emerged.

- Average land holding in Upper Subansiri, Tamenglong, South Garo Hills, Siaha, Mon, Upper Sikkim and Dhalai was 1.61, 1.38, 1.15, 2.36, 1.98, 3.90 and 0.43 ha respectively.
- Average annual income of sample farmers in Upper Subansiri, Tamenglong, South Garo Hills, Siaha, Mon, Upper Sikkim and Dhalai was `18,945, `36,347, `21,900, `48,187, `17,281, `43,053 and `36,375 respectively.
- Overall literacy percentage was 67 and 47 for male and female population respectively. It was maximum in Siaha (85%) and minimum in Mon (46.5%).
- Total area, forest area and cultivated area were 640,528 ha, 417,051.1 ha and 127,669 ha respectively.

The major interventions and salient results are as follows

- Introduction of improved/HYV for horticultural crops was done in an area of 75 ha.
- Mustard cultivation under zero tillage cultivation was introduced in 12.5 ha in Tamenglong.
- Introduction of HYV for rice was done in an area of 154 ha. The percentage increased yield with Ranjeet, was 218% over the average productivity of local Sali paddy in South Garo Hills. Average productivity of local variety of the Dhalai district, Tripura was 2,100 kg/ha and after introduction of Naveen with SRI method average productivity of rice increased to 3,772 kg/ha.
- Protected Vegetable cultivation expanded to 2,500 m² area in North Sikkim.
- Disease free ginger was produced. Its average yield was 30 t/ha compared to 25 t/ha by farmers.
- Ten units were undertaken for multiplication of large cardamom clones.
- Quality seed production for two varieties of rice, maize, soybean, ground nuts etc. were taken up in 38.5 ha area at Tamenglong. About average yield of local variety was 2,800 kg/ha, now it has become 35.77 tonnes/ha rice seed. The yield obtained was 35.77 t/ha in comparison to 28/ha.
- Developed 14 nos of polyhouses for year round vegetable cultivation at N. Sikkim.
- Developed 3 nos. of dairy units, a total of 4,425 chicks, 56 piggery unit and 128 goatery units were distributed. From 640 nos of birds, farmers earned a net monetary benefit of `77,845 after rearing the kroiler birds for 6 months.
- Area covered under rice–fish culture was 1.50 ha.
- Scientific Composite fish culture was introduced in 25.8 ha for 62 nos. of ponds at Dhalai, Tamenglong, South Garo Hills and Saiha.
Renovated two water harvesting structures and constructed one fish pond of size 31.0 m × 6.0 m × 1.52 m for integrated fish farming. 800 nos. of fish fingerling were released in pig-fish integration at Mon.

Ten number of tanks, two Channels, Jalkunds-10, ten Tanks with Azola were completed in Mon, Saiha, N. Sikkim, Tamenglong.

Developed IFS model in 64 ha in Saiha U. Subansiri, and North Sikkim Dhalai.

Half-moon terraces with mulching technique have been developed for in situ soil moisture conservation in 52.5 ha in N. Sikkim, Mon and Saiha.

2 ha land treated to overcome soil acidity problem with lime, FYM etc at N. Sikkim.

54 units of bee keeping 35 nos. of mushroom production units and 11 nursery units were developed.

11 nos. of Vermi compost units were established

3 nos. of PHT units (Upper Subansiri-1, Saiha-1, Tamenglong-1) established.

5 nos. of Stitching/Knitting unit (Upper Subansiri-2 (1/1), Tamenglong-2 and North Sikkim-1) were developed.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICAR.NEH Region, Barapani</td>
<td>1261.6677</td>
<td>556.76</td>
<td>502.44</td>
<td>90</td>
</tr>
<tr>
<td>SASARD, Nagaland University</td>
<td>134.3058</td>
<td>72.77</td>
<td>76.99</td>
<td>106</td>
</tr>
<tr>
<td>Zilla Parishad, Dhalai, Tripura</td>
<td>141.3087</td>
<td>61.99</td>
<td>77.52</td>
<td>125</td>
</tr>
<tr>
<td>Central Agricultural University (CAU), Imphal</td>
<td>254.1855</td>
<td>114.71</td>
<td>97.38</td>
<td>85</td>
</tr>
<tr>
<td>Mizoram University, Aizawl</td>
<td>129.9746</td>
<td>71.38</td>
<td>75.45</td>
<td>106</td>
</tr>
<tr>
<td>NERIST</td>
<td>81.7992</td>
<td>42.77</td>
<td>12.73</td>
<td>30</td>
</tr>
<tr>
<td>ICRI, Regional Centre, Sikkim (Spices Board)</td>
<td>121.2413</td>
<td>69.86</td>
<td>37.52</td>
<td>54</td>
</tr>
<tr>
<td>RRTC, Umran</td>
<td>123.2673</td>
<td>69.43</td>
<td>31.29</td>
<td>45</td>
</tr>
<tr>
<td>IWMI</td>
<td>38.8917</td>
<td>8.64</td>
<td>1.97</td>
<td>23</td>
</tr>
<tr>
<td>ILRI</td>
<td>38.8917</td>
<td>4.76</td>
<td>13.75</td>
<td>289</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2325.5533</strong></td>
<td><strong>1077.99</strong></td>
<td><strong>927.02</strong></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>

2. Sub-project: Enhancement of Livelihood Security through Sustainable Farming Systems and Related Farm Enterprises in North-West Himalaya

(i) Project Code : 30003
(ii) Sanctioned date : 26.06.2007
Completion date : 31.03.2012
Budget (₹ in lakh) : 2702.331
(iii) Consortia P.I. and Lead Institute : Dr A.K. Srivastva
(Name, designation and full address) Vivekananda Parvatiya Krishi Anusandhan Sansthan
Almora 263 601 (Uttarakhand), India
05962-230208, 09411134656
aksrivastva4@yahoo.com

(iv) Partners:
- SKUAST-K, Srinagar 191 121 (J & K)
- SKUAST-J, Jammu 180 009 (J & K)
- Ch SKHPKV, Palampur 176 062 (HP)
- GBPUAT, Ranichauri 249 199 (Uttarakhand)
- Cswcrti, Dehradun 248 195 (Uttarakhand)
- GBPIHED, Kosi-Katarmal 263 643 (Uttarakhand)
- IIT, Delhi 110 016 (Delhi)
- BAIF, Haridwar 249 408 (Uttarakhand)

(v) Website: http://vpkas.nic.in

(vi) Objectives:
1. Enhancement of agricultural productivity and profitability through proven technological interventions
2. Up-gradation and management of natural resource-base
3. Agro-processing, value addition and improved marketing for enhancing profitability and employment opportunities
4. Empowerment through capacity building and skill development in core and allied agricultural sectors along with employment generation

(vii) Research Progress:
The project is being implementing in two districts of Uttarakhand (Tehri Garhwal and Champawat), Chamba (HP), Kupwara and Doda (J &K). The sub-project is led by VPKAS, Almora as lead centre.

- During the year 2009–10 cultivation of food crops, pulses, oilseeds and vegetables through improved technology have been demonstrated in 869 ha area, while the cumulative area under these crops has been 1,761 ha. This has been a major effort towards achieving food security. For providing cash income to the farmers the interventions like goat keeping, mushroom culture, fisheries, apiary, dairy, spices, floriculture, and making the small tools contributed to a great extent.

- Floriculture was adopted by 51 farmers for the first time which gave them very impressive results and fetched them good economic returns. This has a good potential to increase farmers income in coming years.

- In Champawat district the animal husbandry interventions in the project resulted in increased milk production by 200 litres per day which has resulted in opening of pickup centre by the Anchal Dairy federation. The interventions have also resulted in the birth of 99 quality breed calves, an income of ₹ 4,000 form goat, and ₹2,79,450 from poultry,
- White grub is major insect pest of the area. Its management so far was a big challenge and required high quantity of insecticide to be incorporated in soil which was a great threat to the ecosystem. With the help of light trap and bacterial formulation the white grub problem has been effectively managed.
- High quality germplasm of various temperate and subtropical fruit plantations have started appearing and in future it will become a major source of income as well as a source of nutrition to the local people.
- Under the project soil and water conservation issue has been addressed on priority basis. LDPE tanks have been constructed to store the run off. Fish has also been introduced in these water tanks which have now become major source of nutrition and income to the farmers. Natural resources management included, 132 poly-tanks and its efficient utilization for protected cultivation in 81 poly-houses, management of non-common lands in about 1,046 ha area.
- By providing training to the local black smith, they have become efficient in constructing light traps as well as small farming tools. There is lot of demand of light traps from state departments and other agencies for whom now these NAIP villages have become a hub of light traps and small farming tools.
- In Chamba area of Himachal Pradesh due to bacterial pathogen chilli production had come to an end. By introducing the bacterial wilt resistant variety (Surajmukhi) the chilli cultivation has again been revived.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPKAS, Almora</td>
<td>553.614</td>
<td>304.15</td>
<td>273.48</td>
<td>90</td>
</tr>
<tr>
<td>SKUAST-Kashmir</td>
<td>402.890</td>
<td>284.57</td>
<td>194.37</td>
<td>68</td>
</tr>
<tr>
<td>SKUAST-Jammu</td>
<td>402.931</td>
<td>151.12</td>
<td>169.06</td>
<td>112</td>
</tr>
<tr>
<td>CHSKHPKV, Palampur</td>
<td>350.746</td>
<td>178.71</td>
<td>125.09</td>
<td>70</td>
</tr>
<tr>
<td>GBPUAT, Ranichauri</td>
<td>334.236</td>
<td>151.52</td>
<td>111.58</td>
<td>74</td>
</tr>
<tr>
<td>CSWCRTI, Dehradun</td>
<td>251.503</td>
<td>135.36</td>
<td>53.40</td>
<td>39</td>
</tr>
<tr>
<td>GBPIHED, Katarmal</td>
<td>163.079</td>
<td>0.00</td>
<td>0.00</td>
<td>-</td>
</tr>
<tr>
<td>IIT, Delhi</td>
<td>84.791</td>
<td>44.61</td>
<td>19.71</td>
<td>44</td>
</tr>
<tr>
<td>BAIF, Haridwar</td>
<td>158.542</td>
<td>87.47</td>
<td>81.92</td>
<td>94</td>
</tr>
<tr>
<td>GBPIHED, Kosi Katarmal</td>
<td>163.079</td>
<td>82.65</td>
<td>66.36</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2702.331</strong></td>
<td><strong>1420.17</strong></td>
<td><strong>1094.97</strong></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>
Theme 2: Rainfed areas

3. Sub-project: Sustainable Rural Livelihood Security in Backward Districts of Maharashtra

(i) Project Code: 30001
(ii) Sanctioned date: 01.07.2007
   Completion date: 30.06.2012
   Budget (₹ in lakh): 2400.731
(iii) Consortia P.I. and Lead Institute: Mr B.K. Kakade
    (Name, designation and full address) BAIF Development Research Foundation
    020-25232166, 25231661, 09423507335
    bkkakade@baif.org.in, jmdoke@baif.org.in
(iv) Partners:
    ● Dr Panjabrao Deshmukh Krishi Vidyapeeth (PDKV) Akola
    ● Mahatma Phule Krishi Vidyapeeth (MPKV), Tal. Rahuri, dist: Ahmednagar
    ● Maharashtra Animal and Fishery Sciences University (MAFSU), Nagpur
    ● Bharati Vidyapeeth Deemed University (BVU), Pune
    ● Dr Hedgewar Sewa Samiti (HSS), Nandurbar
(v) Website: www.baifnaip.org.in
(vi) Objectives:
    1. To impart appropriate technologies suitable for improving the productivity of natural
       resources and enhance employment opportunities;
    2. To improve livelihood systems, devise appropriate mechanisms and build capabilities
       of people for seeking their entitlements;
    3. To document the impact of different technologies for sharing the experience with
       farmers and development agencies for wider replication in the state.
    4. To identify avenues for higher returns and market for the produce through suitable
       post-harvest technologies and forward linkages.
(vii) Research Progress:
    The project on livelihood improvement through the consortia lead by BAIF, Pune was
    undertaken in 5 disadvantaged districts of Maharashtra namely Ahmednagar, Yeotmal,
    Garhchiroli, Nandurbar and Chandrapur. The target area is characterized by the following:
    ● The area has 45% tribal population, followed by 23% OBC population.
    ● Landless, marginal and small farmers constitute 8.77%, 21.23% and 32.34% respectively.
    ● Crop yields are low due to inadequate use of fertilisers, lack of assured source of
      irrigation and also due to lack of awareness regarding improved practices.
    ● Low productivity of dairy animals is due to unavailability of fodder and lack of
      awareness about scientific practices of livestock management.
    ● As many as 50% household have annual income below ₹ 20,000
    ● Only 26% area is under irrigation
The interventions undertaken and the salient results obtained during the period under report were as follows:

- Improved cultivation practices (INM, IPM, Seed), Wadi/Orchard, tasar cultivation and silk production, pisciculture cultivation of medicinal plants were undertaken benefitting 3,441 families.
- The increase in yield of kharif crops, in comparison to traditional practices for cotton, soybean paddy sorghum and maize were 37, 71, 46, 66 and 28 respectively.
- Urea DAP briquette were introduced for paddy, People are ready to accept this technology and three urea DAP briquette production machines were installed in the field area.
- Tasar silk production was introduced among 104 participant families, Average yield of cocoon per family was recorded at the level of 4,000. Three Lac cultivation were started on 243 trees.
- Ten Technology Transfer Centers for livestock care have been established, and 207 cows were treated through oestrus synchronization.
- Water resource development activities benefitted 419 families and 149 ha catchment area was treated. In all 3,022 acres area was covered, 251 water user groups formed and 525 acres for irrigation for rabi crops were made available.
- Linseed processing plant with a capacity of 0.8–1 ton linseed/day for production of linseed oil (Omega 3 rich products, food grade) was installed. During the year 1507 kg of linseed oil @ ₹ 225 per kg and 6,000 kg poultry feed @ ₹ 45 per kg was sold.
- Due to adoption of the appropriate technology canvassed to the farmers, increase in yield of rabi crops, in comparison to traditional practices for gram, jowar, wheat and linseed were achieved to the level of 50, 52, 287 and 47% respectively.
- Synergy with GSDA, Nandurbar ITDP, Agril Dept, MREGS, Nandurbar, District Collectors of the target areas, Director of Sericulture, GOM Dept of Agril, etc for well deepening, irrigation facility, NREGS and tasar silk cultivation etc were built up.

(viii) The status of the utilization of the budget under this sub-project upto March, 2010 is presented below:

### Status of utilization of budget under the sub-project upto March, 2010

<table>
<thead>
<tr>
<th>Lead centre/partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAIF Development Research Foundation, Pune</td>
<td>1539.890</td>
<td>819.92</td>
<td>841.29</td>
<td>103</td>
</tr>
<tr>
<td>Dr. Hedgewar Sewa Samiti (HSS), Nandurbar</td>
<td>132.408</td>
<td>68.23</td>
<td>68.23</td>
<td>100</td>
</tr>
<tr>
<td>Mahatma Phule Krishi Vidyapeeth (MPKV), Ahmednagar</td>
<td>160.725</td>
<td>74.07</td>
<td>51.57</td>
<td>70</td>
</tr>
</tbody>
</table>

(Contd...)
4. Sub-project: Developing Sustainable Farming Systems Models for Prioritized Micro Watershed in Rainfed Areas in Jharkhand

(i) Project Code : 30004
(ii) Sanctioned date : 19.09.2007
Completion date : 31.03.2012
Budget (` in lakh) : 635.756
(iii) Consortia P.I. and Lead Institute : Dr. A.K. Singh
(Name, designation and full address) BAU, Ranchi
0651-2450670, 2450180, 09431581001
aksingh63@yahoo.com
(iv) Partners:
- IICAR RCER Research Centre, Ranchi (formerly HARP), Ranchi
- IINRG, Namkum, Ranchi
- CRURRS, Hazaribagh
(v) Website: www.bau.org.in
(vi) Objectives:
1. To develop appropriate land and water use plan in the selected micro-watersheds for conserving natural resources.
2. To improve productivity of crops, promote horticulture, animal husbandry fisheries and lac cultivation for livelihood security.
3. To promote entrepreneurship for value-addition to reduce migration and employment generation at farm level.
4. To develop sustainable farming system models for the micro-watershed and improve market linkages.
(vii) Research Progress:
The project is operative in four clusters of two districts namely Dumka and Jamtara of Jharkhand. Base line survey of the target area were conducted and key features of the survey are as follows:
- The target populations are 60.42% ST, 6.21% SC, 30.28% OBC and 3.09% General.
- On the basis of land holdings 0.97%, 66.88%, 22.64%, 1.2% and 7.54% are landless,
marginal, small, medium and semi medium respectively.  
- The average income is ₹ 24,465. It is mainly through agriculture. Only 2% and 12.42% people had additional source of income through service and self-employment, respectively.  
- The cropping intensity was 94 to 104%.  
- Only 35% population has food for six months.  
- Only 7% land has irrigation facilities  
- Migration for livelihood varied from 1 to 6 months  
The major interventions and salient achievements are as follows:  
- Crop Demonstration of crop at multi-location for high yielding varities of rice pulses and oilseed crop with the application of zero tillage, bio-fertilizer, sulphur lime, IPM & INM was conducted with 3,431 farmers. On farm trial of improved rice cultivation with INM & IPM were conducted on 1,324 plots. The percent increase in yield of rice, wheat, maize, varied from 70–72%, 58.3–60.4 and 47.4–60.4% respectively.  
- Demonstrated 1.0 acre model of fruit based multi-tier cropping system at 10 farmers’ fields. Similarly, demonstrated vegetable cultivation in 10-decimal model at 184 farmers’ fields.  
- Improved cultivation of tomato, brinjal, cauliflower, cabbage and other vegetables was demonstrated in 88 units as per farmers’ preferences.  
- Introduction and improvement of goatry, piggery and poultry were provided to 126 farmers. Enhancement in income per beneficiary was ₹ 1,862, ₹ 7,500, ₹ 2,178 and ₹ 1,229 from goat, pig, poultry and duck respectively.  
- Demonstration of papaya cultivation were given at 30 farmers’ fields.  
- Production of fish, prawn and duck were introduced to 67 farmers. Aquaculture activities resulted in enhanced income of ₹ 2,126–2,203 per beneficiary.  
- Demonstration of 87 units of mushroom cultivation and 55 units of vermi-compost for income generation by women farmers were arranged.  
- In all 353 units of OFRs, ring wells, ditches, ponds, seepage control gabian structure and drainage channel were constructed.  
- Improved cultivation of seasonal vegetable and off season vegetables was introduced in 200 plots.  
- Number of lac cultivation and seed production unit installed were 400 and 16 respectively.  

(viii) The status of the utilization of the budget under this sub-project upto March, 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned Budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birsa Agricultural University (BAU), Ranchi</td>
<td>487.723</td>
<td>251.20</td>
<td>243.93</td>
<td>97</td>
</tr>
</tbody>
</table>

(Contd...)
5. Sub-project: Sustainable rural Livelihoods Through Enhanced Farming Systems Productivity and Efficient Support systems in Rainfed Areas

(i) Project Code: 30005
(ii) Sanctioned date: 24.07.2007
Completion date: 31.03.2012
Budget (₹ in lakh): ₹ 1686.362
(iii) Consortia P.I. and Lead Institute: Dr Sreenath Dixit
Name, designation and full address: CRIDA, Hyderabad
Phone: 040-24535336, 24531802
0994900632
sddixit@crida.ernet.in, naip@crida.ernet.in

(iv) Partners:
- Acharaya N.G.Ranga Agricultural University (ANGRAU), Hyderabad.
- International Crops Research Institute for Semi Arid Tropics (ICRISAT), Patancheru, AP
- Watershed Support Services Network (WASSAN), Hyderabad, AP
- Modern Architects for Rural India (MARI), Warangal, AP
- BAIF Institute of Rural Development (BIRD), Mahabubnagar, AP
- Sri Aurobindo Institute for Rural Development (SAIRD), Gaddipalli, Nalgonda, AP
- Center for World Solidarity (CWS), Secunderabad
- Aakruthi Agricultural Associates (AAKRUTHI), Hyderabad
- Ikisan Limited (IKISAN), Hyderabad

(v) Website: http://www.crida.ernet.in/naip/naip.html

(vi) Objectives:
1. To improve the livelihoods of the rural poor through efficient management of natural resources and increased productivity, profitability and diversity of the farming systems.
2. To facilitate agro processing, value addition and market linkages for enhanced on farm and off-farm income and employment generation.
3. Capacity building and skill development of primary and secondary stakeholders through knowledge sharing, collective action and use of modern ICTs.
4. To build a policy framework, institutional mechanisms and support systems for scaling up of the successful approaches.
(vii) Research Progress:
The project has been implemented by a Consortium of 10 organizations led by CRIDA in selected clusters of villages located across eight backward districts namely Adilabad, Ananthapur, Kadapa, Khammam, Nalgonda, Mahaboobnagar, Rangareddy and Warangal of Andhra Pradesh. A base line survey was conducted and the salient characteristics of the target area are as follows:

- These districts are typically drought-prone where livelihood of over 90% population is dependent on agriculture and allied activities.
- The total numbers of households covered by the project are 2,400 of which over 60% are small and marginal farmers, while 16% belongs to the landless category.
- The rainfall in these districts varies from 500 mm in Ananthapur to 1,100 mm in Adilabad.
- Incomes from wages constitute major sources of income for the landless and marginal farmers.

The interventions undertaken and the salient results obtained during the year were as follows:

- Over 370 farm families were involved in cultivation of seeds of different high yielding varieties leading to production of 82 tonnes of seeds. Over 300 ha were brought under new varieties of crops leading to an additional income of ₹ 5,000/ha. Thus, an additional income of over 15 lakh rupees was generated just by change of varieties and a few improved management practices.
- The high water requiring rabi paddy was replaced through zero tillaged maize in over 25 ha in Jaffergudem cluster Warangal. This method was upscaled to other clusters during following season where rabi paddy is practiced.
- Micro nutrient efficiency demonstrations involving 60 farmers gave an additional income of ₹ 10,000/ha in cotton and ₹ 4,000/ha in groundnut.
- NRM activities like digging of farm ponds, percolation ponds, continuous contour trenches, desilting of existing tanks, stone gully plugging, gabion structures and sunken pits were taken up based on the need across the clusters. These generated over 17,000 mandays of work leading to creation of over 10,000 m³ of additional water storage capacity. This benefitted 800 farm families with availability of additional water for crops and livestock.
- Two mini dall mills for pigeonpea processing have been established in Rangareddy and Mahaboobnagar. Five Self Help Groups are involved in operating the dall mill. During the first year over 2 tonnes of pigeonpea was processed generating a profit of ₹ 1.5 lakhs.
- Networking of six borewells to provide protective irrigation facility to 45 acres of rainfed land owned by 18 farmers in Rangareddy district and construction of aqueduct across a string to lift the over flowing water from the village tank in Khammam district providing irrigation to 120 acres owned by 60 farmers were done for judicious use of water resources.
- Over 12, 000 livestock were covered under different health care activities.
The ICT kiosks established for knowledge empowerment at the clusters were visited by over 4,000 individuals.

Convergence through development programmes generated funds to the tune of ₹ 70,94,769.

(viii) The status of the utilization of the budget under this sub-project upto March, 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to budget up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad</td>
<td>429.738</td>
<td>220.82</td>
<td>214.58</td>
<td>97</td>
</tr>
<tr>
<td>Aakruthi Agricultural Associates (AAKRUTHI), Hyderabad</td>
<td>96.391</td>
<td>55.91</td>
<td>55.86</td>
<td>100</td>
</tr>
<tr>
<td>Acharaya N.G.Ranga Agricultural University (ANGRAU), Hyderabad</td>
<td>215.439</td>
<td>93.28</td>
<td>87.35</td>
<td>94</td>
</tr>
<tr>
<td>BAIF Institute of Rural Development (BIRD), Andhra Pradesh</td>
<td>188.386</td>
<td>104.76</td>
<td>99.92</td>
<td>95</td>
</tr>
<tr>
<td>Center for World Solidarity (CWS), Andhra Pradesh</td>
<td>112.096</td>
<td>65.32</td>
<td>64.20</td>
<td>98</td>
</tr>
<tr>
<td>Ikisan Limited (IKISAN), Hyderabad</td>
<td>207.540</td>
<td>94.66</td>
<td>88.23</td>
<td>93</td>
</tr>
<tr>
<td>Modern Architects for Rural India (MARI), Andhra Pradesh</td>
<td>102.781</td>
<td>60.26</td>
<td>58.76</td>
<td>98</td>
</tr>
<tr>
<td>Sri Aurobindo Institute for Rural Development (SAIRD)</td>
<td>94.334</td>
<td>57.73</td>
<td>56.24</td>
<td>97</td>
</tr>
<tr>
<td>Watershed Support Services Network (WASSAN), Andhra Pradesh</td>
<td>125.126</td>
<td>73.13</td>
<td>69.37</td>
<td>95</td>
</tr>
<tr>
<td>International Crops Research Institute for Semi Arid Tropics (ICRISAT), Andhra Pradesh</td>
<td>114.529</td>
<td>62.01</td>
<td>60.39</td>
<td>97</td>
</tr>
<tr>
<td>Total</td>
<td>1,686.362</td>
<td>887.89</td>
<td>854.90</td>
<td>96</td>
</tr>
</tbody>
</table>

6. Sub-project: Livelihood and Nutritional Security of Tribal Dominated Areas through Integrated Farming System and Technology Models

(i) Project Code : 30006
(ii) Sanctioned date : 11.10.2007
    Completion date : 31.03.2012
    Budget (₹ in lakh) : 1,884.130
(iii) Consortia P.I. and Lead Institute (Name, designation and full address) : Dr I.J. Mathur, Maharana Pratap University of Agriculture and Technology Udaipur, 0294-2417697, 09414153817, dir_ext@rediffmail.com, indrajitmathur@yahoo.com
(iv) Partners:
- Central Institute of Fisheries Education, Deemed University, Mumbai-61
- Indian Agricultural Research Institute, New Delhi-12
- BAIF-RRIDMA, Udaipur
- Indian Farm Forestry Development Cooperative Ltd. (IFFDC), Udaipur
- Vidhya Bhawan Krishi Vigyan Kendra, Udaipur
- Jan Shiksha Evam Vikas Sangathan (PEDO), Dungarpur
- ACCESS Development Services, Udaipur (Rajasthan)

(v) Website: www.mpuat.ac.in

(vi) Objectives:
1. Increasing income and nutrition through adoption of economically viable integrated farming system models and technologies.
2. Capacity building for livelihood security through entrepreneurship development and knowledge empowerment.
3. Integrated nutrient and water management.
4. Organizing farmers’ clusters into Farmers Business Centers with self help principles.

(vii) Research Progress:
The project is being implemented in four disadvantage districts of Rajasthan namely Udaipur, Sirohi, Banswara and Dungarpur. These districts are characterized by large tribal population (77.25%), low productivity of crops and animals, low cropping intensity (131.4%), low annual income (₹ 10,778 of landless people to ₹ 34,373 for large farmers). The major interventions include horticultural based IFS and livestock based IFS. Some of the salient findings are as follows:
- Area brought under HYV/Hybrid seeds was 2,202.4 ha, seed production in 28.8 ha, vegetable production was 235.4 ha.
- The families covered under nutritional garden programme were 10,900. Besides, home consumption each family earned ₹ 1,200 to 1,500 per annum.
- Pipe irrigation as water saving device was provided for 40,710 m length, 2,046 q of seed storage facility.
- 781 units of compost and vermi compost was created.
- Seed replacement programme was implemented in 2,319.48 ha, 69 ha, 96.5 ha, 228.6 ha and 222.3 ha for maize, soybean, rice, castor, black gram and pigeon pea respectively. The corresponding yield increase over local check was 99, 50, 84.21, 61.4, 104.28 and 74.2% respectively.
- A total of 117 FBG, 37 SHG, 3 producer companies were formed during this year.
- Seed replacement programme was implemented in 1,474.14 ha, 469.08 ha, 84 ha, 199.68 ha, and 180 ha for wheat, mustard, gram, and maize respectively. The corresponding yield increase over local check was 42.1, 34.4, 55.9 and 36.7%, respectively.
- Cropping intensity was increased through introduction of summer green gram and ground nut in an area of 280.77 and 26.72 ha respectively. This gave an additional benefit of ₹ 10 lakh.
- Vegetable cultivation was undertaken in 725 ha among 4,307 beneficiaries. Through
appropriate market linkages estimated earning from vegetable was ₹ 3.5 crores. MOU with ITC for cultivation of chille and seed spices was signed.

- For livestock promotion fodder was cultivated in 450 ha, 1265 mangers were constructed (30 to 40% fodder saving), 152 animal camps were arranged, 3 milk collection centres were established. MoU were signed with RMOL.
- Introduction of backyard poultry (1,522 units) gave an average income per unit of ₹ 5,760. This not only provided income but also resulted in nutritional improvement of children.
- Training on electric motor rewinding and repairing helped 18 (out of 19 youth trained) youth started their enterprise with an average monthly earning of ₹ 6,000 to 7,000.
- The package of interventions giving the maximum return were from ₹ 11,216 (existing) to ₹ 25,840 for SR + Horticulture + livestock interventions for marginal farmer. The respective figures for small medium and semi-medium farmers were ₹ 18,130 (existing) to ₹ 39,002, ₹ 30,645 (existing) to ₹ 61,102 and 72,000 (existing) to ₹ 123,020 respectively.

- A sustainability fund of ₹ 1.28 crore was created.
- Synergies were developed with RMOL, Jain irrigation systems limited, Bank of Baroda, Department of Animal Husbandry, Horticulture and Tribal Area Development, Hindustan Zinc Limited, DST, ITC and some private organization. The estimated support from these organizations was of ₹ 148 lakhs.

(viii) The status of the utilization of the budget under this sub-project upto March, 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharana Pratap University of Agriculture and Technology Udaipur (MPUAT), Udaipur</td>
<td>11,52,460</td>
<td>867.62</td>
<td>938.48</td>
<td>108</td>
</tr>
<tr>
<td>Central Institute of Fisheries Education (CIFE), Mumbai</td>
<td>93.100</td>
<td>69.86</td>
<td>69.73</td>
<td>100</td>
</tr>
<tr>
<td>Indian Agricultural Research Institute (IARI), New Delhi</td>
<td>31.000</td>
<td>22.70</td>
<td>19.81</td>
<td>87</td>
</tr>
<tr>
<td>Indian Farm Forestry Development Cooperative Ltd. (IFFDC), Udaipur</td>
<td>130.260</td>
<td>90.88</td>
<td>49.55</td>
<td>55</td>
</tr>
<tr>
<td>Vidhya Bhawan Krishi Vigyan Kendra (VBVK), Udaipur</td>
<td>126.250</td>
<td>84.47</td>
<td>83.22</td>
<td>99</td>
</tr>
<tr>
<td>BAIF-RRIDMA, Udaipur</td>
<td>125.210</td>
<td>76.95</td>
<td>69.16</td>
<td>90</td>
</tr>
<tr>
<td>Jan Shiksha evam Vikas Sangathan (PEDO), Dungarpur</td>
<td>119.490</td>
<td>97.63</td>
<td>86.39</td>
<td>88</td>
</tr>
<tr>
<td>ACCESS Development Services, Udaipur (Raj.) (ACCESS), Udaipur</td>
<td>106.360</td>
<td>54.28</td>
<td>54.39</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,884.130</strong></td>
<td><strong>1,364.38</strong></td>
<td><strong>1,370.73</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
7. Sub-project: Sustainable Rural Livelihood Empowerment Project for Northern Disadvantaged Districts of West Bengal

(i) Project Code : 30008
(ii) Sanctioned date : 21.05.2008
Completion date : 31.06.2012
Budget (₹ in lakh) : 549.629
(iii) Consortia P.I. and Lead Institute : Dr Sateyendra Chandra Sarker
(Name, designation and full address) Uttar Banga Krishi Viswavidyalaya
03582-270973, 9475248186,
9434126786
sarker57@rediffmail.com
schsarker@yahoo.com
(iv) Partners:
● Bidhan Chandra Krishi Viswavidyalaya
● North Bengal University
● Eco-Dev Consultancy Pvt. Ltd.
● NIRJAFT
(v) Website: www.ubkv.ac.in/naip-3
(vi) Objectives:
1. To identify, validate and assimilate target groups—specific technology options for increased productivity and profitability.
2. To create a sustainable institutional platform to link stakeholders for effective and efficient service deliver
3. To customize systems for effective scaling up of successful learning experiences through institutionalization of appropriate forward linkages
(vii) Research Progress:
The project is being undertaken in Uttar and Dakshin Dinajpur, Malda and Murshidabad in state of West Bengal, covering three agro-climatic zones, viz. terai, old and new alluvial zones. Marginality of soils, occurrence of flash flood and lack of situation specific technology makes the region a backward one.
The project envisaged employment of matrix approach with the blends of research-led technology intermediation to address following prevailing gaps in the identified cluster:
● Soil health management and soil test based crop nutrition scheduling
● Crop sequencing, diversification, resource conservation, improved agro-techniques and varietal manipulation as per agro-ecological suitability and potentials
● Formulation of integrated farming strategy
● Harnessing of available aqua-wealth
● Performance improvement of backyard and homestead based miscellaneous production systems
● Value-addition for better resource appreciation
● Mechanism of effective linking of the produces and products with markets.

The achievements are as follows:
● Due to crop interventions, the cropping intensity increased from 132 to 156%. The increase in crop area was 57.45% in pre-kharif and 22.24% in rabi, 17.77% in late kharif and 2.35% in kharif.
● The intervention on homested based kitchen gardening resulted in additional 39.38 acre under cultivation and 94% per capita increase of vegetable consumption.
● Estimated annual production of 10.5 tons of vermi-compost was obtained across the project area.
● Zero tillage showed an yield increase of 24.26% in wheat and 9.3% in lentil and also 23.21% reduction in water requirement.
● SRI method resulted in 32.45% increased yield and 30 reduced water requirement.
● Introduction of backyard goatery (91 family) and poultry (72 family) resulted in 51.65% increased number and 52.72% increase in annual egg productivity.
● The area under different crops increased from 1,053.20 ha to 1135.1 ha.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Banga Krishi Viswavidyalaya (UBKV), West Bengal</td>
<td>320.699</td>
<td>154.53</td>
<td>107.33</td>
<td>69</td>
</tr>
<tr>
<td>Bidhan Chandra Krishi Viswavidyalaya (BCKV), West Bengal</td>
<td>118.624</td>
<td>55.40</td>
<td>152.42</td>
<td>275</td>
</tr>
<tr>
<td>North Bengal University(NBU), West Bengal</td>
<td>29.340</td>
<td>18.68</td>
<td>29.91</td>
<td>160</td>
</tr>
<tr>
<td>NIRJAFT, West Bengal</td>
<td>42.587</td>
<td>28.33</td>
<td>8.53</td>
<td>30</td>
</tr>
<tr>
<td>Eco-Dev Consultancy (P) Ltd., West Bengal</td>
<td>38.379</td>
<td>14.76</td>
<td>14.76</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>549.629</strong></td>
<td><strong>216.31</strong></td>
<td><strong>160.53</strong></td>
<td><strong>74</strong></td>
</tr>
</tbody>
</table>

8. Sub-project: Sustainable Farming System to Enhance and Ensure Livelihood Security of Poor in Purulia, Bankura and West Midnapore Districts of West Bengal

(i) Project Code : 30010
(ii) Sanctioned date : 01.04.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 543.370
(iii) Consortia P.I. and Lead Institute: Dr. Amit Kumar Roy
(Name, designation and full address) Directorate of Research, Bidhan Chandra Krishi Viswavidyalaya (BCKV), West Bengal 033-25828407, 09831052458 amit.mala123@gmail.com

(iv) Partners:
- West Bengal University of Animal and Fisheries Sciences (WBUFAS)
- Central Institute of Freshwater Aquaculture
- Kalyan Krishi Vigyan Kendra, (Purulia Ramakrishna Mission)
- Seva Bharati Krishi Vigyan Kendra (SKVK, an independent NGO)
- Access Development Service and Indian Grameen Services (IGS)

(v) Website: Under construction

(vi) Objectives:
1. To increase food security and enhance income through increased productivity in Aman Rice.
2. To ensure irrigation through harvesting water.
3. To enhance farmers’ income through productivity enhancement of livestock and fisheries.
4. To ensure farmers’ income through productivity enhancement of cotton and cashew as second crop to Aman Rice.
5. To trigger entrepreneurship among small and marginal farmers and landless labourers through commercial seed production.
6. To trigger entrepreneurship among women community and landless labourers.

(vii) Research Progress:
The project is being undertaken in three backward districts of West Bengal namely Midnapore, Bankura and Purulia. In the selected clusters the average landholding of marginal and small farmers was 0.37 ha and 1.41 ha respectively. Lodhashulli cluster has 41% tribal population. The major interventions included are Aman rice, kharif groundnut, SRI rice cultivation, introduction of vegetables, cashew cultivation and mustard seed production. Livestock and aquaculture interventions were also undertaken during the period under report.

The major interventions and salient achievements are as follows:
- Area under crop interventions was undertaken in 170 ha benefiting 1,700 farmers.
- Livestock and aquaculture interventions benefited 785 farmers.
- NRM activities such as water harvesting and vermi composting were undertaken on 746 farmers.
- The results indicated an increase in yield of 12.5, 25 and 10% for Aman rice, SRI rice and vegetables respectively.
- Introduction of kharif groundnut gave a yield of 30 q/ha and income of ₹3,600 per year.
- The income from various other interventions were ₹30,000 from 0.3 acre, sesame ₹9,000 per ha.
- A convergence with state department for developing market intelligent in dry flower and vegetable harvesting was ₹10 lakh.
(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

### Status of utilization of budget under the sub-project upto March, 2010

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to budget up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS Development Services, Kolkata</td>
<td>294.18</td>
<td>26.17</td>
<td>29.78</td>
<td>114</td>
</tr>
<tr>
<td>BCKVV, Mohanpur</td>
<td>83.71</td>
<td>175.46</td>
<td>71.78</td>
<td>41</td>
</tr>
<tr>
<td>Indian Gramin Services, BASIX Kolkata</td>
<td>44.06</td>
<td>1.96</td>
<td>12.99</td>
<td>663</td>
</tr>
<tr>
<td>KKVK, Purulia</td>
<td>60.71</td>
<td>23.87</td>
<td>26.93</td>
<td>113</td>
</tr>
<tr>
<td>WBUA&amp;FS, Kolkata</td>
<td>60.71</td>
<td>44.52</td>
<td>44.47</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>543.37</strong></td>
<td><strong>271.98</strong></td>
<td><strong>185.96</strong></td>
<td><strong>68</strong></td>
</tr>
</tbody>
</table>

9. **Sub-project: Intergrated Farming Models to Ensure Sustainable Livelihood Security for the Peasants of Disadvantaged Districts of Madhya Pradesh**

(i) Project Code : 30011

(ii) Sanctioned date : 30.05.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 622.18

(iii) Consortia P.I. and Lead Institute : Dr K.K. Saxena
(Name, designation and full address) : Jawaharlal Nehru Krishi Vishwa Vidyalaya Jabalpur (MP)
0761-2680771/2681773
9893638612
saxenakk07@rediffmail.com

(iv) Partners:
- Krishi Vigyan Kendra, Tikamgarh
- Krishi Vigyan Kendra, Chhatarpur
- Krishi Vigyan Kendra, Betul
- Krishi Vigyan Kendra, Mandla
- BAIF Development Research Foundation (BAIF), Bhopal
- Action for Social advancement (ASA), Bhopal
- Gramin Vikas Trust (GVT), Bhopal
- Pragya Research, Seoni

(v) Website: www.jnkvv.nic.in

(vi) Objectives:
1. To identify and demonstrate suitable agro-technologies and promote crop diversification.
2. Demonstrate integrated farming system approach, which can be incorporated in existing resource base to improve livelihood of rural poor.
3. Enhance carrying capacity of land and other natural resources, and
4. Employment generation and income enhancement through agro-processing value addition and linkage to institution and markets.

(vii) Research Progress:
Under this sub-project the peasants of four disadvantaged districts of Madhya Pradesh, namely Mandla, Betul, Chatarpur and Tikamgarh were covered for their livelihood improvement. Average rainfall of the area varies from 750 mm to 1,000 mm and the cropping intensity was between 120–130%. Poor adoption of new improved varieties, low seed replacement rate and traditional method of farming are the agricultural characteristics of the area dominated by tribal population. Lac cultivation though negligible has vast potential as livelihood option.

The major activities done during the year and salient results are as follows:

- The crop interventions included introduction of improved variety of soybean (142 farmers), rice (90 farmers), maize (90 farmers), wheat (100 farmers) and gram (100 farmers). This resulted in 8–10% increased yield (10–11 q/ha in comparison to local variety 8–10 q/ha) for soybean, 20% increased yield (18.5 q/ha in comparison to local variety 15 q/ha) for rice, 20–22% increase yield (11.5 q/ha comparison to local variety 9–9 q/ha) for maize, 15–18% increased yield (12–13 q/ha comparison to local variety 10–11 q/ha) for wheat and 15–18% increased yield (8–10 q/ha comparison to local variety 7–8 q/ha) for gram.
- Lac cultivation was introduced on 12,300 number of host trees benefitting 170 farmers.
- Four animal camps were organized and 210 animals were treated.
- Vegetable cultivation was introduced to 405 farmers with increase in yield varying from 22.5 to 27.5 q/ha, 17.5 to 22.5 q/ha, 22.5 to 27.5 q/ha and 22.5 to 30 q/ha for ginger, okra, tomato and gourd respectively.
- A module for regular income involving IFS approach was developed. A farmer has earned an average income of ₹ 10,000–12,000 by introducing Papaya (Taiwan-786), and ₹ 85,000 by marigold. He was also introduced about lac cultivation on palas trees grown on the farm boundaries and hoped that he may get ₹ 200 per tree in coming season.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget (₹ in lakh)</th>
<th>Fund released up to March 2010 (₹ in lakh)</th>
<th>Fund utilized up to March 2010 (₹ in lakh)</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JNKVV, Jabalpur</td>
<td>165.39</td>
<td>74.85</td>
<td>104.56</td>
<td>140</td>
</tr>
<tr>
<td>BAIF, Pune</td>
<td>116.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASA, Bhopal</td>
<td>181.33</td>
<td>59.33</td>
<td>67.45</td>
<td>114</td>
</tr>
<tr>
<td>GVT, Ranchi</td>
<td>119.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pragya, Seoni</td>
<td>39.31</td>
<td>21.42</td>
<td>21.43</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>622.18</strong></td>
<td><strong>155.60</strong></td>
<td><strong>193.44</strong></td>
<td><strong>124</strong></td>
</tr>
</tbody>
</table>
10. Sub-project: Improvement in Livelihood Security of Rural People Living in Disadvantaged Districts of Uttar Pradesh through Diversification in Agriculture

(i) Project Code : 30013
(ii) Sanctioned date : 23.05.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 678.794
(iii) Consortia P.I. and Lead Institute (Name, designation and full address) : Dr H.P. Chaudhary CSAU&T, Kanpur 0512-2534156-62, Ext-217 9415129830 hpc_csau@indiatimes.com
(iv) Partners:
- CSWCR&T, Research Centre, Datia, (MP)
- State Institute of Rural Development (SIRD) Bakshi Ka Talab, Lucknow
- Society for Management of Agricultural Rural Project (SMARP, NGO), Kanpur
(v) Website: www.csauk.ac.in/naip
(vi) Objectives:
1. Raising productivity and profitability from farming through adoption of innovative production technologies and promotion of input exchange
2. Mitigating soil and water losses and enhancing bio-mass production through management of natural resources on watershed basis
3. Creating participatory rural structures/processes for socioeconomic capacity building of farmers/farm women and developing five-faced (production-saving-finance-enterprise-insurance) SHG models
(vii) Research Progress:
Under this project, two backward districts of Uttar Pradesh, namely Hardoi and Fatehpur have been taken up for livelihood enhancement. These districts are characterized by low productivity of cereals, pulses, oilseed and animals. Sodic soils occur in large patches of Fatehpur district.
The major interventions and the salient results for the period under report area as follows:
- Due to supply of breeder and foundation seeds through mini seed multiplication programme, average productivity of crops was increased by approx. 46% and seed replacement ratio through seed exchange programme by approx. 15%.
- The farmers who were not growing cash crops like sesame (Til) and groundnut due to unavailability of seeds now they are growing successfully.
- NADEP and vermicompost for INM have been introduced in all villages.
- Due to scarcity of water farmers were not growing horticultural trees like Mango, Aonla, Guava, Bel, Citrus species. By application of micro water saving device, fruit crops have successfully been planted even in their cultivated field.
For live fencing Karaunda (*Carissa carandus*) has been planted.
For controlling soil erosion bamboo plantation have been done above stream and on steep slopes.
Due to deworming of animals parasitic diseases are controlled.
By supply of minerals mixtures the production of milk yield increased by 30%, pregnancy and health of animal also improved.
There was no cattle crate in villages. Now this has been installed in all 21 villages and villagers are using it freely for treatment of their animals.
The institutions for capacity building for supporting various programmes successfully and generate livelihood security options for poor people and especially women through microenterprises like beekeeping, pump/tractor repairing, carpentry, black smithy, rope making, dal making, spice making, horticultural produce, distillation of Vetiver (Khas) oil, poultry, embroidery, piggery etc are being established to generate employment and reduce migration.

By organizing various training programes and exposure visits on different aspects like animal husbandry, seed production technology, oil seed production technology, vegetable production, agroforestry and various enterprises and literatures (booklets) provided on various subjects related to project villagers feel equipped with better confidence and knowledge levels to decide and take up alternative livelihood generating options.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSAU&amp;T, Kanpur</td>
<td>395.247</td>
<td>188.17</td>
<td>211.49</td>
<td>112</td>
</tr>
<tr>
<td>CSWCR&amp;TI, Dehradun</td>
<td>178.599</td>
<td>53.25</td>
<td>23.33</td>
<td>44</td>
</tr>
<tr>
<td>SIRD, Lucknow</td>
<td>73.450</td>
<td>31.27</td>
<td>54.77</td>
<td>175</td>
</tr>
<tr>
<td>SMARP, Kanpur</td>
<td>31.498</td>
<td>13.70</td>
<td>13.58</td>
<td>99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>678.794</strong></td>
<td><strong>286.39</strong></td>
<td><strong>303.18</strong></td>
<td><strong>106</strong></td>
</tr>
</tbody>
</table>

11. Sub-project: Sustainable Livelihood Improvement through Need Based Integrated Farming System Models in Disadvantaged Districts of Bihar

(i) Project Code : 30014
(ii) Sanctioned date : 01.09.2007
    Completion date : 01.03.2012
    Budget (₹ in lakh) : 10.290
(iii) Consortia P.I. and Lead Institute : Dr. P.K. Thakur
    (Name, designation and full address) : ICAR-RCER, Patna
    0612-2223962, 9430002480
    dr_thakur05@yahoo.com
(iv) Partners:
- ICAR Research Complex for Eastern Region, Patna.
- Rajendra Agricultural University, Pusa, Distt. Samastipur (Bihar)
- BAIF (Bihar Programme)
- Shram Bharati Krishi Vigyan Kendra, Jamui
- VARDAN
- SAKHI
- SRISTI Foundation
- Central Potato Research Station, Patna
- Directorate of Maize Research, Begusarai
- International Water Management Institute (IWMI)
- International Food Policy Research Institute (IFPRI)

(v) Website:

(vi) Objectives:
1. Participatory development, demonstration and validation of location specific farming system models of livelihood improvement.
2. Capacity building of stakeholders including landless labourers, sharecroppers, CBOs and PRIs for building social capital enabling sustainable livelihood security.
3. Empowerment of resource poor for common property and private property resources management for adequate and sustainable access to and control over physical, natural and social resources.
4. Building partnerships and linkages for holistic strengthening of service delivery system and improved market co-ordination mechanism for livelihood.

(vii) Research Progress:
Agriculture in Bihar is faced with major challenges like low productivity, regional disparities and low level of diversification of agriculture into non-food crops and commercial crops and allied enterprises. In the light of the above facts, four districts, namely Munger, Vaishali, Darbhanga, Samastipur out of 15 disadvantaged districts of Bihar were selected under this project.

Most of the farmers of the project area, especially small and marginal farmers prefer cereals in the cropping system. This could be on consideration of food security, low risk and the easy market access for such farm produce. But this production system has not helped in increasing farmers’ income.

The average land holding of the farmer are only 1.032 ha and 80% of the farmers irrigate through pump-sets and well/tube- wells but fragmented holding, lack of electricity, restricts the ground water use in the clusters.

The major interventions and salient findings for the year 2009–10 are as follows:
- Introduction of improved varieties in major crops and their production technology: in order to increase production cropping intensity and employment, 30 new variety and 12 cropping systems were introduced.
- After analyzing the result of the interventions it was found that with inclusion of summer catch, the cropping intensity increased from 200 to 300%.
● The increase in income varied from 30% to 153% depending upon the cropping systems followed. Net return on ware potato production by farmers was reported to be ₹ 1.50 lakh/ha and the potato seed production by adopting seed plot technique by the farmers under this project was ₹ 1.005 lakh/ha.

● Although the Fish with makhana was adversely affected by drought, but it was found that this intervention resulted increase in employment (12 mandays/ha) and income (₹ 6,289 per ha).

● Increase in employment due to increase in cropping intensity was 4 to 13%.

● Increase in net income due to increase in cropping intensity for rice–maize–moong was 30 and for rice–potato–moong it was 153% from the baseline value.

● From intervention on improved practices for cultivation of processing varieties of the potato total employment opportunity created was 400 unit per ha with a net return of ₹ 50,000.

● Makhana, fish system in flood prone eco-system was introduced in 44 ha in 96 farmers field in Darbhanga Sadar district of Bihar. It was found that average increase in income per season due to integration of fish with makhana was ₹ 6,289 per ha and average increase in the generation of employment was ₹ 12 mandays per ha. The income is expected to be further enhanced as this year rainfall was 37.7% less than the normal. affected due to 37.7% less rain this year as compared to normal rainfall.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

| Status of utilization of budget under the sub-project upto March, 2010 (₹ in lakh) |
|-----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| Lead centre/Partners                              | Total sanctioned budget | Fund released up to March 2010 | Fund utilized upto March 2010 | Fund utilized to released (%) |
| BAIF, Patna                                        | 121.30             | 58.42            | 51.80            | 89               |
| CICFRI, Barrackpore                                | 133.99             | 51.69            | 38.38            | 74               |
| CPRI, Shimla                                       | 28.13              | 13.73            | 12.69            | 92               |
| ICAR Res. Com. Eastern Reg. Patna                  | 245.83             | 102.67           | 78.56            | 77               |
| IFPRI, Pusa New Delhi                              | 19.51              | 8.40             | 3.73             | 44               |
| IWMI, Hyderabd                                     | 22.66              | 10.87            | 3.03             | 28               |
| RAU, Samastipur                                    | 138.88             | 54.67            | 47.02            | 86               |
| **Total**                                          | **710.290**        | **300.45**       | **235.22**       | **78**           |

12. Sub-project: Ensuring livelihood security through watershed based farming system modules in disadvantaged districts of Mirzapur and Sonbhadra in Vindhyan region

(i) Project Code : 30015
(ii) Sanctioned date : 29.05.2008
Completion date : 30.06.2012
Budget (₹ in lakh) : 688.039
(iii) Consortia P.I. and Lead Institute : Dr J.S. Bohra  
(Name, designation and full address) IAS-BHU, Varanasi  
0542-2368381, 9415396460  
jsbohra2005@rediffmail.com  

(iv) Partners:  
● Indian Institute of Vegetables Research (IIVR), ICAR, Varanasi  
● Surabhi Shodh Sansthan, Dagmagpur, Mirzapur  
● Banwasi Sewa Asharam, Myorepur, Sonbhadra  

(v) Website: Under construction  

(vi) Objectives:  
1. To improve the productivity of important field crops, vegetables and orchards.  
2. To make efficient use of natural resource base, viz. water and soil  
3. To enhance the productivity of existing livestock, fishery, apiary and Tassar silk.  
4. To promote cottage industries and post harvest technology for income generation and enhanced employment.  
5. To undertake capacity building of rural youth and women, and to create better market linkages for sustainability.  

(vii) Research Progress:  
The project is initiated in Sonbhadra and Mirzapur districts of Uttar Pradesh. Baseline survey data has indicted following major characteristics of the target group  
● Cropping intensity ranged from 127 to 166% among the clusters.  
● Irrigated area, among the clusters varied from 12.4 to 36.6%  
● The productivity of cereal, pulses and oilseeds among the clusters was 5.5–16.2, 3.3–7.6 and 1.9–3.1 q/ha respectively.  
● Employment per annum varied from a minimum of 185 (Madihaun Mirzapur) to 225 man days (Myorepur, Sonbhadra).  
● Among clusters, average annual income per household varied from ₹ 26,859 to ₹ 54,241.  
The major interventions and salient results are as follows:  
● Improved seeds of different crop varieties (49) were grown in 1,321 ha gross area. Similarly, 25 improved varieties of vegetables were introduced during rainy, winter and summer seasons, to 296 families covering 62.2 ha area. In spite of the drought that prevailed during the season, the results showed 14 to 22% increase in the productivity of field crops.  
● In the seed villages of the three clusters, 99 q rice, 9.7 q pigeonpea, 0.65 q bottle gourd and 0.3 q cowpea were produced during rainy season and the farm households were given good price for seed. The expected seed production of wheat, barley, gram and vegetable pea during winter is about 250 q.  
● Three check dams and 6 water harvesting bunds (WHB) have been constructed. This will facilitate irrigation in over 600 ha land in coming rainy season.  
● Nine hundred and ninety soil samples spread over 33 villages in 3 clusters have been analyzed and the nutrient doses for crop production are being suggested accordingly.
● In three clusters, 73,166 saplings of multipurpose trees, viz. Cassia siamea, Gliricidia sepium and Acacia nilotica were planted. This will help in restoring the soil fertility by conserving soil and water, adding N rich biomass to the soil.

● In all, 1,485 farm households having milch animals were given the support of mineral mixture, dewormer and treatment against ticks, mites and lice. The results of the mineral mixture given for one month indicated 16.3, 18.5 and 12.5% increase in the milk productivity in cluster I, II, and III, respectively.

● Three units of pulse mill and oil expeller each as well as two rice mills and four rice hullers have been installed in the three clusters under the project.

● Gramin Gyan Kendra/E-Kiosk centres were established in two clusters of the project area.

● ‘Tower system of irrigation’ installed at nominal cost by the side of a perennial rivulet has helped in creating irrigation facility in about 10 ha area.

● Linkages have been developed with the State department of Agriculture, Animal Husbandry, PCF, UP Agro-Industries and DPAP under Ministry of ‘Land Development and Water Resource’, Bharatiya Lok Vikas Evam Shodh Santhan, NGO for various activities.

The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to budget up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>IASc, BHU, Varanasi</td>
<td>572.212</td>
<td>380.44</td>
<td>364.50</td>
<td>96</td>
</tr>
<tr>
<td>IIVR, Varanasi</td>
<td>55.946</td>
<td>36.65</td>
<td>27.90</td>
<td>76</td>
</tr>
<tr>
<td>BSA, Sonbhadra</td>
<td>27.402</td>
<td>11.62</td>
<td>10.37</td>
<td>89</td>
</tr>
<tr>
<td>SSS, Mirzapur</td>
<td>32.481</td>
<td>15.45</td>
<td>15.17</td>
<td>98</td>
</tr>
<tr>
<td>Total</td>
<td>688.039</td>
<td>444.15</td>
<td>417.93</td>
<td>94</td>
</tr>
</tbody>
</table>

13. Sub-project: ‘Livelihood Promotion through Intergrated Farming System in Assam

(i) Project Code : 30016

(ii) Sanctioned date : 03.06.2008
Completion date : 30.06.2012
Budget (₹ in lakh) : 859.48

(iii) Consortia P.I. and Lead Institute : Dr Prabin Kumar Gogoi
(Name, designation and full address) AAU, Assam
0376-2340044/2311546/2340030
prabin.gogoi@rediffmail.com

(iv) Partners:
● Regional Rainfed Lowland Rice Research Station, CRRI, Gerua, Assam
● North Eastern Development Finance Corporation (NEDFi), Guwahati
SUB-PROJECTS-WISE RESEARCH PROGRESS

- State Institute of Rural Development (SIRD), Guwahati
- Impact-NE (NGO), Lakhimpur
- Jirsong Asong (NGO), Karbi Anglong
- Discovery Club (NGO), Kokrajhar

(v) Website: http://www.aau.ac.in/naip/index.html
(vi) Objectives:
1. To improve productivity through introduction of agro-ecologically appropriate technological intervention.
2. To protect natural resource base and environment through introduction of IFS.
3. To establish entrepreneurship, credit and market linkage for profitability and sustainability.

(vii) Research Progress:
The project has been initiated in three backward districts of Assam namely Lakhimpur, Kokrajhar and Karbi Anglong with a target of 1,050 farmers. The results of surveyed villages of the three districts indicated that the farmers normally practice mono-cropping of rice. Other crops are generally grown at subsistence level or as small scale commercial venture. Livestock, viz. piggery, poultry are reared at homestead and are major source of cash. The state has enormous water resources which could be suitably utilized for improved fish rearing. Technology adoption rate is poor, not only in case of crops but also in livestock and fish farming, which has resulted in the low productivity and income.

Three IFS modules blending tested technologies were introduced under NAIP by Assam Agricultural University, Jorhat lead consortium. Integrated rice–fish farming in the main field followed by vegetable crops such as french bean, chilli, cabbage, knoll khol were promoted. Improved rice varieties like Ranjit, Gitesh, Jalkunwari and Jalashree are given to the selected farmers of the three districts. Fish species like, rohu, mrigal, catla, common-carp and silver-carp were introduced in the rice field.

The interventions undertaken and the salient results obtained during the period under report were as follows:
- Integrated rice–fish–vegetables with 4 new rice varieties, 5 fish species and 3 improved vegetables were introduced in the area. Integration of fishery with rice production gave about 30–40 kg fish on an average from the rice field (2,800 m²). The production of rice grain was increased by 24%.
- To make seed available 32 tons of certified rice seed was produced.
- With 3 ha area covered under vegetable nursery the farmers got an additional income of ₹15 lakh.
- Community fish-vegetable with 6 fish species and 5 improved vegetables were introduced in the area.
- Under pig–fish–vegetable, three piglets (one exotic male + two local female) were introduced with construction of pigsty on the bank of fish pond embankment with provision of drain for flow of pig sludge into the fish pond as source of feed for fish.
- Two dual purpose poultry breeds ‘Banraja’ and ‘Giriraja’ were introduced under poultry–fish–vegetable farming and currently these activities resulted in increased...
income of farmers and cumulative production of 10,000 numbers poultry eggs in the three districts of Assam.
- Introduction of vermi compost technology (5 pits in each cluster) was done.
- Beneficiary farmers realized increase in production of individual components from integration of agriculture (approx. 25% increase in rice production), fishery (approx. 35–40 kg fish from 2,800 m² rice fields), livestock (piggery/poultry) and vegetable farming.
- Capacity building of marketing group (10 members in each group) is completed through North East Development Finance Corporation Limited (NEDFi).

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

| Lead centre/Partners | Total sanctioned budget | Fund released up to March 2010 | Fund utilized up to March 2010 | Fund utilized to budget up to March 2010 (%)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AAU, Assam</td>
<td>818.24</td>
<td>360.38</td>
<td>309.51</td>
<td>86</td>
</tr>
<tr>
<td>SIRD, Guwahati</td>
<td>11.44</td>
<td>1.10</td>
<td>1.18</td>
<td>107</td>
</tr>
<tr>
<td>RRLRRS, Gerua</td>
<td>11.44</td>
<td>2.73</td>
<td>0.48</td>
<td>17</td>
</tr>
<tr>
<td>Jirsong Asong–NGO, Karbi Anglong</td>
<td>4.59</td>
<td>1.80</td>
<td>1.76</td>
<td>98</td>
</tr>
<tr>
<td>Impact NE–NGO, Lakhimpur</td>
<td>4.59</td>
<td>1.79</td>
<td>1.79</td>
<td>100</td>
</tr>
<tr>
<td>Discovery Club–NGO, Kokrajhar</td>
<td>4.59</td>
<td>1.79</td>
<td>1.79</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>859.48</strong></td>
<td><strong>369.59</strong></td>
<td><strong>316.51</strong></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>


(i) Project Code : 30017
(ii) Sanctioned date : 31.03.2008
Completion date : 30.06.2012
Budget (₹ in lakh) : 1214.17
(iii) Consortia P.I. and Lead Institute : Dr K.A. Thakkar
(Name, designation and full address) : SD Agricultural University, Sardarkrushinagar 09426502536 sdaunaip_kat@yahoo.co.in
(iv) Partners:
- Anand Agricultural University, Anand
- Navsari Agricultural University, Navsari
- Vikram Sarabhai Center for Development Interaction (VIKSAT), Ahmedabad
- Acil Navsargan Rural Development (ANaRDe) Foundation, Bombay
- Gramin Vikas Trust (GVT), Dahod
SUB-PROJECTS-WISE RESEARCH PROGRESS

- PRAKRITI Foundation, Jhalod
- Bhartiya Agro Industries Foundation (BAIF), Vansada (The Dangs)

(v) Website: www.sdau.edu.in

(vi) Objectives:
1. Enhancement of Agricultural Productivity and Profitability through Proven Technological Interventions.
2. Management of Natural Resources
3. Employment Generation through Agro Processing, Value-addition including Storage, Packaging, Transport and Marketing
4. Empowerment through Capacity building and Skill Upgradation.

(vii) Research Progress:
Under this sub-project the peasants of three disadvantaged districts of Gujarat namely Banaskantha, Dahod and Dangs are covered for their livelihood improvement. The average land holding of the target group is 2.4 acres. At most of the places, soils are clayey, deep and having good water holding capacity, capable of good crop growth and higher yields. The soil is suitable to the present crops, maize, pulses, castor, soybean, cotton and wheat. The migration in search of work was observed in Dahod and Dangs district.

The interventions undertaken and the salient results obtained during the period under report were as follows:
- Seed replacement programme (castor, maize, pigeonpea, okra, clusterbean, cowpea, paddy) was undertaken in 6 villages with 1,717 famers covering an area of 911 acres. It gave 18% increase in crop productivity.
- Crop diversification (groundnut, soybean) was undertaken in 126 acres with 25% increase in farmer’s income
- Promotion of horticultural farming (papaya) was undertaken in 18 acres s with 23% increase in farmer’s income
- Promotion of poultry and goatry was undertaken in 168 families with 17% increase in farmer’s income
- Promotion of MIS in 51.93 ha showed 30 % water saving and 22% increased income.
- Land leveling was covered in an area of 182.38 ha.
- Sixty two SHG were formed and 5 trainings on motor rewinding were conducted.
- Seed production programme on maize, groundnut, paddy and gram gave an yield increase of 37.82, 24.56, 16.30 and 11.29% respectively.
- The farmers having irrigation facility were motivated to grow vegetables in rabi and summer season. Total of 65 farmers grew vegetables in 75.53 ha area. As compared to other field crop, viz. wheat, they earned 37.84% higher income through vegetable cultivation.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:
15. Sub-project: Improving Rural Livelihood Security through Sustainable Integrated Farming Model and Allied Enterprises in Bastar Region of Chhattisgarh

(i) Project Code : 30019
(ii) Sanctioned date : 09.07.08
Completion date : 30.06.2012
Budget (₹ in lakh) : 887.41
(iii) Consortia P.I. and Lead Institute : Dr S.K. Patil
(Name, designation and full address) Indira Gandhi Krishi Vishwavidyalaya
Raipur, Chhattisgarh
07782-229360, 09424283160
spatil_igau@yahoo.com

(iv) Partners:
- Participatory Action for Rural Development Society, Jagdalpur
- Agrocret Society for Rural Development, Raipur
- Ramkrishna Mission Ashram, Narayanpur
- Central Soil and Water Conservation Research and Training Institute, Sunabeda, Orissa
- Sanjeevani, Chhattisgarh Rajya Laghu Vanopaj Sahkari Sangh Maryadit, Raipur
- Indian Institute of Natural Resins and Gums, (IINRG), Ranchi

(v) Website: www.naip-sgcars.com

(vi) Objectives:
1. Improving productivity and profitability of integrated farming systems by adoption of improved practices, efficient use of natural resources and diversification.
2. Employment and income generation through primary processing and value addition, market linkages, and allied activities.
3. Empowerment through capacity building and skill development, in core and allied agricultural sectors for sustainability of self-help groups.
(vii) Research Progress:
The sub-project is lead by IGKV, Raipur along with 6 consortium partners. It is addressing to the livelihood improvement of weaker section of rural community in Bastar and Kanker districts. Reducing natural resources, degrading land due to high erosion, are seriously affecting livelihood. The target area is characterized by the following:

- The major population belongs to ST (78%). Sixty five percent farmers are small and marginal.
- Most of the families depend on agriculture (90%), followed by labor. There is no other source of income in these villages. The average annual income is ₹ 27,000.
- The crop productivity is low. The productivity of rice, maize, millets, urd and horsegram are 11.9 q/ha, 2.36 q/ha, 1.85 q/ha, 1.56 q/ha and 9.33 q/ha respectively.
- Area under irrigation is only 6.9% of total cultivated area. The cropping intensity is 105%.
- There are no other enterprises for income and employment. Farmers get on an average 100–120 days of employment. Primary processing and value addition and introduction of allied enterprises like bee or lac culture can improve their livelihood.
- Per day/head food consumption is 280 g which is less than national average (598 g).

The interventions undertaken and the salient results obtained during the period under report were as follows:

- To overcome drought and mono-cropping emphasis was on conservation of rain water and soil moisture. For water conservation 184 structures such as ponds, wells, stop and check dams, and diversions were created which benefited 390 ha area and 658 farm families.
- Technology package for important crops was tested in 1,063 ha with 2,476 numbers. Marked increase in productivity is obtained over current practices ranging from 90 to 280%.
- Seed production of improved varieties of major crops was undertaken to ensure availability of quality seeds. It is expected that approximately 1,100 tonnes seed will be produced.
- Community approach of irrigation and farming is followed for increasing impact.
- Conservation of soil moisture is taken care off through appropriate tillage practices, and cultivation of second crop after rice through relay cropping.
- Infrastructure for vermi-composting (117 nos), biogas (19 nos) were established.
- SHGs were formed for tamarind cake, cashew processing, mushroom production, silk production, vermi-composting, value addition in mango and for lac cultivation. The tamarind group was most successful in earning a profit of ₹ 35,000–40,000, distribution of ₹ 16.4 lakh to community and generation of 4,350 mandays of employment.
- Linkage/synergy with financial/developmental departments (NABARD, Zila Panchayat, NHM, line departments) were established. The clusters selected in NAIP are included under NHM from 2009 onwards. Support of ₹ 72 lakhs was sanctioned for establishment of three seed production cooperative societies from Jila Panchayat, Jagdalpur during 2009–10.
(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

**Status of utilization of budget under the sub-project upto March, 2010 (₹ in lakh)**

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGKV, Chhattisgarh</td>
<td>669.14</td>
<td>468.03</td>
<td>253.33</td>
<td>54</td>
</tr>
<tr>
<td>PARDs, Jagdalpur</td>
<td>67.64</td>
<td>47.05</td>
<td>44.54</td>
<td>95</td>
</tr>
<tr>
<td>CSWCTRI, Orissa</td>
<td>13.29</td>
<td>22.27</td>
<td>5.67</td>
<td>25</td>
</tr>
<tr>
<td>RKM, Narayanpur</td>
<td>81.98</td>
<td>56.65</td>
<td>57.86</td>
<td>102</td>
</tr>
<tr>
<td>AGROCRET, Raipur</td>
<td>43.33</td>
<td>33.12</td>
<td>36.26</td>
<td>109</td>
</tr>
<tr>
<td>Sanjivani, Raipur</td>
<td>4.51</td>
<td>1.29</td>
<td>0.64</td>
<td>49</td>
</tr>
<tr>
<td>IINRG, Ranchi</td>
<td>7.54</td>
<td>3.12</td>
<td>2.04</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>887.41</strong></td>
<td><strong>631.53</strong></td>
<td><strong>400.34</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>

16. **Sub-project: Sustainable Rural Livelihood and Food Security to Rainfed Farmers of Orissa**

(i) Project Code : 30021
(ii) Sanctioned date : 18.08.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 660.48
(iii) Consortia P.I. and Lead Institute : Dr B. Behera
(Name, designation and full address) OUAT, Bhubaneswar
0674-2391692, 2391692
9437087984
bdehera1@rediffmail.com
(iv) Partners:
- Regional Centre for Tuber Crops Research Institute (ICAR), Bhubaneswar
- Water Technology Centre for Eastern Region, Bhubaneswar
- Industrial Management Consultant of Orissa
- Madhusudan Nagar, Bhubaneswar (NGO)
- KARTTABYA, Chhorliagarh, Distt. Kalahandi
(v) Website: www.naip3ouat.in
(vi) Objectives:
1. To increase farm productivity through crop diversification, suitable soil water conservation measures and soil health management
2. To increase farm profitability by selective farm mechanization to reduce cost of cultivation, linking farm produce to marketing, processing and value addition to farm produce.
3. To create more employment opportunities through introduction of commercial dairy, goatry, poultry, apiary, mushroom cultivation, pisciculture, nutritional garden and vocational activities (leaf tray making and bamboo craft)
4. To promote capacity building through training/demonstration of farmers and farm women, formation of SHGs and creation of farm knowledge centers (FKCs).

(vii) Research Progress:
State of Orissa is one of the most backward states of the country. As many as 18 districts are identified as backward districts by the Planning Commission Government of India. The present project lead by OUAT is being implementing in three of such districts namely Dhenkanal, Kandhamal and Kalahandi. These districts are located in three different agroclimatic zones—Kandhamal in North Eastern ghat zone, Dhenkanal in mid central table land zone and Kalahandi in western undulating zone. The area has low cropping intensity (112%), total mandays employed/year/capita was 164.5. The area has more SC and ST farmers. However, there is scope for off season employment due to availability of raw materials (leaf plate making, bamboo crafts, pulse and oil seed processing). Wide gap exists between present and potential livelihood conditions of people of these districts.

The major interventions and the salient results are as follows:
- Introduction of elephant foot (yam), sweet potato and red gram inter cropping system produced benefit: cost ratio of 3.06 and 3.32 respectively. This was much higher than existing practices.
- Similarly, BCR from Orissa elite (greater yam), Orange flesh sweet potato varieties, HYV of sweet potato, Greater yam + maize intercropping was 2.47, 3.01, 2.58 and 2.46 respectively.
- Result demonstrated that with crop diversification by introducing maize–cow pea–paddy an additional income of ₹ 18,100 that can be obtained against mono-cropping of rice.
- From tomato, radish, mize + cowpea and paddy crop a gross return of ₹ 27,325, net return of ₹ 11,705 and income advantage of ₹ 9,055 could be obtained.
- Fourteen SHG have been formed for Dal processing Units, Oil processing, Leaf tray making and Bamboo craft.
- Under NRM activity 11 WHS have been created.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUAT, Bhubaneswar</td>
<td>531.17</td>
<td>169.73</td>
<td>81.75</td>
<td>48</td>
</tr>
<tr>
<td>RCCTCRI, Bhubaneswar</td>
<td>37.19</td>
<td>19.14</td>
<td>14.23</td>
<td>74</td>
</tr>
<tr>
<td>WTCER, Bhubaneswar</td>
<td>24.94</td>
<td>14.29</td>
<td>10.58</td>
<td>74</td>
</tr>
<tr>
<td>IMCO, Orissa</td>
<td>33.59</td>
<td>14.54</td>
<td>8.66</td>
<td>60</td>
</tr>
<tr>
<td>KARRTABYA, Kalahandi</td>
<td>33.59</td>
<td>11.98</td>
<td>12.04</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>660.48</strong></td>
<td><strong>229.68</strong></td>
<td><strong>127.25</strong></td>
<td><strong>55</strong></td>
</tr>
</tbody>
</table>
17. Sub-project: Multi Enterprise Farming models to address the Agrarian crisis of Wayanad district of kerala

(i) Project Code : 30022
(ii) Sanctioned date : 25.07.2008
Completion date : 31.03.2013
Budget (₹ in lakh) : 705.55
(iii) Consortia P.I. and Lead Institute : Dr V.S. Devdas
(Name, designation and full address): KAU, Kerala
04936-260421, 260561, 321964
09446277809
adramb@kau.in
(iv) Partners:
  ● Indian Institute of Spices Research (ICAR), Kozhikode
  ● Regional Coffee Research Station, (Coffee Board), Chundale, Wayanad
  ● Vegetable and Fruit Promotion Council Keralam (VFPC), Kakkanad, Ernakulam
  ● District Panchayath, Kalpetta, Wayanad
  ● Wayanad Social Service Society (WSSS), Mananthavady, Wayanad
(v) Website: Under Construction
(vi) Objectives:
1. Productivity enhancement through optimal use of resources and technologies including organic farming
2. Women and tribal empowerment through agri based self employment programmes
3. Developing a viable system for procurement and marketing of agricultural produce with or without value addition
4. Conservation and management of soil and water resources to mitigate drought and other natural calamities.
5. Capacity building for human resources development.
(vii) Research Progress:
Through this sub-project effort is to improve livelihood of farmers of Wayanad district, Kerala. The area is characterized by high population of tribals and an environmentally fragile system. The major interventions include rejuvenation of paddy and pepper cultivation, intervention on vegetable, fisheries, ginger seed, water harvesting and livestock development. The key features of baseline survey results are as follows:
  ● Average family size is 3.27, average holding size is 0.57 ha.
  ● 25% of cultivated land is under assured irrigation.
  ● Main coffee and pepper cropping system is getting shifted to rubber plantation.
  ● Paddy area showed a declining trend.
  ● Banana and Ginger cultivation are profitable enterprises. Vegetable, floriculture and Medicinal plants gaining in importance.
  ● Average annual house hold income was ₹ 34,643 of which 52% is from agricultural enterprises and 48% is from non agricultural subsidiary sources.
  ● Farm produce marketing is mainly through pre-harvest contractors
● Livestock rearing—prevalent in 52% of total house holds

Following salient results have been observed:

● With a view to rejuvenation of paddy crop was grown in an area of 96.35 ha covering 212 farmers.
● Under IPM Pseudomonas was provided to 734 farmers.
● Rooted pepper cuttings were provided to 662 farmers.
● Vegetables were introduced to 800 farmers each in 6.2 ha and 12.4 ha respectively.
● Due to introduction of improved variety and practices the productivity of paddy crop increased from 2,322.6 to 2,713.2 kg/ha.
● The intervention on vegetable produced a promising result as 1,050 tonnes of agricultural produce were sold through the collection centres.
● Ten biogas plants and 10 vermi-compost units were installed.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget (₹ in lakh)</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to budget up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAU, Kerala</td>
<td>525.150</td>
<td>158.81</td>
<td>137.64</td>
<td>87</td>
</tr>
<tr>
<td>WSSS, Wayanad</td>
<td>40.700</td>
<td>12.38</td>
<td>12.23</td>
<td>99</td>
</tr>
<tr>
<td>IISR, Kozhikode</td>
<td>39.260</td>
<td>9.47</td>
<td>5.07</td>
<td>54</td>
</tr>
<tr>
<td>VFPCK, Ernakulam</td>
<td>33.230</td>
<td>13.24</td>
<td>14.29</td>
<td>108</td>
</tr>
<tr>
<td>RCRS, Wayanad</td>
<td>31.650</td>
<td>11.85</td>
<td>0.52</td>
<td>4</td>
</tr>
<tr>
<td>District Panchayath, Wayanad</td>
<td>35.560</td>
<td>4.80</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>705.550</strong></td>
<td><strong>210.54</strong></td>
<td><strong>169.76</strong></td>
<td><strong>81</strong></td>
</tr>
</tbody>
</table>


(i) Project Code : 30024
(ii) Sanctioned date : 13.4.2009
   Completion date : 30.6.2012
   Budget (₹ in lakh) : 426.79
(iii) Consortia P.I. and Lead Institute : Dr R.B. Rai
   (Name, designation and full address) : IVRI, Izatnagar
   09411699408
drrbrai@yahoo.co.in

(iv) Partners:
    ● IVRI, Izatnagar
    ● CISH, Lucknow(ICAR)
    ● CIRG, Makhdoom (ICAR)
    ● CARI, Izatnagar, (ICAR)
● Agri-Plus International (NGO)
● Shiv Sahitya Parishad (NGO)
● CSSRI, RRS, Lucknow
(v) Website: Under Construction
(vi) Objectives:
1. To develop specialized integrated farming system models as self-sustaining and high producing system.
2. To generate awareness in the communities for common water body management, surface run off harvesting and management of sustainable irrigation system.
3. To enhance livestock productivity through improvement of germplasm, fodder, reproductive efficiency, health management and improved germplasm production.
4. To promote organic production system for improving per unit productivity, economics, soil health, etc.
(vii) Research Progress:
The target districts under the project are Barabanki and Raebareli of Uttar Pradesh. These districts are characterized by depleted and degraded natural resources, indiscriminate use of chemicals, poor seed replacement rate, lower return and profitability, increased unemployment etc. Average family size in the target area ranged from 6.11 to 6.23 among the clusters. A holistic approach is planned for productivity enhancement, creating new job opportunities and enhanced income. The interventions and the results achieved during the period under report are as follows:
● Mass infertility control with estrous synchronization, and treatment using low-cost non-hormonal mineral-based technology to reduce inter-calving period for sustainable milk production in the cattle and producing improved calves in mass.
● Commercial cultivation of banana with precision farming technologies was introduced in 6 acres with 20 farmers. An income of ₹ 13,00,000 was obtained.
● For economic and nutritional security guava, mango, aonla and bel were planted in the barren lands.
● Introduction of high yielding birds suitable for rural poultry farming under scavenging and semi-intensive systems resulted in enhanced income from ₹ 100 were (pre-interventions) to ₹ 6,000 post-interventions.
● Azolla as a rich source of essential amino acids, vitamins, and minerals was introduced for poultry feed. About 53 units of in-situ azolla production were made. Body weight of poultry with azolla feed was observed to increase from 1,650 g to 1,927 g in 20 weeks.
● A total of 50 beneficiaries were covered under honeybee-gladiolus (cut flower) cultivation. The system generated an income to the tune of ₹ 1,20,000.
● Vegetable cultivation was promoted with introduction of improved variety, vermi composting, biodynamic compost on farm, production of neam based pesticides and in-situ mass multiplication of trichodrama and pseudomonas. It resulted in enhancement of income from initial amount of ₹ 5,000 to ₹ 45,000. The area under vegetable increased from 3.4 ha to 20.74 ha.
SUB-PROJECTS-WISE RESEARCH PROGRESS

- SRI method in paddy cultivation was introduced in about five ha. The yield of paddy, in spite of drought condition was 5.0 t/ha compared to 2.2 t/ha.
- Zero tillage in wheat has been introduced on 30 farms and is receiving great appreciation.
- A total of 59 samples of various feed stuffs were collected from the project area and analyzed for aflatoxin and T-2 toxins. All the samples were positive for aflatoxins and value ranged from 0.58 to 26.50 ppb. However, 5 samples were negative for T-2 toxin and values in positive samples ranged from 33.80 to 500 ppb.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to sanctioned up to March 2010 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVRI, Izatnagar</td>
<td>188.33</td>
<td>41.18</td>
<td>45.53</td>
<td>111</td>
</tr>
<tr>
<td>CISH, Lucknow</td>
<td>33.29</td>
<td>12.02</td>
<td>10.15</td>
<td>84</td>
</tr>
<tr>
<td>CIRG, Mukdoom</td>
<td>50.89</td>
<td>20.96</td>
<td>13.58</td>
<td>65</td>
</tr>
<tr>
<td>CARI, Izatnagar</td>
<td>62.83</td>
<td>50.11</td>
<td>15.04</td>
<td>30</td>
</tr>
<tr>
<td>CSSRI, Karnal</td>
<td>15.6</td>
<td>2.93</td>
<td>1.55</td>
<td>53</td>
</tr>
<tr>
<td>Agriplus International</td>
<td>12.3</td>
<td>4.33</td>
<td>4.06</td>
<td>94</td>
</tr>
<tr>
<td>Shiv Sahitya Parishad, Lucknow</td>
<td>63.55</td>
<td>22.09</td>
<td>24.80</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>426.79</td>
<td>153.60</td>
<td>114.70</td>
<td>75</td>
</tr>
</tbody>
</table>


(i) Project Code : 30025
(ii) Sanctioned date : 01.04.2009
Completion date : 31.07.2012
Budget (₹ in lakh) : 584.367
(iii) Consortia P.I. and Lead Institute : Dr Arun Chaturvedi
(Name, designation and full address) National Bureau of Soil Survey and Land Use Planning, Nagpur
09422809595
arunchat55@gmail.com
(iv) Partners:
- Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri.
- Marathwada Agriculture University (MAU), Parbhani.
- Rashtrasant Tukadoji Maharaj University (RTMNU), Nagpur.
- Shri Ganesh Gramin Vikas Shikshan Sansthan (SGGVSS), Gondia.
(v) Website: http/www.luprls-naip.org
(vi) Objectives:
1. To identify constraints and potentials influencing the productivity and profitability of the existing livelihood systems.
2. To improve the livelihood systems through efficient management of soil and water resources for increasing productivity, profitability and diversity of the farming systems.
3. To facilitate enhanced off farm income and employment generation (for landless people) through complementary/supplementary enterprises, devise appropriate mechanisms through institutional linkages and capacity building and improve the quality of life through drudgery reduction.
4. To formulate a framework for up-scaling improved livelihood matrix in similar domains.

(vii) Research Progress:
The target districts under the project are Aurangabad, Dhule and Gondia in Maharashtra. Baseline survey has been completed. The key baseline survey results of the area are as follows:
- Literacy level of target population was 47.2%.
- Average cropping intensity was 102% only.
- Average annual income per household was ₹1,55,317. Livestock contributed most (44.67%) followed by agriculture (32%).
- Around 55% of total geographical area (2326 × 10³ ha) was cultivated.
- Average land holding was 1.61 ha.
The major activates done during the year and salient results are as follows:
- Improved variety of paddy, soybean maize bajra cotton, jowar and fodder crops were introduced on 70.4, 11, 4.4, 7.6, 20, 4.8 and 20.4 ha respectively benefiting 357 farmers. There was 15–20% increase in yield. Gram, Wheat and Isabgol were taken in rabi season.
- SRI method of paddy cultivation was introduced in the target areas along with improved varieties of seeds of paddy, viz. Sindewahi 1; HMT and PKV Khamang. Upto 30% increase in yield was reported.
- A Community tank for pisciculture has been renovated.
- Giriraj and Vanraja birds were introduced to 68 families.
- To develop a GIS based CLIS with all bio-physical and socio-economic variable linked on the basis of plot numbers in the villages, Cadastral level digitization is complete and attribute linkage is in progress.
- Smokeless Gobar gas (Balloon) is being introduced and is now being actively promoted to replace local Chullah
- Social security fund is being created with ₹411 contribution from each farm family and deposited in nationalized bank jointly with villagers (2) and NGO representative (1).
- A package for kitchen gardening was developed. Seeds of vegetables were introduced for kitchen gardening to all families in Deori and Goregaon cluster.
- Fodder grass plantation carried out in both the target clusters in CPR. Seeds of M.P. Chari and Stylo hemata were sown in the CPR in Gondia district covering an area of 20 ha in each cluster.

(i) Project Code : 30027
(ii) Sanctioned date : 25.03.2009
Completion date : 30.06.2012
Budget (₹ in lakh) : 279.657
(iii) Consortia P.I. and Lead Institute : Dr S.C. Prasad
(Name, designation and full address) Gramin Vikas Trust, Ranchi
09431927727
satisranchi@sancharnet.in
sahaybinay@yahoo.co.in

(iv) Partners:
- Gramin Vikas Trust
- Birsa Agricultural University
- Society For Rural Industrialization

(v) Website: www.gvtnaipindia.org

(vi) Objectives:
1. New strategies for sustainable system for crop production and development of farming models and diversification in farming system through crops, vegetables, fruits, aquaculture and organic farming. Livelihood improvement by diversification of second crop on mono-crop area, vegetable production, aquaculture, organic farming, dairy, poultry and piggery development and medicinal plant cultivation.
2. Introduction of new irrigation modules like flexi-dams, drip irrigation etc
3. Creation of short-term storage facilities, processing units for value addition and improved market.
4. Increased income by intervention of processing and standardization of farm produces through value addition

(vii) Research Progress:
The project is being undertaken in Sahibgunj and Pakur districts of Jharkhand. Agriculture is still the means of sustenance in both the districts. The soil has low water retention capacity, poor water storage and moisture conservation systems. The priority areas for interventions are:
- Combatting drought, hunger and migration.
- Increasing productivity of agriculture and allied activities and value addition.
- Promoting animal husbandry and aquaculture.
- Capacity building and developing linkage for marketing and micro financing.

The major interventions undertaken during the year were as follows:
- Early maturing varieties of Birsa Vikas Dhan 109 & 110 HYV, like Suwan and Birsa Vikas Maize 2 HYV, and rainfed tomato like Swarn Sridhi and Swarn Lalima were introduced in the area. A total of 800 beneficiaries were covered under 98 ha area.
- A Flexi-dams for economic use of water was constructed.
- Milk yield enhancement for nutritional improvement was planned.
- Integrating T × D breed of pig and Black Bengal goat which will produce 4 kids and piglets resulting in recycling within the farming community for further yield.
- Fry production for aquaculture development was introduced. Farmers are motivated to further take up this intervention.
- More than 1,000 farmers were trained on various interventions.

(viii) The status of the utilization of the budget under this sub-project up to March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GVT, Ranchi</td>
<td>194.000</td>
<td>97.17</td>
<td>56.95</td>
<td>59</td>
</tr>
<tr>
<td>BAU, Ranchi</td>
<td>53.173</td>
<td>19.19</td>
<td>11.04</td>
<td>58</td>
</tr>
<tr>
<td>SRI, Ranchi</td>
<td>32.483</td>
<td>14.55</td>
<td>12.82</td>
<td>88</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>279.657</strong></td>
<td><strong>130.92</strong></td>
<td><strong>80.81</strong></td>
<td><strong>62</strong></td>
</tr>
</tbody>
</table>

21. Sub-project: Livelihood Security of rural poor in Disadvantaged chitradurga District of Karnataka through integrated farming systems approach

(i) Project Code : 30028
(ii) Sanctioned date : 06.04.2009
Completion date : 2012
Budget (₹ in lakh) : 358.01
iii) Consortia P.I. and Lead Institute : Dr N. Nagaraj
(Name, designation and full address) UAS, Bangalore
080-23637002, 9880004823
nagarajnareppa@yahoo.com

(iv) Partners:
- National Institute of Animal Nutrition and Physiology, Bangalore, (NIANP)
- Karnataka Veterinary and Fisheries University, Bidar (KVFSU)
- NGO’s–MYRADA and NISARGA

(v) Website: www.livelihoodifsuasb.org

(vi) Objectives:
1. Identification and promotion of appropriate farming systems and income generating activities to strengthen the livelihood, economic security, equity and social capital
2. Development of appropriate public-private partnerships and linkages to ensure necessary value chain to improve market linkages and efficiency for the output/s arising from IFS and IGA innovations
3. Capacity building for human resource development at different levels and social capital formation through local organizations

(vii) Research Progress:
The project has been undertaken in Chitradurga, a disadvantaged district of Karnataka. The target community is characterized by the following:
- Low Literacy level of target population, district and the state was 45, 64, 67 respectively.
- Around 80% of the farmers are small and marginal.
- Only 12% of the cultivated area is irrigated.
- Income of marginal, small farmers and landless community was ₹ 18,116, ₹ 20,188 and ₹ 16,814 per annum respectively.
- Even with groundnut as the dominant crop, only 50% are following cleaning/grading. Thus, processing can enhance value-addition which has greater scope.
- Among the livestock, small ruminants dominated (70%) cluster.
- Cows and buffaloes are of local breed with a yield of 1–2 litres of milk.
- Backyard Poultry status is very low.

The interventions undertaken and the salient results obtained during the period under report were as follows:
- Seed production of chickpea, onion, groundnut, groundnut, pigeon pea was undertaken in 50 ha whereas improved cropping system for groundnut, red gram, maize, sunflower were introduced in 122 ha.
- Onion (farmers field school), tomato, brinjal and chillies were introduced in 38 ha.
- Area brought under sericulture was 15 ha.
- In all 4,624 animals were treated during veterinary care camps.
- NRM activities were undertaken with construction of 30 farm ponds and 250 ha area with strengthening of bunds/vegetative cover on bunds and installation of drip irrigation in 31 ha.
• In all 51 vermi compost and 27 biogas plants were installed.
• Farm pond aquaculture and ornamental fishery activities were initiated with 60 and 63 household respectively.
• Income generating activities such as sheep rearing vegetable vending and flower Nursery, backyard poultry were taken up with 67 households.
• Mobilized an amount of ₹ 72.35 lakhs from state development departments for providing drip Irrigation facility in pomegranate, arecanut, banana and mosambi and ₹ 20 lakhs through SHG-Bank linkage.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAS, Bangalore</td>
<td>228.62</td>
<td>79.45</td>
<td>53.13</td>
<td>67</td>
</tr>
<tr>
<td>NIANP, Bangalore</td>
<td>39.32</td>
<td>21.14</td>
<td>13.47</td>
<td>64</td>
</tr>
<tr>
<td>KVAFSU, Bidar</td>
<td>18.11</td>
<td>8.13</td>
<td>5.99</td>
<td>74</td>
</tr>
<tr>
<td>MYARADA – NGO</td>
<td>49.95</td>
<td>19.09</td>
<td>15.66</td>
<td>82</td>
</tr>
<tr>
<td>NISARGA – NGO</td>
<td>22.02</td>
<td>10.77</td>
<td>8.53</td>
<td>79</td>
</tr>
<tr>
<td>Total</td>
<td>358.01</td>
<td>138.58</td>
<td>96.79</td>
<td>70</td>
</tr>
</tbody>
</table>

22. Sub-project: Integrated Farming System for Sustainable Rural Livelihood in Undulating and Rainfed Areas of Jhabua and Dhar Districts of Madhya Pradesh

(i) Project Code : 30029
(ii) Sanctioned date : 01.04.2009
Completion date : 30.06.2012
Budget (₹ in lakh) : 351.62

(iii) Consortia P.I. and Lead Institute
(Name, designation and full address) Rajmata Vijayaraje Sindhia Krishi Vishwa Vidyalaya, Gwalior (MP)
0751-2467675, 9425650289
hs_yadav2003@yahoo.com

(iv) Partners:
• Indian Grassland Fodder Research Institute, Jhansi, (UP) Consortium Partner
• Gramin Vikas Trust, Jhabua: Consortium Partner

(v) Website: www.naiprvskvv.org.in

(vi) Objectives:
1. Sustainable enhancement in productivity and profitability of agriculture and allied sector through improved technologies in undulating and rainfed areas.
2. Development and management of natural resources through low cost measures in undulating and rainfed areas.

3. Empowerment through entrepreneurship, value addition, transportation and marketing.

4. Empowering stakeholders through capacity building and skill upgradation programmes.

(vii) Research Progress:

The project has been undertaken to improve livelihood in Jhabua and Dhar, two backward districts, of Madhya Pradesh. These districts are characterized by degrading natural resources, adverse climatic extremes, low productivity, low income and high rate of migration.

- The area is tribal dominated with ST population of 53.5% in Dhar and 85.7% in Jhabua. There is lack of awareness about soil test and soil health management.
- The major source of livelihood is crop husbandry (37%) followed by livestock keeping (10%).
- Majority of the farmers (71%) are in the category of small and marginal land holding (< 2 ha).
- Cow, buffalo and goats are the major livestock.
- Low input based traditional backyard poultry mostly exists in district Jhabua.
- Chilli is cultivated as spice only in cluster area.
- Involvement of existing SHGs/FIGs is very less.
- Quality seed availability is very low.

The major interventions and results are as follows:

- In the *kharif* trials on crop diversification, increase in yield was achieved in soybean (8.7%) and black gram (9.8%), maize intercropped with soybean results in more equivalent yield (11.33%).
- Integrated nutrient management increased the yield in soybean by 9.5% and black gram by 9.8%.
- The crop interventions increased the average income of farmers nearly by 10%.
- In the *kharif* trials on crop diversification increase in yield for soybean, black gram, Maize and pigeonpea was 13.33, 15.67, 14.15 and 13% respectively.
- Spices namely, chilli, garlic, coriander and onion were introduced.
- Integration of horticultural crops with a view to develop hortipasture system. Karonda (200), Aonla-NA7 (75), Guava-Allahabad Safeda (75) were planted.
- For promotion of *kharif* fodder crops Jowar (MP Chari), Bajra (Multicut Bajra), Maize (African Tall) were introduced.
- Formation and capacity building of 9 self-help group, 1 seed producer group and 2 Kadaknath user groups were undertaken.
- Formation of 5 women self help groups for vermi-composting were undertaken for gender empowerment.

(i) Project Code: 30030
(ii) Sanctioned date: 17.04.2009
Completion date: 31.03.2012
Budget (₹ in lakh): 266.51
(iii) Consortia P.I. and Lead Institute: Dr. Ved Pal Singh
Haryana Agricultural University, Hisar
09354324922
aricindia@hotmail.com

(iv) Partners:
- National Centre for Agriculture Economics and Policy Research, New Delhi (NCAP)
- Society for Strategy, Technology Delivery for Development, New Delhi (Society STADD)
- Centre for Advancement of Sustainable Agriculture, New Delhi (CASA)
- International Maize and Wheat Improvement Center, New Delhi (CIMMYT, India)
- Indian Agriculture Research Institute, New Delhi (IARI)
- Central Institute for Research on Goats, Mathura (CIRG)

(v) Website: www.camewat.org

(vi) Objectives:
1. Implementation of resource conserving practices in agriculture
2. Improve the socio-economic condition of marginalized farmers of Mewat
4. Establish a new paradigm of field linked research

(vii) Research Progress:
The project is operative in Mewat district of Haryana. Major emphasis in the project is livelihood improvement through resource conserving technology. The salient features that emerged from baseline survey are as follows:
- Per capita income: Highest - Cluster I (₹ 2,97,405)
Lowest - Cluster II (₹ 48,883)
- Gini Coefficient = 0.26 (low inequality across clusters)
- ZT: Lack of awareness (ZTM unavailability major constraint)
- Crop residue retention constraints: No alternate source of fodder and fuel, termite infestation
- Problems: Depletion of ground water, insufficient supply of water, duplicate pesticides, termite infestation, labour shortage, destruction by Nilgai, poor animal health
- Sprinkler and bed planting: Prevalent in Cluster I.
- Awareness of agro-techniques: Less than 25%.
- Source of knowledge: Word of mouth

The major interventions and salient results are as follows:
- 105 demonstrations (one acre each) on zero till wheat were conducted in 10 villages of Cluster I & III for providing on farm training to about 500 farmers for the adoption of zero till machine for wheat sowing. These trained farmers will guide and motivate other farmers of Mewat district for the sowing of wheat with zero till machine in about 1000 ha area during 2010–11.
- Vegetable seeds (kharif and rabi) were introduced through 50 women for cultivation in kitchen gardens for domestic use.
- Seven training programmes on different RCTs (Zero tillage, laser leveling, residue management, dual purpose wheat, spray techniques and diversification through bed planting system were organized involving Mewat farmers (12 villages) and innovative farmers (other parts of Haryana) and consortium partners wherein total 313 persons participated.
- A total 150 goats of Barbari, Jakhrana and Sirohi along with 11 bucks were distributed among selected farmers of adopted villages.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASA, New Delhi</td>
<td>16.07</td>
<td>7.62</td>
<td>2.51</td>
<td>33</td>
</tr>
<tr>
<td>CCSHAU, Hissar</td>
<td>141.77</td>
<td>75.40</td>
<td>8.34</td>
<td>11</td>
</tr>
<tr>
<td>CIMMYT, New Delhi</td>
<td>15.70</td>
<td>4.05</td>
<td>4.05</td>
<td>100</td>
</tr>
<tr>
<td>CIRG, Makhdoom</td>
<td>15.50</td>
<td>6.58</td>
<td>5.59</td>
<td>85</td>
</tr>
<tr>
<td>IARI, New Delhi</td>
<td>24.41</td>
<td>8.04</td>
<td>4.75</td>
<td>59</td>
</tr>
<tr>
<td>NCAP, New Delhi</td>
<td>11.84</td>
<td>3.64</td>
<td>2.03</td>
<td>56</td>
</tr>
<tr>
<td>Society STADD, New Delhi</td>
<td>41.23</td>
<td>11.90</td>
<td>7.02</td>
<td>59</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>266.51</strong></td>
<td><strong>117.21</strong></td>
<td><strong>34.30</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>
24. **Sub-project:** Up-scaling Livelihood of Forest Communities through Enhanced Farm Productivity and Efficient Support Systems in Godda district of Jharkhand

(i) **Project Code** : 30031  
(ii) **Sanctioned date** : 13.04.2009  
    **Completion date** : 30.06.2012  
    **Budget (₹ in lakh)** : 210.830

(iii) **Consortia P.I. and Lead Institute** : Mr D.V. Nithyanand  
     **(Name, designation and full address)**: AFC Ltd, Jharkhand  
     09990475138  
     nro.afc@gmail.com

(iv) **Partners:**  
    ● Institute of Forest Productivity (IFP), Ranchi, Jharkhand  
    ● Gramin Vikas Trust (GVT), Krishi Vigyan Kendra (KVK), Godda, Jharkhand  
    ● Kasturba Mahila Vikas Kalyan Samiti (KMVKS), Godda, Jharkhand

(v) **Website:** http://www.afcindia.org.in/pre_assi4.php

(vi) **Objectives:**
1. Socio economical upliftment of forest based and forest fringe villagers through optimum utilization of resources by efficient management and technological interventions.
2. To test the options available for upscaling livelihood status of forest based and forest fringe communities through small and medium enterprises.
3. To build the capacity and skill through training of stakeholders on improved practices of agriculture, horticulture, apiculture, cottage industries work, microfinance and supply chain management.
4. To develop institutional mechanism among the stakeholders for adopting the innovative approaches and establishing marketing linkage to the local community for income generation activity.

(vii) **Research Progress:**
    The project is undertaken to improve livelihood of forest Communities in Godda District of Jharkhand. The key baseline survey results of the area are as follows:
    ● Total Geographical Area (TGA) of project villages (25) is 6,285.03 ha. Out of which cultivable land is 59.84% of TGA and the forest area is 21.66% of TGA.
    ● 62.80% population belong to STs. Major tribe is ‘Santhal’ followed by ‘Kharwar’ and ‘Paharia’.
    ● Average annual family income was observed to be ₹ 20,422.
    ● Only 12% males and 5% females were found to be literate.
    ● Irrigated area is only 8.30% of total area.
    ● Crop productivity is low, e.g. the productivity of bajra maize, paddy, mustard, potato and pulses is 1.49, 5.83, 12, 1.42, 4.63 and 1.52 q/ha respectively.
The salient features of various activities undertaken are as under:

- An area of 33.03 ha benefiting 403 HHs was brought under maize, mustard, lentil and potato crops. Average yield of potato (Kufri Jyoti) was recorded 210 q/ha where as the yield of local variety was recorded 157 q/ha. The additional quality of the variety was their resistance against late blight disease. Same way the yield of mustard, maize and lentil were recorded 18.6, 68.4 and 10.2 q/ha, respectively which were 1.5–2 times more than the local check.
- An area of 6.09 ha benefiting 200 HHs was brought under elephant foot yam, bottle gourd (B-49), ridge gourd (Hybrid) and bitter gourd (Hybrid).
- Two poly houses have been constructed in 2 SHGs in Tilabad and Jhilwa villages.
- About 170 SHGs have been formed under this project. Each SHG has been assigned basket of technologies under the NAIP. Forty four SHGs have been formed for pickles making (12), vermi-compost (8), mushroom production (10), medicinal plants (32) and floriculture (16). Thirty SHGs have started production of mechanized leaf plates and bowls.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFC, Jharkhand</td>
<td>143.650</td>
<td>66.12</td>
<td>61.39</td>
<td>93</td>
</tr>
<tr>
<td>IFP, Ranchi</td>
<td>22.225</td>
<td>9.90</td>
<td>2.33</td>
<td>24</td>
</tr>
<tr>
<td>KMVKS, Godda</td>
<td>22.475</td>
<td>6.98</td>
<td>9.73</td>
<td>140</td>
</tr>
<tr>
<td>GVT, KVK, Godda</td>
<td>22.475</td>
<td>13.73</td>
<td>7.35</td>
<td>54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>210.830</strong></td>
<td><strong>96.720</strong></td>
<td><strong>80.010</strong></td>
<td><strong>83</strong></td>
</tr>
</tbody>
</table>

25. Sub-project: To Promote Sustainable Livelihood of the Small and Marginal Farmers with a Focus on Women’s Empowerment in Nawada and Purnea District of Bihar

(i) Project Code : 30033
(ii) Sanctioned date : 01.04.2009
Completion date : 30.06.2012
Budget (₹ in lakh) : 423.008
(iii) Consortia P.I. and Lead Institute : Bhartiya Samruddhi Finance Ltd, BASIX, 2nd Floor, House No-7, IAS Colony, Kidwaipuri, Patna- 800001, Bihar
(Name, designation and full address)
(iv) Partners:
- Women Development Corporation, Bihar
- KVK, Kauakol, Nawada
● RAU, Patna
● IARI Research Station
● Patna Animal Development Pvt Ltd

(v) Website: Under Construction
(vi) Objectives:
1. Develop and strengthen suitable and sustainable institutions of the poor with a special focus on women.
2. Strengthen the livelihood of poor households through productivity enhancement and cost reduction in kharif and summer paddy and dairy sub-sector.
3. Facilitate market linkage of small and marginal producers.
4. To provide linkages with main stream financial institutions and making available saving, credit, and insurance services to the poor households.

(vii) Research Progress:
The project is undertaken to improve livelihood of landless, marginal and small farmers of Purnia and Newada districts of Bihar. Baseline survey has been completed and report is submitted. The major interventions carried out during kharif were SRI technology in rice cultivation and commercial production of onion. The number of farmers covered under the rice and onion production were 375 and 5 respectively.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIX, Bihar</td>
<td>333.1927</td>
<td>69.86</td>
<td>33.82</td>
<td>48</td>
</tr>
<tr>
<td>Patna Animal Dev Pvt Ltd., Patna</td>
<td>19.870</td>
<td>8.66</td>
<td>8.67</td>
<td>100</td>
</tr>
<tr>
<td>WDC, Bihar</td>
<td>29.300</td>
<td>5.26</td>
<td>3.98</td>
<td>76</td>
</tr>
<tr>
<td>IARI PUSA, Delhi</td>
<td>19.050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KVK, Nawada</td>
<td>7.190</td>
<td>1.80</td>
<td>1.57</td>
<td>87</td>
</tr>
<tr>
<td>RAU, Patna</td>
<td>14.7807</td>
<td>6.61</td>
<td>1.01</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>423.008</strong></td>
<td><strong>92.19</strong></td>
<td><strong>49.05</strong></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

Theme 3: Animal Husbandry

26. Sub-project: Sustainable livestock based farming system for livelihood security in Hoshiarpur district of Punjab

(i) Project Code : 30009
(ii) Sanctioned date : 22.05.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 400.96
(iii) Consortia P.I. and Lead Institute : Dr A.L. Saini  
(Name, designation and full address) GADVASU Ludhiana  
0161-2553363, 2553364, 2414024, 09872800342  
sainial@yahoo.co.in

(iv) Partners:  
1. Punjab Agricultural University, Ludhiana  
2. Dairy Development Department, Punjab  
3. The Unati Co-operative Marketing-cum-Processing Society Limited, Talwara

(v) Website: www.gadvasu.in

(vi) Objectives:  
1. To enhance the productivity of animals through adoption of some improved interventions.  
2. To enhance crop production, and promotion of agro-forestry with fodder trees and medicinal plants.  
3. To promote processing and marketing of various products.  
4. Development and training of self help groups for sustainability of various enterprises.

(vii) Research Progress:  
Sustainable livestock based farming system for livelihood security in Hoshiarpur district of Punjab is being addressed through this project. The district has three distinct region namely Kandi, undulating and plain area. The cultivated area under the district is 2,03,000 ha (60%) whereas forest constitute about 32.1% area. Area under irrigation is 76%. Per capita income of the target area is only ₹12,500 against an income of Rs 25,248 for the State of Punjab. Crop productivity is low. 
The major activities were carried out through following set of interventions:  
- Improved germplasm of crops was introduced by supply of improved maize and fodder seed Napier bajra (3,900 cuttings), Guinea grass (39 kg), Mash (244 kg), Moong (84 kg), Til (25 kg), Oats (125 kg), Rye grass (8 kg), Toria (15 kg), Gobhi Sarson (15 kg), Berseem (64 kg), Ria sarson (15 kg), Gram (487 kg), Wheat (4,855 kg)  
- Supply of Mineral Mixture (3,465 kg), Uromin Licks (1,530 units), animal treatment, deworming, control of external parasites was introduced for better health and reproductive efficiency.  
- Introduction of Agro-forestry [Bamboo (845 Seedlings), Neem (50 Plants)]; and medicinal plants (5641) (Aloe-vera, Bhel, Amla, Bahera, Jamun, Reetha, Anar, Karonda, Dheu)  
- The women empowerment activities have been undertaken on candle making (lemon grass), pickle and chutney preparation, detergent making and rope making with 25, 20 10 and 20 farm women respectively.  
- In all 27 self-help groups have been formed to facilitate various interventions.  
- Due to various interventions the family income has been enhanced by 50% (₹12,500 to ₹18,000).
The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to budget up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>GADVASU, Ludhiana</td>
<td>323.41</td>
<td>144.53</td>
<td>135.64</td>
<td>94</td>
</tr>
<tr>
<td>PAU, Ludhiana</td>
<td>55.84</td>
<td>16.33</td>
<td>13.67</td>
<td>84</td>
</tr>
<tr>
<td>Dairy Development Department, Chandigarh</td>
<td>9.94</td>
<td>2.02</td>
<td>2.07</td>
<td>103</td>
</tr>
<tr>
<td>UNATI, Punjab</td>
<td>11.77</td>
<td>3.99</td>
<td>3.92</td>
<td>98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>400.96</strong></td>
<td><strong>166.87</strong></td>
<td><strong>155.30</strong></td>
<td><strong>93</strong></td>
</tr>
</tbody>
</table>

27. Sub-project: Livelihood Security through Resource and Enterprise Management in Bidar district, UAS, Raichur

(i) Project Code: 30012
(ii) Sanctioned date: 26.09.2008
(iii) Completion date: 31.03.2012
Budget (in lakh): 454.67
(iii) Consortia P.I. and Lead Institute: Dr R.C. Deshmukh, UAS, Dharwad, Karnataka
(Kname, designation and full address) 09480696318, 09448495339 kvkbidar@rediffmail.com
(iv) Partners:
- Karnataka Veterinary, Animal and Fisheries University Bidar
- Organization for Bidar Integral Transformation (ORBIT), Bidar
(v) Website: www.naip3bidar.com
(vi) Objectives:
1. To promote sustainable rural livelihood options by efficient utilization of available natural and human resources.
2. To improve the nutritional status of the community through education and improvement in consumption pattern.
3. To develop stakeholder capacity for promoting sustainable livelihood systems.
4. To develop and strengthen Community Based Organizations (CBOs) and institutional linkage.
(vii) Research Progress:
The project is initiated in Bidar, a backward district of Karnataka. The district has low productivity of crops and animals, value addition for pulses and milk is nil, cropping intensity is 112%. The crop productivity was low for most of the crops. The productivity of red gram, green gram, black gram, hybrid jowar, soybean, Bengal gram and sugarcane was 8.42, 7.07, 6.10, 21.13, 18.65, 9.22 and 745.2 q/ha respectively. The major interventions carried out during the year and the results were as follows:
- Improved variety of sorghum, sesameum, soybean, green gram, black gram, paddy,
ginger, Bengal gram and sunflower were introduced among 285 farmers.

- Results on ginger showed that a profit of ₹1,93,062/ha could be obtained.
- The results on Bengal gram indicated an increase in yield from 11.25 q/ha to 15.62 q/ha.
- Animal supplemented with mineral mixture and UMMB gave an 0.5 litre more milk/day.
- Through various health care and clinical measures the conception rate of animal was improved and estimated to be one calf per year.
- Fodder cultivation was encouraged with introduction of 13 varieties, which produced 260 tons of fodders.
- Introduction of Osmanabadi breed of goats (two goats per beneficiaries) to 240 beneficiaries resulted in three kids over a period of ten months with an estimated income of ₹3,600.
- Synergies were developed with state departments. It resulted in estimated saving of ₹1,99,160 on hiring of skilled labour, ₹28,000 on purchase of vaccine and ₹76,800 on insurance claim settlement.
- Established 4 community managed AI Centres; organized 48 Animal Health-cum-Awareness Camps.
- Introduction of Area specific Mineral Mixture and UMMB has resulted in an increase in milk yield to an average 0.5 litre/animal/day and improvement in fat content up to 2% and also increase in monthly income of beneficiaries by ₹200 per lactating animal.
- Improvement in conception rate and reduction in inter calving period has resulted in the income of 68 farmers at an average of ₹1,800 per animal.
- 260 tons of fodder was produced in 2 ha of land in 1 year with an estimated income of ₹1.95 lakhs.
- By providing surgical help an animal asset value of ₹1.25 lakhs was saved.
- Vaccination of animals against various diseases like FMD, HS, BQ and PPR has helped in average saving of ₹500 by each livestock owner.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAS, Dharwad</td>
<td>238.57</td>
<td>99.42</td>
<td>89.06</td>
<td>90</td>
</tr>
<tr>
<td>KVAFSU, Bidar</td>
<td>194.83</td>
<td>104.63</td>
<td>100.21</td>
<td>96</td>
</tr>
<tr>
<td>ORBIT, Bidar</td>
<td>21.27</td>
<td>8.14</td>
<td>8.17</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>454.67</td>
<td>212.18</td>
<td>197.44</td>
<td>93</td>
</tr>
</tbody>
</table>
28. **Sub-project:** Goat Husbandry based Integrated Approach for Livelihood Security in Disadvantaged Districts of Bundelkhand region, CIRG, Mathura

(i) Project Code : 30018  
(ii) Sanctioned date : 07.04.2008  
Completion date : 07.04.2012  
Budget (₹ in lakh) : 516.519  
(iii) Consortia P.I. and Lead Institute : Dr. Saket Bhusan  
(Name, designation and full address) CIRG, Makhdoom  
0565-2763246, 9412826679  
sbhusan@cirg.res.in  
(iv) Partners:  
- Indian Grassland and Fodder Research Institute, Jhansi (UP)  
- Soil and Water Conservation Research and Training Institute, Datia, (MP)  
- Central Avian Research Institute, Izatnagar, District-Bareilly (UP)  
- KVK, Chandra Shekar Azad University of Agriculture and Technology, Kanpur (UP)  
- B.N.V. PG Ag. College, Rath, Distt. Hamirpur (UP)  
(v) Website: www.naipgoat.in  
(vi) Objectives:  
1. Enhancement in productivity of livestock and crops through goat based integrated farming.  
2. Development, up-gradation and management of forage, soil and water resources.  
3. Value addition of milk, meat, vegetables and their marketing for enhancing profitability.  
(vii) Research Progress:  
Goat husbandry based integrated approach for livelihood security is initiated in two disadvantaged districts namely Mahoba and Hamirpur of Bundelkhand region. The baseline survey data reveals the following:  
- In the sample villages, total geographical area is 20,978 hectare and net irrigated area is only 4,195 ha (20%).  
- The educational status revealed that nearly 40.47% of the sample farmer acquired primary level of education and 18.31% of the farmers were in the level of high school education.  
- Out of the total population, about 26% were small farmers, 43% were marginal farmers while 30% were landless community.  
- Monthly income of landless, marginal and farmers were ₹ 693.83, ₹ 949.16 and ₹ 1,050.33 respectively.  
- Average milk productions (150 days) of goats, body weight of kids at a 12 month, egg production of local poultry/year were 63 litres, 13.7 kg and 39.46 eggs respectively could be attained.  
- Mortality rate in kids and adult goats were 30 and 20% respectively.
The major interventions and salient results are as follows:

- Fourteen animal health camps were conducted on improved livestock practices (goat husbandry, rural poultry farming and vaccination for all type of livestock). During the camps 632 animals were treated.
- Due to the project interventions average milk production (150 days) of goats increased from 63 to 69 litre.
- Enhancement in body weight of kids at 12 months was observed from 13.7 kg to 15.3 kg.
- The productivity of sorghum, gram, lentil, linseed increased from 8.0, 10.72, 5.60 and 5.50 q/ha to 8.0, 10.72, 5.60 and 5.50 q/ha respectively.

The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

Table 31: Status of utilization of budget under the sub-project upto March, 2010 (₹ in lakh)

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRG, Makhdoom</td>
<td>381.407</td>
<td>198.37</td>
<td>37.78</td>
<td>19</td>
</tr>
<tr>
<td>CARI, Izatnagar</td>
<td>30.997</td>
<td>19.51</td>
<td>18.77</td>
<td>96</td>
</tr>
<tr>
<td>BNV College, Rath</td>
<td>22.972</td>
<td>12.10</td>
<td>5.84</td>
<td>48</td>
</tr>
<tr>
<td>CSWR&amp;TI,Datia,(MP)</td>
<td>29.497</td>
<td>16.97</td>
<td>8.69</td>
<td>51</td>
</tr>
<tr>
<td>KVK, CSA, Kanpur</td>
<td>19.897</td>
<td>7.57</td>
<td>6.27</td>
<td>83</td>
</tr>
<tr>
<td>IGFRI, Jhansi</td>
<td>31.747</td>
<td>17.55</td>
<td>6.87</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>516.519</strong></td>
<td><strong>272.06</strong></td>
<td><strong>84.22</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

29. Sub-project: Sustainable Rural Livelihood Security through Integrated Approach in Hingoli and Nanded districts of Maharashtra, MAFSU, Nagpur

(i) Project Code : 30023
(ii) Sanctioned date : 17.11.2008
Completion date : 31.03.2012
Budget (₹ in lakhs) : 723.316
(iii) Consortia P.I. and Lead Institute : Dr C.D. Khedkar
(Name, designation and full address) : MA&FSU, Nagpur
09422165527
cdkhedkar@gmail.com
cdkhedkar@rediffmail.com

(iv) Partners:
- Maharashtra Animal & Fishery Sciences University, Nagpur (MAFSU)
- Marathwada Agriculture University, Parbhani
- Dr Babasaheb Ambedkar Marathwada University, Aurangabad
- Krishi Vigyan Kendra, Tondapur Tq. Kalamnuri Distt. Hingoli
- Chaitali Sevabhavi Sanstha, Risala Bazzar, Hingoli
The sub-project is being undertaken in two disadvantaged areas of Maharashtra namely Hingoli and Nanded. The baseline survey has revealed the following information:

- The area under cultivation varied from 95.35 to 100%. However, net area under irrigation was low and varied from 10.22 to 35.31% among the clusters.
- Small and marginal farmers ranged from 33.11 to 55.56% and 27.27 to 41.46% among the four clusters.
- The percent farmers having animal income less than ₹30,000 and ₹30,000–60,000 varied from 11 to 50% and 32.5 to 75.5% respectively among the clusters.
- Only 23 crossbreed cows existed in 15 villages; not a single breeding bull of descript breeds available.
- 45% families in the clusters migrate during summer.
- Aquaculture practices not followed at all.
- Vast scope for poultry, goatry and allied activities.

The major interventions and salient results are as follows:

- Soil analysis completed and the soil health cards were provided to 1,570 farmers.
- Forty SHGs were formed; their strengthening activities is in progress.
- 21000 kg seed of improved varieties of soyabean and pulses are introduced.
- 150 Osmanabadi goats and bucks were (150) introduced for improvement of the local caprine population and for sustainance of poor farm labour families.
- Poultry folks of Giriraj, Satpuda and Kadaknath introduced for backyard poultry.
- Induction of oestrous in 370 cows and buffaloes gave 61% success rate.
- Reduction in migration is estimated around 20%.
- Reduction in use of chemical fertilizers was estimated to the tune of 80% for 1,500 acre of land under project activities.
- Income augmentation by 60%.
- Will provide employment to over 125 women and value addition to the extent of 30%.
- Production will be increased by 30%.
- 100% improved quality milk, one time transportation will save the diesel and fetch 10% more price to the milk.
- Water shed developed (27 km trench is digged) on 470 acre of private and Govt. land of a tribal village named Karwadi under Nandapur cluster in Hingoli district.
- A Cooperative dairy unit established, NDDB’s milk procurement-cum-chilling centre established and milk production of Nandapur, which was negligible before commencement of project, which is now 1,200 litres/day.
- Four mini dal mills established.
- Two Technology Transfer Centres and three Kisan Libraries established.

(viii) The status of the utilization of the budget under this sub-project up to March 2010 is presented below:
### Status of utilization of budget under the sub-project upto March, 2010

(₹ in lakh)

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharashtra Animal &amp; Fishery Sciences University, Nagpur (MAFSU)</td>
<td>425.743</td>
<td>273.03</td>
<td>168.03</td>
<td>62</td>
</tr>
<tr>
<td>Marathwada Agriculture University, Parbhani</td>
<td>105.025</td>
<td>59.91</td>
<td>29.49</td>
<td>49</td>
</tr>
<tr>
<td>Dr. Babasaheb Ambedkar Marathwada University, Aurangabad</td>
<td>68.721</td>
<td>44.31</td>
<td>41.49</td>
<td>94</td>
</tr>
<tr>
<td>Krishi Vigyan Kendra, Tondapur Tq. Kalanmuri Distt. Hingoli</td>
<td>38.120</td>
<td>20.82</td>
<td>36.37</td>
<td>175</td>
</tr>
<tr>
<td>Chaitali Sevabhavi Sanstha, Risala Bazzar, Hingoli</td>
<td>85.707</td>
<td>54.13</td>
<td>35.18</td>
<td>65</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>723.316</strong></td>
<td><strong>469.80</strong></td>
<td><strong>310.56</strong></td>
<td><strong>66</strong></td>
</tr>
</tbody>
</table>

### Theme 4: Fisheries

#### 30. Sub-project: Sustainable Livelihood Improvement through Integrated Freshwater Aquaculture, Horticulture and Livestock Development in Selected Districts of Orissa – CIFA, Bhubaneshwar

- **(i) Project Code**: 30032
- **(ii) Sanctioned date**: 06.04.2009
- **Completion date**: 31.06.2012
- **Budget (₹ in lakh)**: 503.550
- **(iii) Consortia P.I. and Lead Institute**: Dr J.K. Jena
  (Name, designation and full address): CIFA, Bhubaneswar
  09437038376
  jkjena2@rediffmail.com
- **(iv) Partners**:
  - Central Horticultural Experiment Station (IIHR), Bhubaneswar.
  - Regional Centre of Central Avian Research Institute (CARI), Bhubaneswar.
  - Centre for Development Research and Training (CENDERET), Xavier Institute of Management (XIMB), Bhubaneswar.
- **(v) Website**: www.naip-livelihood-orissa.org
- **(vi) Objectives**:
  1. To improve the livelihood of 3,000 farm families through integrated development of freshwater aquaculture, livestock and horticulture.
  2. To improve the technical skill of farmers through training and on-farm demonstration of need based technologies.
  3. To promote creation of Self-Help Groups and empowerment of existing farmers’ organisations in order to avail the mainstream facilities and thereby enable them to sustain the activities in a long-run.
4. To recognize and promote the gender participation in main stream activities in relevant area of farming.

(vii) Research Progress:
State of Orissa is one of the most backward states of the country. As many as 18 districts are identified as backward districts by the Planning Commission, Government of India. The present project lead by Central Institute for Freshwater Aquaculture, Bhubaneshwar is being implemented in three of such districts namely Mayurbhanj, Keonjhar and Sambalpur. The project is to improve the livelihood of 3,000 farm families through integrated development of freshwater aquaculture, live stocks and horticulture. The project has been initiated with the following activities:
- Villages in all the identified clusters were surveyed, and families were identified for various intervention.
- Advisory services with regard to ongoing horticulture, livestock and aquaculture crop management and disease prevention/treatment were provided.
- Community mobilization was initiated.
- Linkages with line departments established.
- Basic infrastructure for carp hatcheries, polyhouses and ornamental fishes procured for installation in the selected sites.

(viii) The status of the utilization of the budget under this subproject upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIFA, Bhubaneswar</td>
<td>283.190</td>
<td>90.85</td>
<td>74.71</td>
<td>82</td>
</tr>
<tr>
<td>CHES (IIHR), Bhubaneswar</td>
<td>107.980</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC of CARI, Bhubaneswar</td>
<td>86.260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIMB, Bhubaneswar</td>
<td>26.120</td>
<td>5.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>503.550</strong></td>
<td><strong>96.22</strong></td>
<td><strong>74.71</strong></td>
<td><strong>78</strong></td>
</tr>
</tbody>
</table>

Theme 5: Improvement of degraded areas

31. Sub-project: Improving Livelihood Security in Salt-Affected Watersheds of Muzaffarpur and Sheohar Districts of Bihar–Rajendra Agricultural University, Pusa, Samastipur, Bihar

(i) Project Code : 30020
(ii) Sanctioned date : 03.07.2008
Completion date : 30.06.2012
Budget (₹ in lakh) : 484.270
(iii) Consortia P.I. and Lead Institute : Dr R.C. Yadav
(Name, designation and full address): RAU, Bihar
(iv) Partners: ICAR-RCER, Patna
(v) Website: www.pusavarsity.org.in
(vi) Objectives:
1. To improve the productivity and profitability of rice–wheat and sugarcane based farming systems in salt-affected watersheds.
2. To enhance employment opportunity through allied agricultural activities and post-harvest technology.
3. To increase the skill of farmers for livelihood security through entrepreneurship development and knowledge empowerment.
(vii) Research Progress:
The target districts under the project are Sheohar and Muzaffarpur districts of Bihar. The major objective of the project is to address the problem of management of salt affected land which accounts for 10–15% in Sheohar cluster to 45–50% in Motipur cluster (Muzaffarpur). Rice and wheat crop yield varies from 22 to 25 and 18 to 20 q/ha respectively.
The interventions undertaken and the salient results obtained during the period under report were as follows:
- Forty hectare of land is being reclaimed under the project.
- Drought management and INM and IPM adoption in rice crop resulted in increase in yield by 31.3% over farmers practice.
- Seed replacement programme in wheat, toria and maize has been undertaken in 30 ha in four clusters (148 farmers).
- Adoption of best management practices in wheat crop in 23 ha resulted in increase in yield by 35–40% over farmers practice.
- Livestock health camps were organized where in 180 animals were treated.
- Mushroom production technology has become alternative income generating system and increased farmers income by ₹ 800–1000 per month per person
- Low cost bamboo vermicompost production unit (28) for adoption of INM and waste management has been taken up.
(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAU, Bihar</td>
<td>459.7400</td>
<td>157.45</td>
<td>122.58</td>
<td>78</td>
</tr>
<tr>
<td>ICAR Res. Com. Eastern Reg., Patna</td>
<td>24.5300</td>
<td>5.79</td>
<td>2.35</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>484.270</strong></td>
<td><strong>163.24</strong></td>
<td><strong>124.94</strong></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>
Theme 6: Coastal and flood zone areas

32. Sub-project: Farming Systems for Livelihood Security of Small and Marginal Farmers in Disadvantaged Districts of Tamil Nadu – Annamalai University

(i) Project Code : 30007
(ii) Sanctioned date : 07.04.2008
Completion date : 31.03.2012
Budget (₹ in lakh) : 732.32
(iii) Consortia P.I. and Lead Institute : Dr R.M. Kathiresan
(Name, designation and full address) Annamalai University
Phone: 04144-239816, 09655188233
rm.kathiresan@sify.com
(iv) Partners:
● Dhan Foundation, Madurai
● Vedapuri–KVK, Thiruvannamalai
● BMT–KVK, Thanjavur
(v) Website: www.annamalaiuniversity.ac.in
(vi) Objectives:
1. Up scaling farming system models through on farm research for adoption under wetland, upland and shore farming conditions in disadvantaged districts of Tamilnadu.
2. Productivity enhancement in predominant crops of these districts through technologies like IPM, INM and mechanized cultivation.
3. Imparting training for processing and value addition in the farm produces.
4. Restoring the pristine status of water resources in these districts through integrated bio-control of aquatic weeds and conserving soil health through optimized agro input use.
(vii) Research Progress:
The project is operative in four backward districts of Tamilnadu. Three of the backward districts namely Nagapatnam, Cuddalore and Villupuram are coastal districts where as Thiruvannamalai is adjoining district. These districts have 72% small and marginal farmers and are characterized by natural calamities, vagaries of monsoon and intensive mono culture of rice with improper crop management. Following major interventions are being under taken in the area.
● Integrated rice–fish–poultry farming.
● Integrated goat–vegetable–millet farming
● Integration of seaweed culture in coastal farming
Based on various intervention and results obtained, salient findings are as follows:
● Under Integration of rice–fish–poultry in rice fields 24,720 chicks were reared in 418 cages.
● Integration of goat rearing with rainfed crops was undertaken with 1000 goats and in 250 acres.
● In all 300 mushroom units and 400 vermi-composting units were installed.
- Under INM intervention Green manure crop was raised in 12 acre; Azolla and blue green algae was inoculated in 15 acres of area.
- Under IPM intervention botanical pesticide and bio pesticide were used in 14 acre and 11 acres.
- Laser operated land leveler was used for leveling 100 acres of area. This would substantially save water and also improve yield.
- In all 500 people were trained on processing and value addition.
- Aquatic weed control measures were initialed in 44 watersheds.
- Rice–fish–poultry farming resulted in an enhanced income of ₹ 8,267 from 200 m² area.
- The introduction of goat resulted in enhanced income of ₹ 1,610 per goat.
- From 1 ha, 100 tons of fresh seaweed bio-mass, resulting in 10 tons of dry sea weed or 2 tons of agar annually could be obtained and each harvest cycle takes 60 days.

(viii) The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned Budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to sanctioned up to March 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annamalai University, Tamilnadu</td>
<td>524.29</td>
<td>340.25</td>
<td>339.64</td>
<td>100</td>
</tr>
<tr>
<td>BMT, Kilukottai</td>
<td>51.72</td>
<td>31.09</td>
<td>36.29</td>
<td>117</td>
</tr>
<tr>
<td>Dhan Foundation, Madurai</td>
<td>62.82</td>
<td>16.35</td>
<td>22.38</td>
<td>137</td>
</tr>
<tr>
<td>TBRD, V.K.V.K, Tamil Nadu</td>
<td>93.49</td>
<td>51.99</td>
<td>62.31</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>732.32</td>
<td>439.68</td>
<td>460.62</td>
<td>105</td>
</tr>
</tbody>
</table>

33. Sub-project: Live with the Flood — An Approach for Sustainable Livelihood Security in District Dhemaji, AFPRO, Assam

(i) Project Code : 30026
(ii) Sanctioned date : 01.04.2009
Completion date : 30.06.2012
Budget (₹ in lakh) : 357.54
(iii) Consortia P.I. and Lead Institute : Mr Dhrubajit Sarma
(Name, designation and full address) Action for Food Production, New Delhi
0361-2527560, 2463373
afprodel@afpro.org, atfguwahati@gmail.com
(iv) Partners:
- North Eastern Regional Institute of Water and Land Management
- (NERI WALM), Tezpur, Assam
- Assam Agricultural University, Jorhat, Assam
- Rural Volunteers Centre (NGO), Dhemaji, Assam
(v) Website: www.afpro.org/naip/index.htm

(vi) Objectives:
The long-term objective of the project is to improve the rural livelihood security in Dhemaji district of Assam introducing integrated farming system approach in different flood related situations. The specific objectives are:
1. To improve the livelihood of the rural poor with efficient management of natural resources by enhancing productivity, profitability and diversity of farming system
2. To improve the delivery mechanism through skill development of primary stake holders on improved practices of agriculture, livestock, apiculture and post-harvest technology.
3. To develop institutional mechanism among the primary stake holders for adopting the approaches and establishing market linkages for income generation activity

(vii) Research Progress:
The project is undertaken in Dhimaji district of Assam. The area is characterized by annual flood that makes it inaccessible for 3 to 4 months in a year. The average production of paddy mustard and potato are 26.3, 5.6 and 38 q/ha respectively. The intervention recognizes three phases of flood prone area like pre flood situation, disaster preparedness and post flood operation. The other characteristic of the region are:
- 98% live in rural areas.
- 65% population depends on agriculture and paddy is the main crop.
- Annual flood is common due to impact of peak run off of Dihing, Debang and Lohit from Arunachal Pradesh.
- Heavy sand deposition makes farmer landless which causes people’s migration.

The following major activities were undertaken:
- The interventions on rice–fish–horticulture, livestock–fish–vegetables, dairy–fish–horticulture and sericulture–pig–horticulture was undertaken in an area of 65 ha (259 H/h), 92 ha (185 H/h), 26 ha (66 H/h) and 40 ha (80 H/h) respectively.
- Reclamation was taken up on nine fish ponds and Desilting of 2 ponds benefitted 18 HH/10 ha and 16 HH/10 ha respectively.
- Establishment of one broiler group enterprise using country made improved lamp (kerosene) in flood affected non-electrified Arney village.
- Improvement of cropping intensity as well as productivity of paddy through mechanized cultivation of Boro rice by conservation and management of surface water.
- Dissemination of information on agro-technologies through free mobile SMS services – a new look into Farmers’ Extension
- One common feed mill unit through Public–Private Partnership mode for production of high quality animal feed using locally available raw materials process.
- Replacement of long duration low yielding traditional ahu paddy with short duration HYV (IR-64, Luit, Dishang) to escape flood in flood prone areas.
The status of the utilization of the budget under this sub-project upto March 2010 is presented below:

**Status of utilization of budget under the sub-project upto March, 2010** *(₹ in lakh)*

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to sanctioned up to March 2010 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFPRO, Guwahati</td>
<td>223.7482</td>
<td>89.61</td>
<td>80.04</td>
<td>89</td>
</tr>
<tr>
<td>Rural Volunteer Center, Dhemaji</td>
<td>17.87</td>
<td>10.89</td>
<td>10.68</td>
<td>98</td>
</tr>
<tr>
<td>NERIWAHM Tezpur</td>
<td>10.74</td>
<td>4.48</td>
<td>3.82</td>
<td>85</td>
</tr>
<tr>
<td>AAU, Jorhat</td>
<td>38.30</td>
<td>18.01</td>
<td>19.62</td>
<td>109</td>
</tr>
<tr>
<td>IIHR, Bangalore</td>
<td>66.88</td>
<td>25.24</td>
<td>19.35</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>357.54</strong></td>
<td><strong>148.23</strong></td>
<td><strong>133.51</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

**Theme 7: Others**

**34. Sub-project:** Harmonizing Biodiversity Conservation and Agricultural Intensification through Integration of Plant, Animal and Fish Genetic Resources for Livelihood Security in Fragile Ecosystems.

(i) Project Code : 30036  
(ii) Sanctioned date : 01.04.2008  
Completion date : 31.03.2012  
Budget (₹ in lakh) : 889.85  
(iii) Consortia P.I. and Lead Institute : Dr S.K. Pareek  
Name, designation and full address : Principal Scientist  
National Bureau of Plant Genetic Resources  
Pusa Campus, New Delhi  
011-25843697, 25848686  
dir@nbpgr.ernet.in, skpareek@nbpgr.ernet.in  
(iv) Partners:  
- NBAGR, Karnal  
- NBFGR, Lucknow  
- CSKHPKV, Palampur  
- MPUA&T, Udaipur  
- ANGRAU, Hyderabad  
- APSBDB, Hyderabad  
- Seva Mandir, Udaipur  
(v) Website: Under construction  
(vi) Objectives:  
1. Assessment, documentation and valuation of on-farm agro-biodiversity for livelihood and food security.  
3. Development of an information management system to facilitate planned intervention.
for conservation, sustainable utilization of targeted species/population and enhanced market access.

4. Adding value to targeted species/population through technological interventions for enhancing rural livelihood security.

5. Capacity building in agro-biodiversity management for livelihood security.

(vii) Research Progress:

Project envisages enhancing livelihood security through harmonizing agrobiodiversity conservation and agrarian reforms through various “add value” options to locally available genetic resources. It is addressing to the bio diversity conservation in Udaipur, Chamba, and Adilabad representing three different eco systems.

The project was just initiated with funds released in February 2010. The following activities were undertaken during the period:

- Recruitment of the contractual positions under the project at Lead Consortium and partner institutions initiated and has been completed at majority of the centres.
- The clusters/villages tentatively identified for interventions are being finalized and farmers/households to be involved in the study for bioresource interventions and “add value” initiatives are being short-listed.
- Procurement of need-based chemicals, consumables and small field equipments completed at some centres. The processing has already started for the procurement of other required equipments.
- Variables for general baseline survey as envisaged in M&E tracking system for all three components, plant, animal and fish have been finalized.
- Launch Workshop of the project organized on 20 March, 2010 at NBPGR, New Delhi and was attended by all consortium partners including some farmer representatives from villages/clusters identified for interventions.
- The first CAC meeting was organized on 21 March, 2010. The proceedings of the CAC meeting have been circulated to all concerned for compliance and followup.
- A work plan for next six month has been finalized and is being uploaded in M&E tracking system online for future monitoring.

(viii) The status of the utilization of the budget under this subproject upto March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized upto March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBPGR, New Delhi</td>
<td>188.03</td>
<td>34.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANGRAU, Hyderabad</td>
<td>62.63</td>
<td>16.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APSBDB, Hyderabad</td>
<td>99.02</td>
<td>12.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSHPKVV, Palampur</td>
<td>154.16</td>
<td>50.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPUA&amp;T, Udaipur</td>
<td>151.21</td>
<td>46.42</td>
<td>28.14</td>
<td>61</td>
</tr>
<tr>
<td>NBAGR, Karnal</td>
<td>110.61</td>
<td>15.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBFRG, Lucknow</td>
<td>112.79</td>
<td>22.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewa Mandir, Udaipur</td>
<td>11.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>889.85</strong></td>
<td><strong>198.86</strong></td>
<td><strong>28.14</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>
35. Sub-project: Strategies to enhance adaptive capacity to climate change in vulnerable regions

(i) Project Code: 30034
(ii) Sanctioned date: 01.09.2009
Completion date: 31.03.2010
Budget (₹ in lakh): 1158.117
(iii) Consortia P.I. and Lead Institute: Dr S.K. Bandyopadhyay
(Name, designation and full address): Principal Scientist
Indian Agricultural Research Institute
New Delhi
011-25843375, 011-25846420
sanjoy.bandyopadhyay@gmail.com
(iv) Partners:
- Central Marine Fisheries Research Institute (CMFRI), Bombay, ICAR
- Orissa University of Agriculture and Technology (OUAT), Bhubaneswar, SAU
- Central Rice Research Institute (CRRI), ICAR Cuttack; with National level NGO partners.
(v) Website: Under Construction
(vi) Objectives:
1. Identification of current and future risks to livelihoods due to climatic variability.
2. Development of drought indices to facilitate Early Warning System (EWS) for drought and promoting its use in adaptation by farmers and other stakeholders.
3. Develop community based sustainable rural livelihoods strategies to minimize adverse climatic impact in droughts as well as floods prone vulnerable districts.
4. Capacity building of the stakeholders on strategies for alternate livelihoods strategies in future climate change.
(vii) Research Progress:
The project was just initiated with funds released in February 2010. The project is planned to address livelihood options for Mewat, Dhar, Ganjam and Raigarh. Mewat and Dhar represent drought prone area whereas Ganjam and Raigarh are flood prone areas.
The following activities have been reported:
- The work on development of baseline for climate change adaptation has been initiated with formulation of draft questionnaire format, and its field testing in few selected villages in the project areas. Collection of climatic data sets from different sources has been initiated. The gridded weather data for past 50 years were collated. The work on climate variables and analysis is in progress.
- The result on rainfall analysis for Madhyay Pradesh and Haryana region indicates a decrease in number of rainy days, and an overall increase in one-day rainfall events over major part of these states. The temperature analysis showed a clear trend in substantial increase in extreme maximum and minimum temperature over India.
The Mewat region receives about 551 mm average annual rainfall that ranges between 131 mm (at Nagina in 2002) and a maximum of 1,422 mm. The district remains dry restricting the crops to be grown in rainfed conditions.

The source of irrigation water in the district is mainly through groundwater. Due to increased pumping through shallow tube wells groundwater levels are falling and salinity problems accentuating. The G.W. water table fluctuation in the Nuh block ranged from 1 to 4 m in a year.

Pearl millet (bajra) or sorghum are the major kharif crops where as mustard or wheat are main rabi crops of the region. Average land holding is about 1.75 ha.

Contour of the Dhar district was digitised and block wise contour worked out.

In terms of extreme precipitation, there is a general increase in both 1-day and 5-day extremes (This is particularly pronounced in west central India and west coast).

36. Sub-project: Strategies for Sustainable Management of Degraded Coastal Land and Water for Enhancing Livelihood Security of the Farming Communities

(i) Project Code : 30035
(ii) Sanctioned date : 01.09.2009
Completion date : 31.03.2012
Budget (₹ in lakh) : 1063.503
(iii) Consortia P.I. and Lead Institute : Dr B.K. Bandyopadhyay
(Name, designation and full address) Central Soil Salinity Research Institute
03218-25524/255085, 09433249519
bimalbkb@gmail.com
burman.d@gmail.com
Regional Research Station (CSSRI, RRS), Canning Town
(iv) Partners:
- Ramkrishna Ashram Krishi Vigyan Kendra (RAKVK).
- Central Institute of Brackishwater Aquaculture, Kakdwip Research Centre, Kakdwip.
- Central Agricultural Research Institute (CARI), Port Blair.
- Bidhan Chandra Krishi Viswavidyalaya (BCKV), Mohanpur.
(v) Website: Under Construction
(vi) Objectives:
1. Sustainable enhancement of the productivity of degraded land and water resources of the coastal region through integrated approaches.
2. Enhancement of livelihood security and employment generation for the poor farming communities of the coastal region.
3. Empowerment through capacity building and skill development of stakeholders including men and women farmers.
(vii) Research Progress:
The project was just initiated with funds released in February 2010. The project is planned to address livelihood options for degraded land of Sundarbans (North and
South 24 Parganas) and N & M Andaman and S Andaman districts. The major characteristics of the area are as follows:

- Degraded soil and water quality.
- Extremely fragile Ecosystem.
- Drainage congestion in low-lying areas.
- Low cropping intensity and productivity.
- Lack of irrigation water.
- Agricultural productivity is very low.
- Population dominated by backward classes.
- High unemployment and poor livelihood security among the rural people.
- Huge migration of unskilled labour forces.
- Extremely fragile Ecosystem.
- High rainfall and climatic hazards.
- Degraded saline and tsunami affected lands.

However, following progress has been reported:

- Land shaping work has been completed in 5.4 ha area.
- Nutrient management has been introduced in 4.2 ha.
- Two units of composting (pits, shade, inputs, etc.) have been constructed.
- Six units of livestock/poultry health management have been created.
- Low cost farm implements were provided to 24 farmers.
- Establishment of model integrated farm has been completed at 2 locations.

(viii) The status of the utilization of the budget under this sub-project up to March 2010 is presented below:

<table>
<thead>
<tr>
<th>Lead centre/Partners</th>
<th>Total sanctioned budget</th>
<th>Fund released up to March 2010</th>
<th>Fund utilized up to March 2010</th>
<th>Fund utilized to released (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSSRI, RRS, Canning</td>
<td>243.551</td>
<td>42.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAKVK, Nimpith</td>
<td>219.282</td>
<td>25.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIBA, KRC, Kakdwip</td>
<td>249.732</td>
<td>42.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CARI, Portblair</td>
<td>205.902</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCKV, Mohanpur</td>
<td>145.035</td>
<td>42.56</td>
<td>5.83</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1063.503</strong></td>
<td><strong>153.23</strong></td>
<td><strong>5.83</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>