Annual Report
2012 - 2013

Bhoochetana Plus

Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development

Submitted to
Commissionerate of Agriculture, Government of Karnataka

ICRISAT
Science with a human face
International Crops Research Institute for the Semi-Arid Tropics

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International Crops Research Institute for the Semi-Arid Tropics
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Executive Summary

Following the success of science-led interventions of the Department of Agriculture (DoA), Government of Karnataka (GoK), such as Bhoochetana, through technical backstopping from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), GoK decided to set up a systems approach by bringing together eight CGIAR Centers and the Asian Vegetable Research Development Center (AVRDC) for "Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development". This initiative is referred to as "Bhoochetana Plus" and the Government of Karnataka has requested ICRISAT to bring together the CGIAR institutions working in India in a consortium led by ICRISAT to operationalize impact-oriented research for development to improve rural livelihoods.

The objectives of the Bhoochetana-GoK-CG initiative are to:

- Form an action-oriented consortium of CGIAR institutions to operationalize an action research scaling-up model in partnership with line departments in the State of Karnataka to increase crop yields by 20 per cent and farmers' income by 25% in four years;
- Establish pilot systems of four sites of learning, using a scale-up approach with an integrated participatory research for development method to benefit small and marginal farmers in irrigated and rainfed agriculture areas representing the revenue divisions in the state; and
- Develop capacity of the agriculture-related development agencies and researchers in the state for enhancing the impact of the development programs obtained through science-led support systems.

To achieve the objectives of this initiative, the main strategy is to achieve convergence of the CGIAR research institutions with GoK line departments, State Agricultural Universities (SAUs) and other academic institutions in the state. Therefore partnerships must be built, and synergies harnessed that will benefit farmers through convergence, capacity building, collective action and the consortium approach with a "must win" mindset. The approach is a missionary one for scaling-up improved technologies by adopting a science-led systems method. Four pilot benchmark sites were established in four revenue divisions to cover progressively an 80,000 hectare area of watersheds in each location, starting with 10,000 ha area during the first year increasing to 20 thousand, 40 thousand, and 80,000 ha by the fourth year.

The strategy also envisages building a public private partnership for marketing linkages as well as for improving delivery systems for knowledge and other products. Four benchmark sites namely, Tumkur, Chikmanglur, Raichur and Bijapur have been identified by adopting the participatory approach and visits by the CGIAR consortium team members. The criteria for selection of pilot sites took into consideration the characteristics of the area represented.

A cluster approach is used. The villages selected to form a cluster are a watershed and the required collective resources must be available in addition to accessibility. Consultation with state and district level line departments as well as discussions with farmers helped in

identifying constraints and their needs. Then CGIAR institutions, in consultation with line departments in the target districts, prepared detailed workplans and work started from the 2013 rainy season at pilot benchmark sites.

Background

Karnataka is the eighth largest state in India accounting for 5.13 per cent of the country's total population. Sixty-six per cent of the total population resides in rural areas whose primary occupation is agriculture and allied activities. Karnataka is one of the few states with the lowest proportion of area under irrigation. The state recognizes the rapidly increasing distress in the farm sector and the stagnation of net income flow in the farm sector. The average size of holdings is shrinking both due to demographic pressure and non-viability of farming among the lowest quartile of holdings. Recognizing these events, the state government is seized of this problem and has given a close look into policy to deal with it.

After recognizing the increasing distress in the farm sector, Government of Karnataka's Department of Agriculture (DoA) adopted certain science-led initiatives which has led to a turnaround in the arena of agricultural growth – achieving 5.9% during 2009-10 and 11.6% during 2010-11. The farmer-centric initiative, Bhoochetana, taken up by GoK has benefitted more than 4.3 million farm households during the 2012-13 rainy and post-rainy season covering an area of 3.72 million ha. The estimated benefits during the 2011-12 rainy season through Bhoochetana worked out to approximately US$ 130 million and US$ 104 million during 2012-13. In addition the Government of Karnataka has taken up a number of innovative measures for improving agricultural production and livelihood of farmers in the state during the last four years.

ICRISAT is closely working with the Government of Karnataka through various programs, such as the World Bank-aided Sujala-ICRISAT initiative for increasing productivity in the watersheds; Bhoochetana, a science-led consortium approach for increasing the productivity of rainfed agriculture in 30 districts; and also Suvarna Bhoomi Yojane (Horticulture), technically supported by an ICRISAT-led consortium for increasing productivity on their farms. The impact of Bhoochetana during the last four years has clearly demonstrated the power of a science-led development approach in the state as millions of farmers are benefiting from increased crop productivity ranging from 23 to 66% in different districts with various crops. As a result of the increased productivity, the state of Karnataka has recorded an impressive growth rate of above 5% during the last four years as compared to <2% during 2000-2008 before the launch of the Bhoochetana program.

Realizing high impacts in terms of increased agricultural productivity, increased gross value of agriculture production and improved livelihoods, the state government has requested the CGIAR institutions working in India to partner in a consortium led by ICRISAT to operationalize impact-oriented research for development in the state with the aim of improving rural livelihoods. The ICRISAT-led consortium of CG institutions took this challenge to establish a "proof of concept" for translating strategic research knowledge into improving livelihoods by scaling up a participatory research for development (PR4D) model.

Objectives

The specific objectives of this GoK-CGIAR initiative are to:

- Form action-oriented consortium of CGIAR institutions to operationalize an action research scaling-up model in partnership with line departments in the State of Karnataka to increase crop yields by 20 per cent and farmers' income by 25% in four years;
- Establish four sites of learning pilot systems, scaling-up approach integrated participatory research for development to benefit small and marginal farmers in irrigated and rainfed agriculture areas representing the revenue divisions in the state; and
- Develop capacity of the agriculture-related development agencies and the researchers in the state for enhancing impact of the development programs through science-led support systems.

Strategy

The main strategy for this initiative is to achieve *Convergence* of the CGIAR research institutions with the GoK's line departments and the State Agricultural Universities (SAUs) and other academic institutions in the state to undertake the Participatory Research for Development (PR4D) by adopting a systems approach to improve the livelihoods of small and marginal farmers in Karnataka.

The salient strategies for the program are as follows:

- The main strategy will be *to build partnerships* and *harness synergy* to benefit the farmers through a science-led development strategy built on the experiences gathered during the implementation of Bhoochetana in the state. Strengthening the consortium of CGIAR centers, development agencies and SAUs is a challenging task as it calls for *changing the mindset along with the systemic change.* The principle of convergence which was tried and found to be good during implementation of Bhoochetana will be institutionalized for successful implementation.
- This important strategy will follow the principle of consortium and link knowledge-generating institutions like CGIAR institutions and SAUs with development-oriented line departments and extension systems in the state to benefit the farmers.
- The convergence of the line departments as well as SAUs in this innovation will involve the institutionalization of the principle of *convergence* of different line departments together for agriculture related development programs in the state. This will be a long process as successful convergence in the true sense calls for changing the mindset of different actors for which external drivers and enabling factors are required.
- The strategy will be to internalize the "*must win/succeed mindset*" among the consortium partners.

- The approach will be a *missionary* one to harness the benefits of scientific developments and convert them in to increased investments and impacts through scaling-up for improving livelihoods.

- The *science-led systems approach* will ensure that we build the capacity of the farmers as well as other stakeholders to minimize the impacts of frequently occurring droughts as well as impacts of climate change to which small farmers, particularly rainfed farmers, are more vulnerable.

- The pilot sites will become "*Sites of Learning*" and the consortium will adopt the principle of "*Seeing is Believing"* and through *Networking* the farmers as well as Farmer Facilitators (FFs) will be empowered to achieve the desired results.

- ICRISAT will lead the consortium and strive hard to *develop the capacity* of all the partners to achieve the systemic change. The strategy will be to *"Scale up"* the innovations with the help of the concerned line departments in the state.

- The emphasis will be on strengthening C*apacity building* of human resources through training via networking of the institutions and building partnerships through an enabling environment.

- By adopting the principle of *4 Cs* we will address the consortium goal through *4 Es* i.e, *Efficiency, Economic gain, Equity and Environment protection,* which are the important pillars of sustainable intensification and inclusive development in the state. The emphasis will be on enhancing the efficiency of land and water resources along with the applied fertilizer nitrogen for sustainable intensification while maintaining the environment.

- The approach of the mission will be to strengthen backward and forward linkages to meet the 4 Es through 4 Cs by establishing seed villages, custom hire centers, and small-scale business development to undertake best-bet options for increasing agricultural productivity through sustainable intensification. The institutionalization of CBOs and service providers is envisaged for enhancing impact.

- Along with improving nutrient management the other best-bet practices such as rainwater management, pest management options and organic matter building practices will support long-term sustainability and enhance systems' productivity. The convergence of activities of the DoA, WDD and DOH will ensure increased water availability and increased efficiency which are the important drivers for sustainable intensification in the state.

- The most important constraint in dryland areas is the establishment of a good crop stand and availability of good quality seeds of high yielding, improved cultivars. The consortium will help in identifying farmer-preferred improved cultivars and hybrids of major crops such as sorghum, maize, rice, pigeonpea, chickpea and other crops by training the farmers and providing opportunities for the producers to add value in the villages.

- The ACS will be the Chair of the State Coordination Committee (SCC) which will include the decision makers from the different consortium partners including line departments

to pass on suitable government orders to all concerned mission staff. The SCC will meet regularly for ensuring smooth convergence and CD through the institutionalization process and to strengthen the consortium.

- The State Coordination Committee (SCC) will play a more active role in supporting and institutionalizing the concept of convergence and consortium for capacity development.

- The mission will have a *simple principle of accountability* and *delegation of authority* at different levels without diluting individual accountability to meet the mission goal collectively.

Operational Details

Four sites of learning will be established in the four selected pilot districts (Tumkur, Chikmagalur, Raichur and Bijapur) representing four revenue divisions (Bengaluru, Mysore, Raichur and Belgaum) as depicted in Figure 1.

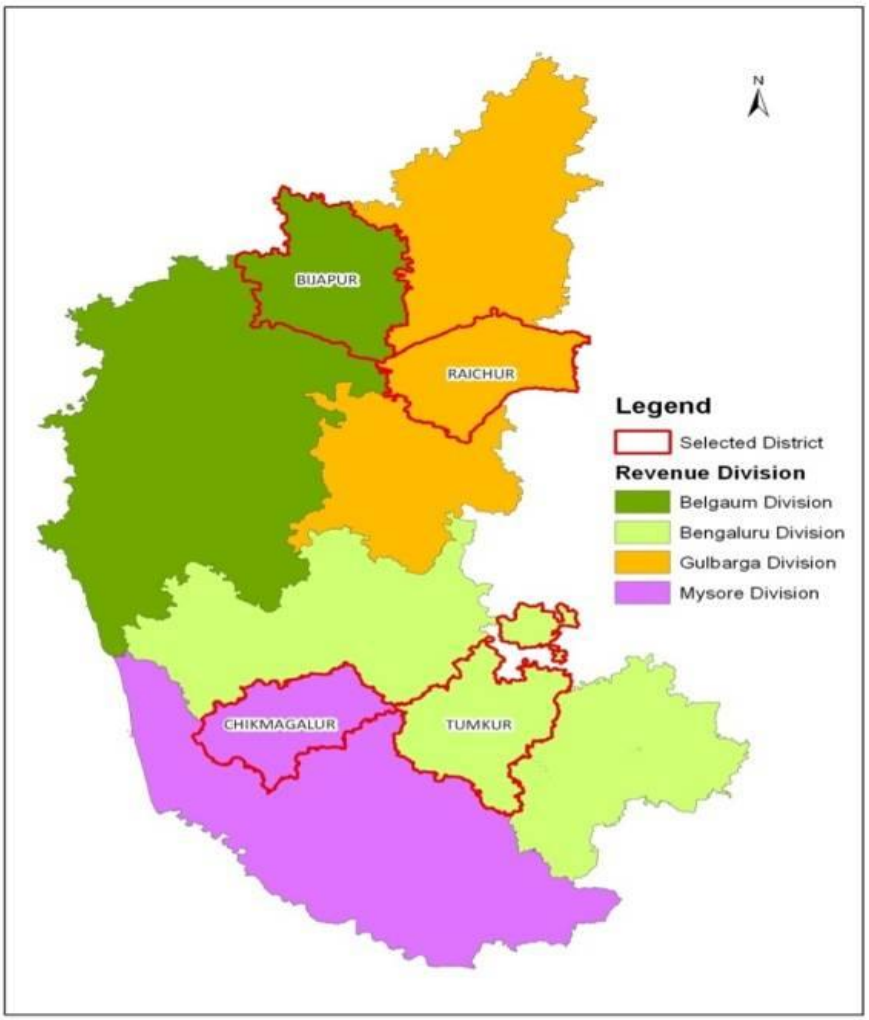

Figure 1. *Map of four benchmark districts from four revenue divisions of Karnataka*

- In the selected districts representative sites were identified using the various criteria worked out by the multi-disciplinary team of scientists and on-site visits undertaken by

CGIAR and line department representatives. The criteria included accessibility of the sites, its representativeness, good potential for impact to bridge the gaps, willingness of the partners to adopt new technologies, presence of suitable institutions and predisposition of actors for change.

Consortium Partners

The consortium includes international research organisations, national agricultural research system and line departments. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is leading the consortium. The consortium partners are listed below:

International Research Organizations

- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
- International Water Management Institute (IWMI)
- International Livestock Research Institute (ILRI)
- International Rice Research Institute (IRRI)
- International Maize and Wheat Improvement Center (CIMMYT)
- International Food Policy Research Institute (IFPRI)
- International Center for Agricultural Research in the Dry Areas (ICARDA)
- The World Agroforestry Center (ICRAF)
- The World Vegetable Center (AVRDC)

State Agricultural Universities

- University of Agricultural Sciences, Bengaluru, Dharwad, Raichur and Shimoga
- University of Horticultural Sciences, Bagalkot
- Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar

Line Departments

- Department of Agriculture (DoA)
- Watershed Development Department (WDD)
- Department of Animal Husbandry and Veterinary Services (DoAH)
- Department of Horticulture (DoH)
- Department of Water Resources
- Department of Rural Development and Panchayat Raj
- Karnataka State Seeds Corporation (KSSC)

MoU Signing on GoK-CGIAR Initiative

- The Memorandum of Understanding (MoU) between ICRISAT and the Government of Karnataka for operationalizing the GoK-CGIAR Initiative on “Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development in Karnataka” was signed on 6 June 2012, at Vidhana Soudha, Bengaluru in the presence of

Hon'ble Chief Minister, Mr. DV Sadananda Gowda and Hon'ble Agriculture Minister Mr. Umesh V Katti.

- Based on the success of Bhoochetana program in Karnataka, the Government of Karnataka requested ICRISAT to provide help in establishing learning sites in four revenue divisions of Karnataka, with the aim of improving rural livelihoods. To accomplish this task, seven centers of the CGIAR consortium (ICRISAT, IRRI, ILRI, IWMI, CIMMYT, IFPRI and ICARDA) have joined hands to provide technical support in establishing these sites.
- The Bhoochetana program is a farmer participatory model based on ICRISAT's scaling up of strategic on-station natural resource management research which has been scaled-up in Karnataka through the World Bank-supported Sujala-ICRISAT initiative that started with 13 watersheds in 2005 in six districts. This science-based productivity enhancement initiative is now the flagship project of the Government of Karnataka, benefiting three million smallholder farmers in rainfed areas over the last three years.
- The Bhoochetana program adopts the principles of consortium, convergence, capacity building and collective action in improving rural livelihoods by enhancing productivity of rainfed crops in 30 districts of the state.
- As part of the Bhoochetana program, an analysis of over 90,000 soil samples collected from farmers' fields from 30 districts was done by ICRISAT and the Department of Agriculture (DoA), leading to soil fertility maps and the publication of the "Soil Fertility Atlas". The Bhoochetana program has enabled farmers to harvest 23-66% more yields of various crops (maize, sorghum, pearl millet, finger millet, chickpea, pigeonpea, groundnut, green gram, soybean and vegetables, etc). Economic returns from the improved balanced nutrient management practices ranged from 1.2 to 14.6%. Starting 2012, the GoK has decided to cover 5 million hectares of rainfed area and to extend the project to irrigated crops, such as rice and sugarcane, covering 0.5 million hectares.

  - This convergence was sealed with the signing of a Memorandum of Understanding (MoU) between ICRISAT (representing the seven CGIAR Centers) and the Government of Karnataka.

- The MoU signing ceremony was attended by senior policy makers and officials of Government of Karnataka – Hon'ble Chief Minister Shri DV Sadananda Gowda, Agriculture Minister Mr Umesh V Katti, Chief Secretary Shri SV Ranganath, Additional Chief Secretary & Development Commissioner Mr Kaushik Mukherjee, Economic Advisor to Chief Minister Dr KV Raju, Principal Secretary (Agr.) Dr Subir Hari Singh, Director (Agri) Mr Bharat Lal Meena, Dr KV Sarvesh and others along with Director General Dr WD Dar, Drs. CLL Gowda, SP Wani, and K Krishnappa from ICRISAT.

- The MoU was signed by Director General William Dar and Mr. Kaushik Mukherjee, Additional Chief Secretary and Development Commissioner, Government of Karnataka in the presence of Chief Minister DV Sadananda Gowda and Agriculture Minister Mr. Umesh V Katti (Appendix 1).

- The MoU signing culminated in a series of discussions by the ICRISAT team led by Dr Suhas P Wani (Assistant Research Program Director and Principal Scientist-Watersheds) with the partner CGIAR Centers and Government of Karnataka officials.

- Under the MoU, the consortium will operationalize scaling-up models in partnership with GoK to demonstrate integrated participatory research in rainfed and irrigated areas. It will also build the capacity of agriculture-related institutions, state research organisations and universities (Bengaluru, Dharwad, Raichur and Shimoga) as well as University of Horticulture Sciences, Bagalkote along with different line departments of GoK in enhancing the impact of development programs through science-based support systems.

- In his remarks, Dr Dar pledged on behalf of all the CG centers to fulfill the expectations raised with regard to the success of Bhoochetana in the state and added that this new scaling-up initiative will be a boon to farmers and in turn to the state government. Prior to the MoU signing, on 24 March 2012, Dr. Dar led a delegation of seven CGIAR Consortium Centers to Bengaluru for a meeting with a high level committee of GoK officials.

- Dr Dar emphasized the need to address the agriculture sector's holistic development through an inclusive market-oriented development (IMOD) approach, having market-entry points, appropriate institutional mechanisms, developing climate resilient farming villages, and addressing the physical scarcity of water with appropriate policy

interventions and strengthened institutions for improving rural livelihoods. The urgent need to increase production, productivity and profits, and ensure sustainability was highlighted as important for climate-resilient agriculture. ICRISAT's strategic on-farm research combined with its comprehensive assessment of water for food and integrated water resource management approach has substantially reduced yield gaps and improved farmers' livelihoods in Karnataka.

- Hon'ble Chief Minister Shri Sadananda Gowda expressed his government's appreciation to ICRISAT for bringing together six CGIAR centers as partners for increasing the overall productivity of agriculture towards improving the livelihoods of smallholder farmers in the state. He pointed out that CGIAR institutions in India have developed many technologies that can help improve the country's agriculture sector. More farmers will benefit by scaling up the science-led and knowledge-based development of agriculture. To ensure that farmers are protected from frequent drought, steps must be taken to formulate a special action plan in collaboration with CGIAR.
- Chief Secretary SV Ranganath, on the other hand, expressed confidence that the initiative will be a game changer in the state in terms of benefiting smallholder farmers and achieving sustainable agricultural growth as well as a good learning experience for various departments in the state. He gave his assurances that GoK will provide all the necessary support for this initiative to make it successful.
- Agriculture Minister Mr. Umesh Katti, highlighted that through Bhoochetana, Karnataka has received recognition in the country, and that the Government of Karnataka is proud to be working with ICRISAT.

- Dr KV Raju, Economic Advisor to the Chief Minister, expressed his happiness and stated that this is a dream come true to bring maximum number of CG centers together to benefit the farmers and called the initiative a bold step forward in harnessing the strengths of the CGIAR Centers to benefit the state's smallholder farmers.
- Drs CLL Gowda and K Krishnappa also joined the ICRISAT delegation during the MoU signing and various discussions with GoK officials.

Signing of MoUs with CG Partners

By liaising with the concerned authorities of the eight international centers, a draft MoU was prepared and circulated to all the partners. With inputs from the partner side, the final MoUs were prepared and all the organizations' DGs have signed MoUs with ICRISAT for working in a consortium for the project "Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development". MoUs have been signed with the following organizations:

- International Water Management Institute (IWMI);
- International Livestock Research Institute (ILRI);
- International Rice Research Institute (IRRI);
- International Center for Agricultural Research in the Dry Areas (ICARDA);
- The World Vegetable Center (AVRDC).

Workshop Proceedings

GoK-CGIAR Initiative and Bhoochetana Phase II Planning Workshop – 21-22 July 2012, at ICRISAT, Patancheru, Andhra Pradesh, India

Inaugural Session

Based on the excellent progress of Bhoochetana Phase I, the Government of Karnataka (GoK), in a bid to strengthen the initiative, held a workshop on 21-22 July at ICRISAT-Patancheru to discuss Bhoochetana Phase II (Strengthening Bhoochetana – a sustainable agriculture mission for improved livelihoods in Karnataka) and the GoK-CGIAR initiative (Improving rural livelihoods through innovative scaling-up of science-led participatory research for development). Since 2009, ICRISAT has been implementing Bhoochetana Phase I in 30 districts of Karnataka under the title "Bridging yield gaps through science-led interventions for sustainable use of natural resources in Karnataka". The initiative which will end in March 2013, has been instrumental in increasing agricultural production (35-66%) as well as in enhancing farmers' gross income through science-based interventions covering three million hectares during the 2011 rainy season.

Figure 2. *Inaugural Session*

In his address at the workshop's opening session, Director General William Dar highlighted the achievements of Bhoochetana and ICRISAT's journey with the GoK in demonstrating how a science-led approach not only increases productivity and income, but also makes agriculture a profitable venture for smallholder farming communities. He also emphasized the principles of convergence, consortium, capacity building and collective action to enable a science-led development approach to benefit resource-poor farmers.

Dr SP Wani welcomed the participants and special guests, which included Dr SA Patil, Chairman, Karnataka Krishi Mission; Dr KV Raju, Economic Advisor to the Chief Minister of Karnataka; Mr Bharat Lal Meena, Principal Secretary, Agriculture; and Dr KV Sarvesh, Director, Agriculture.

Figure 3. *Dr Suhas P Wani delivering the objectives of the workshop*

The workshop participants discussed and planned the GoK-CGIAR initiative and Bhoochetana Phase II activities to operationalize the programs soon. The participants worked in groups to map out strategies, institutional linkages, strengthening technologies, institutional arrangements, innovative approaches and input and delivery systems. The workshop was organized by a team led by Dr SP Wani, with Drs K Krishnappa and KH Anantha, along with Mr S Raghavendra Rao and Mr KNV Satyanarayana.

Technical Session

The Technical Session II witnessed presentations by leaders of 4 groups who deliberated in detail during the previous session on GoK-CGIAR initiative work plans viz. – Group-1: Strategies for enhancement of productivity and improving rural livelihoods; Group-2: Institutional linkages to operationalize the initiative; Group-3: Strengthening technology & input delivery systems; and Group-4: Implementation strategies for operationalization of the program – milestones and timelines.

The **Group-1** leader shared that the major interventions for enhancement of productivity and improving rural livelihoods will be with respect to soil, water, crops, livestock and horticulture. The major technological strategies are soil test-based fertilizer management, mechanization, water conservation and micro irrigation. As regards field crops, there is scope to introduce hybrid pigeonpea, crop diversification particularly into cluster bean. To

meet shortage of improved seeds, seed production will be encouraged through seed village concept and developing special seed zones. For awareness building among farmers/stakeholders, season wise trainings will be conducted on major crops including the post-harvest strategies. As regards post-harvest management, there is need for developing community storage facilities and extending window of procurement. Group approach will be adopted for value addition and marketing. Literature will be developed for capacity building programs. To boost livestock, fodder production will be taken care of; other activities like fisheries, backyard poultry, piglets rearing, etc, will be promoted. As regards horticultural activities, there is potential to promote floriculture, coconut-based farming, custard apple in drylands, and development of arid land horticulture, such as cultivation of lime and sweet lime.

The **Group-2** leader talked of institutional linkages to operationalize the initiative. There were participants in the group including almost all participating institutions. The leader clarified roles of different organizations. Implementation will be the responsibility of GoK agriculture department, all GoK line departments, DES, KSSC. Technology identification is the responsibility of ICRISAT and other CGIAR centers, state universities of agriculture and horticulture, KSNMDC, and KAPPEC. Coordination is the responsibility of ICRISAT, GoK agriculture department, and all GoK line departments. Policy issue is the responsibility of ICRISAT, GoK Agriculture Department, all GoK line departments and KSSC. ICRISAT and other CGIAR centers will be responsible for monitoring, evaluation and documentation. Impact assessment will be done by ICRISAT and other CGIAR centers, GoK agriculture department, all GoK line departments and DES. Capacity building will be the responsibility of ICRISAT and other CGIAR centers, state universities of agriculture and horticulture, GoK Agriculture Department, and all GoK line departments. For effective coordination, there is need for state, district and taluk level coordination committees. State level committee will be responsible for planning, monitoring and review; district level for monitoring and coordination; while taluk level will be responsible for implementation, documentation and reporting. There is need for sector wise separate budget allocation and a nodal officer at each level and sector.

Figure 4. *Participants holding discussions in separate groups as a part of group activity*

Group-3 talked about the current status. There is poor adoption of soil and water conservation methods, crop diversification, use of organic manures, recommended fertilizers, use of micronutrients, as well as a lack of quality seeds. The real constraints to productivity and livelihood improvement are lack of poor purchasing power of farmers, lack of diversification, soil infertility, low availability of inputs, lack of storage facilities, risk due to weather and institutional arrangements. The strategies to tackle the constraints could be capacity building of stakeholders, integrated nutrient management (INM), PPP, suitable cultivars, custom hire, soil & water conservation, weather forecast, irrigation system and ICT. The operationalization will be through seed village program, custom hire, cooperatives for inputs distribution and capacity building.

The G**roup-4** leader said that as regards the implementation strategies for operationalization of the program there is a need for consortium and team building and a combined format for the baseline. With regard to resource use efficiency, the CGIAR partners will address the following issues and ensure implementation of science-led technologies:

ICRISAT: Assessing the availability, quality and potential for waste water use in fodder; cost effective treatment of waste water; enhancing water use efficiency through increased greenwater use efficiency; evaluating the integrated watershed research management approach; and crop diversification and productivity enhancement through input use efficiency.

CIMMYT: Refine conservation agriculture machinery, climate resilient options through integrating conservation agriculture management and DSS for site-specific nutrient

management. It will make sure that two local manufacturers start producing conservation agriculture machinery; and SMS services for crop management.

IWMI: Water management using drip fertilization, and weather-based cropping.

IRRI: Responsible for direct-seeded rice, and weed management. It will also conduct trials for dry- and wet-seeded rice.

IFPRI: Special interventions and strategies for connecting interventions and innovations; and linking small farmers with markets. IFPRI will identify constraints for scaling up, frame policy guidelines and pilot test innovative policies and guidelines.

ICARDA: In charge of lentil varieties.

Crop-livestock interventions will be taken care of by ILRI, CIMMYT and IFPRI. Capacity building will cut across all the centers. ICRISAT will ensure coordination, monitoring, documentation & learning through success stories and impact assessment.

During the **discussion session**, the following points were raised:

- The program should not be supply driven;
- Edible Cactus may be added in fodder interventions;
- Questions were also raised on how to isolate the impacts by different institutions and industry;
- Dr Wani also clarified that there is no need to position all interventions at all four sites, but only where required. Not necessary that there is always demand for any particular technology, but if there is potential, that one may be promoted. He added that the philosophy is to create sites of learning. At this stage, it is like an innovation and a cautious approach must be taken;
- Dr Dharamarajan shared that 1000 ha at each site may be too small an area;
- There is need for specific roles for universities and departments;
- Working models should be shown atleast in 3-4 sites in a district with different conditions;
- There should be prioritization of interventions to take to farmers;
- Dr Raju urged that mapping of activities be done; address RTI issues e.g. who benefits, how, why, etc. Also, what are the expected outcomes – what is going to be measured? He raised questions regarding Group-4 on why they are silent on before and after; and Group-1 is silent on livelihoods. He asked about guarantee levels and group leaders responded as follows: Group-1=90%, Group-2=90%, Group-3=70%, and Group-4=90%-95%. He urged CGIAR partners to show how low hanging fruits can be harvested in the first six months.

Technical Session IV included presentations by leaders of the 4 groups who had, during the previous session, discussed in detail the GoK-ICRISAT Bhoochetana II Work Plans viz. – Group-1 (Institutional arrangements for operationalizing Bhoochetana Phase II); Group-2 (Strengthening technology & input delivery systems); Group-3 (Innovative approaches for

CB and dissemination); and Group-4 (Implementation strategies for operationalizing Bhoochetana II).

The **Group-1** leader focused on operationalization of the Bhoochetana II program through strong institutional linkages. The group proposed institutional arrangement for effective monitoring of the program comprising of State level committee for finalizing policy and being responsible for reviewing the progress. There should be a committee involving ICRISAT technicians who should conduct a bi-monthly workshop which must be attended by all partners compulsorily. In addition to the bi-monthly meeting the committee needs to monitor project implementation fortnightly at taluk level. Institutional roles are defined by the group viz, i) DOA - to lead the consortium; ii) WDD- implementation of Bhoochetana activities in current IWMP areas; iii) KSSC - seed producers to adopt BC, as well as showcasing & popularising new varieties; iv) KSNDMC - to coordinate climate change studies; v) ICRISAT - to give technical backstopping and guidance with regard to good crop management strategies; vi) UHS, UAS & IIHR - to supplement the necessary information regarding crop cultivation. For capacity building of all the stakeholders, it is proposed that ICRISAT/UAS/UHS/IIHR should provide technical expertise on different improved management strategies. The group felt that there is need for intensified training to farmer facilitators, strengthening of FFS concept and existing training, nominating a nodal scientist for each taluk and season-wise SIRD training. Regarding institutional arrangements for inputs, it is suggested to give incentives to co-operative societies, focusing on strong market linkages and formation of commodity groups.

The **Group-2** leader discussed the major constraints in crop production, which are erratic rainfall pattern, low adoption of soil and water conservation practices, non-availability of suitable cultivars, low adoption of proper seed treatment, decrease in use of organic manures and micronutrients, lack of capacity building at farmer's level, indiscriminate use of fertilizers and pesticides leading to high cost of cultivation. Apart from these, the group felt that non-availability of sufficient quantity of quality seeds in time, lack of sufficient storage and agro-processing facility at village level and lack of remunerative market prices for crop produce are also crucial constraints that farmers face. Therefore, a strategy was proposed for strengthening technology & inputs delivery systems comprised of ensuring timely availability of quality inputs, motivating farmers for appropriate adoption of soil & water conservation practices with active involvement of farmer facilitators. Similarly, the group also felt that there is need for effective and strong weather forecasting facility for the farming community. Thus, to meet shortage of improved seeds, seed production will be encouraged through the seed village concept and developing special seed zones. Strengthening of seed treatment campaigns on larger scale should be promoted with the involvement of input agencies. More publicity to the program should be given for creating awareness to the farmers with the help of fertility maps and yield data and providing technical knowledge regarding proper dosage of major as well as micronutrients. More emphasis should be laid on providing timely credit facility to enable farmers to purchase the necessary inputs, application of organic manures such as FYM, vermicompost, city compost, green manure, biofertilizers, etc., and on providing incentives for use of green manure seeds. More thrust should be put on adoption of integrated nutrient management (INM), integrated pest management (IPM) and integrated watershed management (IWM) practices. For awareness building among farmers/stakeholders, season-wise trainings need

to be conducted on major crops including the post-harvest strategies. As regards post-harvest management, there is need for developing community storage facilities (godowns), extending window of procurement and providing better market linkages to agriculture produce.

Group-3 discussed in detail the present status and operationalization of the existing dissemination system comprising one farmer facilitator for every 500 ha area; district and taluk level 2-day workshop for department staff; RSK level trainings for farmers, village level trainings to FFs & lead farmers; wall writing, information brochures, field days, radio & TV programs, newspapers, street play campaigns, etc. The group discussed in detail and proposed some innovative approaches to enhance and strengthen the activities under the Bhoochetana II program. The suggestions focused on some innovative approaches for capacity building comprising satellite training program to FFs, traveling seminar, etc. As regards dissemination, the strategies proposed are: i) compendium of success stories; ii) video documentaries; iii) farmers' innovations: documentation and popularization; iv) voice KVK (vKVK): sending voice messages to FFs & lead farmers; v) audio conferencing using polycom; vi) tablet-based agricultural information management system (Agricultural Encyclopedia with FFs); vii) TV/radio phone-in program; and viii) mobile information unit (one per district).

The **Group-4** leader pointed out that as regards implementation strategies for operationalization of the Bhoochetana program, there is need for a strong consortium approach and team building exercise with continuous and strong motivation from the top level. The group discussed constraints and approaches in implementation of the second phase of the Bhoochetana program. As regards training and empowerment of farmer facilitators, curriculum should be finalized by DoA, ICRISAT and SAUs. Regarding input distribution network widening, JDA-Input to take lead involving RSKs, co-operative societies (VSSN), cluster villages and link it up with dealers' network (licensed ones), milk society, retail outlets. For effective monitoring of the quality of inputs, it is proposed to develop an integrated online portal for inputs supply, distribution and sale; link up to input suppliers network, refine the process of procurement (MD, KSSC) and develop network of storages and logistics on PPP mode (MD, KSSC). To ensure timely availability of cultivars and crops, a mechanism is to be developed to produce seeds of contingent crops by SAUs, KSSC, and KOF with a tentative estimate supplied by DoA. Similarly, it is suggested that SAUs should develop more adaptable and improved varieties for the farmers to boost crop productivity and develop a perspective plan for 5 years for cultivars and crops.

Plenary Session

The plenary session was chaired by Mr Bharat Lal Meena, Principal Secretary, Dept. of Agriculture, GoK. In this session, a brief review of the first day's deliberations was presented by Dr KH Anantha. While reviewing the day-long deliberations, the presentation highlighted critical points for discussion that have come up during the various groups' discussion on the GoK-CGIAR initiative. The issue of improved livelihoods, documentation of success stories, role clarity of different stakeholders and timelines of deliverables were raised for further deliberation. The issue of climate change and mechanisms to deal with it, as well as specific deliverables along with monthly/bi-monthly timelines were also highlighted.

Dr KV Raju directed the line department staff to identify constraints, lessons learned and possible solutions with respect to four major aspects viz., institutional, delivery system, innovative approaches, and implementation strategies. He also stressed on undertaking impact assessment of Bhoochetana Phase I and asked concerned officials to prepare a content list taking into account all the aspects of impact assessment. Further, he highlighted four major points that are critical for the further stage of GoK-CGIAR initiative, namely, area concern, harnessing low hanging fruits for immediate implementation, role clarity of different partners including line departments, and preparing a part chart indicating timelines with activities. Dr KV Sarvesh raised a concern about the innovativeness in this initiative compared to conventional programs. Dr Michael Blumel also raised the issue of role clarity at least among CGIAR centers to move forward.

Figure 5. *Dr. KV Raju delivering lessons learned*

Mr Bharat Lal Meena opined that the size of intervention can be small but as we move along the size of the intervention can be expanded based on the learnings and experiences during the first year. Therefore, mid-course corrections can be done and area also can be expanded during the project period. He further said that tangible benefits are expected from this initiative for which season-wise or year-wise plan and evaluation mechanisms need to be developed so that corrective measures can be taken during the course of the project. Mechanism for service delivery system at various levels and documentation is also important components to meet the intended goal. He reminded CGIAR centers that the expectations from this initiative is high across the country and to fulfill these expectations we need to work in partnership mode rather than consultancy mode. He stressed that this initiative should become a learning example for others to learn and adopt for development. He also stressed the dynamic review, evaluation and mechanism system. He promised all possible help from the GoK side to implement the program in an effective way.

Figure 6. *ICRISAT laboratory visit by GOK officials*

Dr Sarvesh stressed the need to bring about change in the mindset of farmers in order to achieve impact for which he suggested the requirements of farmers be noted and implementation of an integrated approach which is lacking in the first phase of Bhoochetana. He also suggested to include all major sectors and to develop an integrated farming system so as to increase the income levels of farmers. This issue can be addressed in Bhoochetana Phase II so that impact of this program will be high. He has suggested a number of innovative measures to strengthen extension services to reach out to large numbers of farmers in Bhoochetana Phase II along with necessary trainings for department staff for knowledge empowerment. Quality checking of input delivery did not take place during Bhoochetana Phase I and hence it should be closely monitored during this phase to track use of different inputs and stressing on online monitoring system and also highlighted the systematic execution of input delivery system to bring systemic change in input delivery mechanism. The ICT can be used to disseminate the information related to soil, crop and other agronomic aspects to farmers. He urged that the productivity data should reflect in land records so that actual impact of any activities on enhancing productivity can be followed. On value addition, he suggested piloting poultry industries in maize growing areas so that market linkage can be established which helps farmers to earn more income. On GoK-CGIAR initiative, Dr Sarvesh raised concern over role clarity and size of interventions in the four pilot districts.

The meeting ended with a vote of thanks by Dr K Krishnappa.

GoK-CGIAR Initiative and Bhoochetana Phase II Planning Workshop

21–22 July 2012
CF Bentley Conference Centre (212 Bldg)
ICRISAT, Patancheru, India

ICRISAT
Science with a human face

Proceedings of Gok-CGIAR Initiative for Improving Rural Livelihoods in Karnataka – 3-4 January 2013, Department of Agriculture, Bengaluru

Day 1: 3 January, 2013

The GoK-CGIAR initiative on improving rural livelihoods in Karnataka is a first of its kind in the country designed to improve the living standard of the rural population and is based on holistic science-led development. With the signing of the MoU with Government of Karnataka on 6 June 2012, the ICRISAT-led CGIAR consortium was committed to provide technical backstopping to relevant line departments in the state. With this backdrop, a two-day planning workshop was organized at the Department of Agriculture, Bengaluru to kickstart the project in the designated four revenue divisions (Mysore, Bangalore, Belgaum and Gulbarga) in four districts (Chikmagalur, Tumkur, Bijapur and Raichur) of Karnataka. The workshop was organized during 3-4 January 2013 to discuss action-oriented research in partnership with line departments with specific objectives to increase crop yields by 20% and farmers' incomes by 25% in four years by establishing four sites of learning, scaling-up approach, integrating participatory research for development to benefit small and marginal farmers in irrigated and rainfed agriculture areas in the state.

The meeting was attended by dignitaries from the Government of Karnataka, specifically Mr Kaushik Mukherjee, IAS (Additional Chief Secretary & Development Commissioner); Mr Bharat Lal Meena, IAS (Principal Secretary-Agriculture); Mr V Chandrasekhar, IAS (Commissioner of Agriculture); Dr KV Raju (Economic Advisor to Hon'ble Chief Minister of Karnataka); Dr SA Patil (Chairman, Karnataka Krishi Mission); Dr Sarvesh (Director of Agriculture); Development Commissioners and Chief Executive Officers of Zilla Parishads of the four pilot project districts, and Additional Directors of Agriculture, JDAs, Joint Directors of line departments like Horticulture, Watershed Development Department, Sericulture, and senior scientists from the University of Agricultural Sciences (UAS). The Consultative Group on International Agricultural Research (CGIAR) institutions was led by Dr SP Wani (ICRISAT) with other senior scientists viz. Drs Amare Haileslassie (ILRI/ICRISAT), Ramana Reddy (ILRI), Sanjay Tomar (ICRAF), Avinash Kishore (IFPRI), G Senthil Kumar (IFPRI), JK Ladha (IRRI), ML Jat (CIMMYT), Ramakrishna Nair (AVRDC), Duraiswamy and Krishna Reddy (IWMI) and a team of ICRISAT scientists.

During the Inaugural Session, Dr Sarvesh welcomed the participants and oriented the participants on the background of the initiative. Dr Suhas Wani gave a briefing on the overview, genesis of the workshop and objectives for this noble platform to increase production by 20% and incomes by 25% over the next 4 years. He highlighted the constraints for improving livelihoods in these four districts which were gathered by the consortium team during earlier field visit to these districts. He stressed on collective participation in project implementation and highlighted the Bhoochetana program which achieved convergence of good practices, different schemes and showcased collective efforts from DoA staff. Dr SA Patil advised researchers on evolving technologies to improve regular income of rural population through participatory research for development He advised to prioritize the constraints to assure regular income flow to farmers on a monthly basis. He gave ideas on how to prioritize activities which are useful for earning regular income. In his opinion, there should be a shift for opportunities like value addition, and agribusiness activities. He also emphasized public private partnership through convergence of

programs/schemes. In the wake of varying climate risks, he spoke on the development of climate resilient crops. In fact, he put stress on adopting soil and water conservation technologies for ensuring crop yield and reducing environmental risks. In his presidential address, Mr Kasuhik Mukherjee urged to focus on paradigm shift to adopt technologies and mechanism for operationalization. Mr Bharat Lal Meena emphasized on bringing in synergy among the activities of different line departments to achieve the desired impact. He further opined that this partnership involves administrative machinery at the top engaging with different departments and scientists from National Agricultural Research System (NARS) and international organizations leading to a useful mix of knowledge for strengthening rural livelihoods. He said that the real challenge lies in scaling up and transforming technologies and experiences. Dr KV Raju spoke about meticulous planning for a definite outcome by applying high science tools, such as mapping of resources and their developments with different thematic layer GIS mapping. He opined that this initiative will be a success with cooperation from district administrators. He outlined the road map for upscaling the project activities to the entire state in a phased manner like Bhoochetana. He appreciated the support from Hon'ble Chief Minister, Chief Secretary, Additional Chief Secretary and Development Commissioner and all department officials and also sought support from CG centers. Dr Raju ensured the GoK' s full support for this noble initiative.

Figure 7. *Inaugural Session*

During the technical session on the first day, district-wise presentations on the constraints were made by Dr ML Jat, CIMMYT. Based on field visit observations, he listed out the constraints in Tumkur district viz., socio-economic, technological and institutional aspects, etc. There was a discussion after this presentation, in which different district level officers, scientists and NGO representatives endorsed the identified constraints and also added to the existing list along with suggesting solutions based on their experiences. These constraints have varying dimensions cutting across different sectors. The participants of the initial presentation identified important constraints, which are as follows:

- Poor soil fertility;
- Uncertain and low rainfall;
- Lack of knowledge among farmers;
- Labor scarcity;
- Low coconut and other crop yields;

- Pest problems in groundnut/coconut;
- Fodder scarcity;
- Large extent of fallow lands.

Dr Wani suggested that all participants should be divided into 4 groups and deliberate on different important activities in Tumkur district like – (1) Watershed management and rainfed agriculture; (2) Irrigated agriculture; (3) Livelihood opportunities; and (4) Institutions, policies and infrastructure.

After long deliberations **Group-1 on "Watershed Management and Rainfed Agriculture**" suggested the following:

- Baseline study to see the ongoing watershed activities and fill in the gaps;
- To rejuvenate the existing water bodies by desiltation and reviving feeder canals;
- Application of nutrient and carbon rich tank silt to farm fields;
- Integrated watershed management targeted at *in-situ* and runoff water harvesting through low-cost effective methods such as nullah plugging, mulching, check dams, farm ponds, recharge pits, etc, in the target sites were suggested as effective water management strategy to take care of low and erratic rainfall in the districts;
- Low cropping intensity to be addressed through suggested intercropping with greengram, horsegram, and chickpea in coconut plantations;
- Short duration varieties of groundnut and finger millet were suggested to cope with delayed rains and late crop sowing. Castor, horsegram, red gram were suggested as next best alternative crops to groundnut in low and very late rainfall scenario. Integrated nutrient management (INM) in groundnut and coconut was suggested to take care of existing pest problems like mites, black hairy caterpillar, and rats which are causing significant yield losses currently. Site specific diversification to vegetables was also recommended to improve farm livelihoods;
- Effective marketing of region specific crop varieties like red tamarind and Chandrahalsu variety to fetch good prices for farmers and improve livelihoods;
- Improved grass (Napier, multicut bajra/jowar) planting on farm bunds and fallow lands (which are quite large in the district);
- Planting of fodder trees (*Sesbania, Leucaenia, Milia dube*, drumsticks) on farm boundaries and fallow lands to overcome fodder scarcity. Dryland horticulture (pomegranate, guava, *amla*) was recommended for private fallow lands;
- Value addition, coconut and groundnut oil plant processing on community basis were suggested through organized farmers groups;
- Good scope exists for coconut rope/mat making and handicrafts to improve farm livelihoods;
- Introduction of hand decorticator and implements to remove coconut shells.

Timelines were also prepared for each activity: soil and water issues (Y1-4); crop issues (Y1-4); fodder and fallows (Y2-4); horticulture (Y2-4); value addition (Y2-4); mechanization (Y1-4) and capacity building (Y1-4). However, Dr Wani suggested coming up with detailed timelines for Year 1 which was taken care of and modified during final district level planning.

Group-2 on "Irrigated Agriculture"identified that Tumkur district primarily has coconut cultivation in irrigated area. Other than this, rice, maize, horticulture and vegetable crops

are also grown in irrigated areas. There are more than 2 lakh borewells but water yields are poor. There is less scope for enhancing irrigation potential, but water productivity could be enhanced. Cropping intensity is very low at 111% and large areas come under fallow. Water scarcity, labor shortage, pest and poor economic returns are the constraints identified by the group and need to be addressed. Dr Jat mentioned that there is plenty of scope for expanding maize cultivation.

- The group pointed out certain potential interventions in the irrigated agriculture in the district;
- Good scope for intercropping in coconut-based system with diverse crops like turmeric, ginger, nutmeg, tapioca, fodder grass, legumes, cocoa, flowers, vegetables, banana. It will increase the total cropping intensity and resource use efficiency;
- In cereal-based system, crop intensification may be improved by taking two crops, for example maize-legumes and rice-legumes;
- Short duration suitable crop varieties e.g. mung bean could be grown in *kharif* followed by suitable crop (e.g. vegetable soybean) during *rabi* season. It was discussed that conservation agriculture-based crop establishment (direct seeded rice, zero tillage, etc) could further be taken up in the irrigated areas of Tumkur.

Figure 8. *Technical session and group discussions*

Moreover, crop varieties suitable as animal fodder need to be promoted. Drip and sprinkler irrigation for coconut/horticultural and high value cropping systems could be promoted for saving fresh water and for enhancing water use efficiency. Landform treatment and land leveling is an important intervention to improve water use efficiency. Seed-cum-ferti drill and planters for multi crops/zero till planters, power sprayers and other agriculture machinery need to be introduced to support resource use efficiency. Furthermore various agronomic and management interventions, such as balance nutrients management, INM, weed management, integrated pest management (IPM), and integrated disease management (IDM) has to be implemented for enhancing crop production for maintaining sustainability and resource use efficiency. The group also deliberated on the responsibility aspects for execution of action plan as under:

- Baseline characterization: Entire project team;
- ICRISAT: Overall coordination specially on behalf of CG centers; technical, capacity building, livelihood options and inputs on ICRISAT mandated crops and rainfed cropping systems;
- IRRI: Direct seeding, weed management and good management practices for rice;
- IWMI: Water management;
- CIMMYT: Conservation agriculture, cropping system optimization, capacity building on CA, maize and maize-based system;
- AVRDC: Short duration legume/vegetables;
- ILRI: Fodder quality, crop-livestock interactions;
- ICRAF: Agroforestry and fodder trees on farm bunds to rehabilitate degraded lands;
- KVKs: Technology exchange, training;
- SAUs: Providing knowledge/technology support including capacity building;
- State departments: Overall leadership in the implementation of the project, access to inputs and recommendations for policy change.

Group 3 deliberated on "Livelihood Opportunities" to be explored in the target regions in the district. For existing livelihood options viz, dairy, sheep & goat rearing, and sericulture, gaps were identified and activities were suggested by taking into consideration all the existing schemes with concerned departments – promotion of mobile artificial insemination units; disease diagnostic center; fodder development program on waste and fallow land with reuse of waste water; stall feeding for sheep, goats and other small ruminants. A strong need was felt for strengthening as well as increasing collection centers for vegetables and milk as well as cold storage facility for boosting these livelihood activities in Tumkur district. Apart from this good scope exists for other income generating activities viz, seed bank, vermicomposting, primary processing and value addition, apiculture, fisheries, feed cakes/blocks, vocational training. Similarly, establishment of custom hiring center was stressed and realized as an essential activity for reducing labor scarcity and their cost of cultivation. Emphasis was given to reducing post-harvest losses and establishing value addition and agro processing units under public-private-partnership (PPP) mode with market linkages in order to increase profitability. For Tumkur district, establishment of desiccated coconut powder unit, coir pith industries for coir boards, and virgin oil production firm were some of the interventions identified.

Group 4 on "Institutions, Policies and Infrastructure", deliberated on possible interventions and institutional arrangements against each of the constraints identified, as lack of knowledge is a big challenge to livelihood improvement in the district.

- Capacity building of farmers and all other stakeholders is the most required intervention. For increasing efficiency of resources custom hire service centers must be established at the GP level, farm machineries supplied at subsidized rates, and a group approach encouraged for sharing of labor for field operations;
- For enhancing the market-related capacity of farmers, the group felt the need to establish a rural godown at GP level, cold chain facilities for perishable products, agro processing units, a primary processing center, facilities for transportation to markets, procure and provide minimum support price (MSP) and support for other value addition activities;
- Lack of finance is a big challenge for rural smallholders which has to be tackled through timely access to finance with zero interest for SF & MF, community microfinance & strengthening of SHGs, and direct cash transfer;
- Low crop productivity issues to be addressed by establishing biocontrol laboratories for production of bio-control agents as components of INM/IPM;
- Based on Bhoochetana experience, there is a need to put in place an early warning system for pest and disease management so as to avoid crop losses;
- Convergence of different schemes is essential with formation of Steering/Coordination committees to address day-to-day issues through effective monitoring and evaluation.

Figure 9. *Group discussions*

Day 2: 4 January, 2013

On the 2nd day, four pilot location teams were formed to prepare the broad work plan. The work plan for each of the locations included: pilot project location profile, major constraints, possible interventions, prioritizing activities, roles and responsibilities of partners, time line schedule of work and way forward.

District-wise Group Planning Deliberations and Action Points

Tumkur (see Appendix 2)

All issues in Tumkur district were discussed elaborately on Day 1 itself (see Appendix 3 & 4), and so the district-wise group streamlined action points (also see Appendix 5) as under:

- Rejuvenate existing water bodies by desiltation and reviving feeder canals (Watershed Department, NGOs);
- Tank silt to be deposited on adjoining farm fields (Watershed Department, NGOs);
- Integrated watershed management targeted at *in-situ* and runoff water harvesting through low-cost effective methods, such as nallah plugging, mulching, checkdams, farm ponds, recharge pits, etc (Watershed Department, NGOs, ICRISAT);
- Prepare baseline of ongoing watershed activities and fill in the gaps (Watershed Department, NGOs);
- Intercrop with greengram, horsegram, chickpea in coconut plantations (DoA, DoH, SAUs, ICRISAT).
- Short duration varieties of groundnut and finger millet to be introduced to cope with delayed rains and late crop sowing (DoA, DoH, SAUs, ICRISAT);
- Castor, horsegram, red gram to be promoted as next best alternative crops to groundnut in low and very late rainfall scenario (DoA, DoH, SAUs, ICRISAT);
- Integrated nutrient management (INM) in groundnut and coconut to be taken up on a priority basis to take care of existing pest problems like mites, black hairy caterpillar and rats (DoA, DoH, SAUs, ICRISAT);
- Evaluation of edible cacti species as fodder for animals (SAUs, ICARDA);
- To market effectively certain region specific crop varieties, such as red tamarind and Chandrahaslu variety to fetch good prices (DoH, NGOs, DoFP, SAUs);
- Improved grass (Napier, multicut bajra/jowar) planting on farm bunds and fallow lands (which are quite large in the district), and also planting of fodder trees (Sesbania, Leucenia, Milia dube, drumsticks) on farm boundaries and fallow lands (DoA, DoAH, DoH, NGOs, SAUs, KVAFSU);
- Dryland horticulture (pomegranate, guava, *amla*) for private fallow lands (DoA, DoAH, DoH, NGOs, SAUs, KVAFSU);
- Coconut and groundnut oil plant processing on community basis by organizing >50 farmers and utilizing current scheme to get 75% incentive for that (DoH, NGOs, DoFP, SAUs);
- Coconut rope/mat making and handicrafts to improve farm livelihoods (DoH, NGOs, DoFP, SAUs);
- Introduce hand decorticator and implements to remove coconut shells (DoA, DoH, SAUs, NGOs, Cooperative Society, DoAH);
- Expand maize cultivation for better water use efficiency (DoA, DoH, NGOs, SAUs, CIMMYT);
- Intercrop coconut-based system with diverse crops such as turmeric, ginger, nutmeg, tapioca, fodder grass, legumes, cocoa, flowers, vegetables, banana (DoA, DoH, NGOs, SAUs, ICRISAT);
- Crop intensification by taking two crops, for example maize-legumes and rice-legumes (DoA, DoH, NGOs, SAUs, AVRDC);

- Short duration suitable crop varieties, e.g. mung bean, could be grown in kharif followed by suitable crop (e.g. vegetable soybean) during *rabi* season (DoA, DoH, NGOs, SAUs);
- Conservation agriculture (direct-seeded rice, zero tillage, etc) to be taken up in irrigated areas (DoA, DoH, NGOs, SAUs, CIMMYT);
- Drip and sprinkler irrigation for coconut/horticultural and high value cropping systems (DoA, DoH, NGOs, SAUs);
- Landform treatment and land leveling to improve water use efficiency (DoA, DWDU, ICRISAT, SAUs);
- Seed-cum-fertilizer drill, planters for multi crops, zero till planters, power sprayers and other agriculture machinery to be introduced to support resource use efficiency;
- Agronomic and management interventions, like balanced nutrients management, INM, weed management, IPM, IDM;
- Promotion of mobile artificial insemination units; disease diagnostic centers; fodder development program on waste and fallow land with reuse of wastewater; stall feeding for sheep, goats and other small ruminants;
- Increasing collection centers for vegetables and milk;
- Promotion of other income generating activities viz, seed bank, vermicomposting, primary processing and value addition, apiculture, fisheries, feed cakes/blocks, vocational training;
- Establishment of value addition and agro processing units under public-private-partnership (PPP) mode with market linkages in order to increase the profitability;
- Establishment of desiccated coconut powder unit, coir pith industries for coir boards, virgin oil production firm;
- Capacity building of farmers and all other stakeholders;
- Establishment of custom hire service centers at GP level;
- Supply of farm machineries at subsidized rates;
- Encouraging group approach for sharing of labor for field operations;
- Establishment of rural godown at GP level;
- Establishment of agro processing units, primary processing center and facilities for transportation to markets;
- Development of cold storage facility;
- Streamlining procurement and providing MSP;
- Timely access to finance with zero interest for SF&MF;
- Strengthening of SHG;
- Direct cash transfer;
- To establish biocontrol laboratories for production of bio-control agents;
- To put in place an early warning system for pest and disease management to avoid crop losses;
- Convergence of different schemes;
- Formation of Steering/Coordination committees to address day-to-day issues through effective monitoring and evaluation.

The district group on Tumkur district planned timelines for Year 1 as shown in Table 1.

Table 1. Activities and timeline for Year 1 in Tumkur district

Activity	**Timeline**
Site demarcation Block 1: Coconut based system (Tiptur, CNHalli, Turvekeri) 3000 ha Block 2: Coconut, vegetable, fruit crops and animal husbandry) 3500 ha Block 3: Groundnut based system, small ruminents and dryland horticulture (Pavagada, Sira, Madhugiri, Koratagere) 3500 ha	Jan 2013
Baseline survey instrument	Jan 2013
Baseline survey/characterization	Feb-March 2013
Analysis of baseline data and prioritization of interventions	April 2013
Putting together project team and capacity building	May - June 2013
Implementation of the interventions of the pilot site	June 2013 onwards

Bijapur (see Appendix 2)

The identified pilot site for implementation is Sindagi-Devarhaipargi with annual rainfall of about 590 mm. The soil in the district is shallow to medium and deep black. Major crops grown in the district are pearl millet (*kharif*); jowar (*rabi*), chickpea, sunflower, groundnut, greengram; and pigeonpea is coming up in a big way. Indigenous cattle rearing is a feature with almost each and every farm family. Bijapur is the horticultural hub of Karnataka. Currently only 5-10% land is irrigated and groundwater depletion is a big problem. However, in the next 4 years' time, 60-70% of Bijapur will come under irrigation, so there is urgent need for meticulous planning for better resource use efficiency.

The group deliberated and agreed on the following constraints (see Appendix 3 & 4) which are apparently holding back productivity and livelihood improvement in the district:

- Water scarcity
- Poor quality water
- Erratic rainfall
- Poor soil
- Low forest cover
- Fodder scarcity, only low yielding local breeds, some villages have no cattle, low biomass availability
- Low mechanization
- *Rabi*-based cropping system
- They are getting rid of orchards due to lack of water
- Low crop yields, far below the district and state averages
- Lack of alternative livelihoods – high rate of migration
- Poor infrastructure (poor roads etc.)
- Low insurance cover for crops
- Poor extension, lack of information

- Large area is fallow under *kharif* (only 15-20% area under crops in *kharif* season).

In order to manage existing constraints, the group identified the following action points (also see Appendix 5):

- Baseline, and also fill in the gaps in integrated watershed management through in-situ and ex-situ water conservation structures;
- Waste water use for fodder production;
- Soil test-based balanced and integrated nutrient management system;
- Short-duration crop varieties during kharif season;
- Intercropping and mixed cropping;
- Dryland horticulture: drought resistant fruits, like sitafal etc.;
- Crop diversification to high value crops;
- Timely availability of quality seeds;
- Custom hire centers;
- Horticulture (grapes, lime, pomegranate, onion) with drip irrigation;
- Development of cold-storage facility;
- Development of processing facility;
- Marketing chain and warehousing;
- IPM in fruits, particularly for bacterial blight in pomegranate;
- Capacity building of farmers and stakeholders;
- Greenhouses and shade houses;
- Improved cattle breeds to be introduced;
- Introduce improved feeding regime and crop residue utilization;
- Using fallow lands to produce fodder;
- Introduce poultry;
- In-land fishing wherever water is still present;
- Income generation activities (skill development, coal making using prosopis julifera, feed marketing, neem-cake);
- SHGs and micro-enterprises;
- Dairy development – only 77 villages have dairy cooperative societies; more need to be formed;
- Apiculture, especially in sunflower growing areas;
- Vermicomposting to be encouraged;
- Azola to be grown as INM and cattle feed protein supplement;
- Horticulture nurseries, bio-fuels to be developed (Jatropha: 3081 beneficiaries);
- Precision irrigation systems;
- Market linkages;
- Community organization;
- Credit and subsidies.

The group on Bijapur district planned timelines for Year 1 (Table 2).

Table 2. Activities and timeline for year-1 in Bijapur district

	Priority Activities	**Gaps & Constraints**	**R&R**	**Time-line**	**Nodal Officers**	**M&E**
1	Watershed					
1.1	Baseline survey (PRA, RRA)		CG, Line-departments	1st month	DoA	ICRISAT
1.2	Knowledge-based EPA					
1.3	soil & water conservation activities, structures	Poor adoption; converge govt. schemes; 100% coverage of farmers' lands. Not done right now due to budget limitations	WDD	continuous	DWDO	ICRISAT/3rd party
1.4	Farmer and officers' training on the project, and SWM		SAUs, KVK, ICRSAT	1st 3 months	ICRISAT	
	Priority Activities	Gaps & Constraints	R&R	Time-line	Nodal Officers	M&E
2	Crop Intensification					
2.1	Seed replacement	poor access quality seeds	DoA, KSSCA, KoF, NSC	Pre-kharif	DoA	ICRISAT
2.2	Integrated Nutrient management (organic manures, bio-fertilizers,	knowledge, poor extension, purchasing power of farmers, missing credit link	DoA, ICRISAT	starting with May 2013	DoA, Lead bank managers	District admin/ZP
2.3	Introduction of short-duration crops in kharif fallow: Farmer field demos	scanty & erratic rainfall, rabi is the key	SAU, ICRISAT	This kharif	ICRISAT	ICRISAT, SAU
2.4	Custom hiring to be established and encouraged	Poor access to implements	DoA, Coop societies, NGOs	Begins in March-April	DoA	ZP/Distt. Admin, SAU
	Priority Activities	Gaps & Constraints	R&R	Time-line	Nodal Officers	M&E
3.1	Baseline survey, mapping & characerization		ILRI, AHD	1-3 months	AHD	ILRI

	Priority Activities	**Gaps & Constraints**	**R&R**	**Time-line**	**Nodal Officers**	**M&E**
3.2	Identifying feed improvement opportunities		ILRI, ICRAF	Right after baseline survey	ILRI, AHD	ILRI
3.3	Fodder trees/Agroforestry	Lack of knowledge, lack of funds in govt. schemes, severe lack of biomass	ICRAF, Forest Department	1st month onwards	Forest Department	ICRAF, ZP
	Priority Activities	Gaps & constraints	R&R	Time-line	Nodal Officers	M&E
4	Livelihoods					
4.1	Development of a list of bankable projects		DRDA	1st month	PD-DRDA	ZP
4.2	Encourage vermicomposting, Azola, nurseries	Lack of knowledge and capital, poor market linkage	Relevant line departments, leverage NRLM		ZP	CEO, ZP
5	Horticulture					
5.1	Protected cultivation of F&V: Farmer Demos		Dept. of Horticulture	After baseline	Director DoH	Director, DoH
5.2	Encouraging food processing (single window clearance) Wine park and wineries	Lack of capital, connectivity	DIC	After baseline survey	Director DIC	DC, CEO-ZP

Chikmagalur (see Appendix 2)

Chikmagalur district receives on an average 1904 mm annual rainfall (Hilly zone: 1373 to 3263 mm, Plain tract: 519-748 mm). Soils are predominantly red – sandy to clay with pH ranging between 5.5 to 6.0 in Malnad and neutral to alkaline in transitional and dry zone. Out of 7.2 lakh ha geographical area, 3.31 lakh ha is cultivable and 1.13 lakh ha is under horticultural crops. Out of total 28% is covered with forests. Ragi, paddy, maize and pulses are important dryland crop; sesamum, sunflower and groundnut are important oilseed crops; coffee, coconut and arecanut are important plantation crops. Vegetables are grown in about 11964 ha and spices in 13070 ha. Livestock rearing is predominant in Kadur, Tarikere and Chikmagalur.

The district group identified and agreed on the following constraints (see Appendix 3 & 4) acting as stumbling block for livelihood improvement in the district:

- Water scarcity
- Labor scarcity
- Lack of access to market
- Acute power shortage
- High cost of cultivation
- Low resource use efficiency (WUE and NUE)
- Lack of storage facility (Narrow window of procurement)
- Post-harvest losses – lack of processing units – minimum support price – exploitation by middlemen
- Fodder scarcity
- Poor mechanization
- Lack of access to information
- Lack of convergence of schemes
- Soil degradation
- Low yield of dryland crops
- Lack of allied activities
- Lack of improved seeds
- Pests and diseases (yellow leaf disease)
- Infrastructure – connectivity
- Indiscriminate use of fertilizer and water
- Forest encroachment
- Unavailability of credit on time.

Area of operation was decided to be 10,000 hectares during Year 1.

Maidan and dryland region (Tarikere, Kadur and part of Chikmagalur)

- Integrated Watershed Development approach (size of watershed 1000 ha each) = 8000 ha Hilly region;
- Integrated Watershed Development approach (size of watershed 500 ha each) = 2000 ha.

In order to manage existing constraints, the group identified the following action points (also see Appendix 5):

- Integrated Watershed Development (*In-situ* moisture conservation and runoff water harvesting measures, improvement to enhance the storage and percolation capacity, etc) (WDD, DoA, ICRISAT, IWMI, NGOs/CBOs);
- Rejuvenation of existing tanks by desilting, bunds strengthening, sluice gate (WDD, PRED, Mines and Geology, ICRISAT, IWMI);
- Construction and maintenance of community water bodies (gokatte, local ponds, etc) (WDD, PRED, Mines and Geology, ICRISAT, IWMI);
- Borewell recharge pits (WDD, PRED, Mines and Geology, ICRISAT, IWMI);
- Micro irrigation – Drip and sprinkler to be promoted (DoA, WDD, IRRI, IWMI, AVRDC);
- Water efficient crops and varieties (DoA, WDD, IRRI, IWMI, AVRDC);
- Mixed cropping with short duration pulses followed by ragi (DoA, IRRI, DoH, AVRDC);
- Coconut and mango with cowpea, green gram, horsegram (DoA, IRRI, DoH, AVRDC);
- Balanced nutrient application (DoA, ICRISAT, IRRI, AVRDC, DoH);
- Compost/green manuring/vermicomposting (DoA, ICRISAT, IRRI, AVRDC, DoH);
- Mechanization (DoA, WDD, IRRI, IWMI, AVRDC);
- Customised service (DoA, WDD, IRRI, IWMI, AVRDC);
- Transplanter and combined harvestor (DoA, WDD, IRRI, IWMI, AVRDC);
- Strengthening of artificial insemination to improve low yielding breeds of cattle and goats (ILRI, DoAH);
- Napier grass, multi cut bajra, multi cut jowar on farm bunds; Suspenia, jack, drumstick, Leucenia on farm boundary and fallow/waste lands (ILRI, DoAH, DoA, WDD);
- IPM, IDM, Crop rotation (DoA, CYMMIT, ICRISAT);
- Summer tillage, trap cropping (DoA, CYMMIT, ICRISAT);
- Site specific diversification to high value crops and building storage facility (DoA, warehouse corporation (AVRDC, ICRISAT, IWMI);
- Agro-processing units on community basis (AVRDC, ICRISAT, IWMI);
- Horticultural crops (pomegranate, amla, mango, jack, etc) on fallow lands (AVRDC, ICRISAT, IWMI);
- Existing schemes like processing (incentives) to be linked (Dept of Cooperation, Banks, NABARD);
- Micro-finance institutions (Dept of Cooperation, Banks, NABARD);
- Linking with banks/GoK with subsidy component (Dept of Cooperation, Banks, NABARD);
- Credit cooperative societies (Dept of Cooperation, Banks, NABARD).

The district group on Chikmagalur district planned timelines for Year 1 as shown in Table 3.

Table 3. Activities and timeline for year-1 in Chikmagalur district

Activity	**Time line**
Baseline survey instruments	Jan 2013
Baseline survey/characterisation	Feb-March 2013
Analysis of baseline data and prioritisation	April 2013
Project team and CB	April – May 2013
Implementation of the interventions	June 2013 onwards

Raichur (see Appendix 2)

The district group identified following constraints (see Appendix 3 &4) in rainfed systems:

- Erratic rainfall and uncertain cropping plan;
- Single/Mono crop system;
- Low cropping intensity;
- Climate change effects;
- Improper mechanization/value chain machinery;
- Low farm profitability;
- Fodder- Quality/quantity issues.

The constraints (see Appendix 3 & 4) for irrigated systems are as under:

- Delayed canal supply/ unequal distribution;
- Poor groundwater availability and quality;
- Monotonous cropping pattern-lack of diversity;
- Salinity/ water logging;
- High cost of production & low farm profitability;
- Labor shortage;
- Residue removal/burning;
- Improper mechanization;
- Imbalance plant nutrient-high doses-leaching-NO_3 contamination in ground water.

The district group also identified specific livelihood issues and other institutional and infrastructure issues such as:

- High agrarian population;
- No regular income;
- No small scale enterprises;
- No value addition facility;
- Low literacy;

- Poor access to input/output market;
- Tenent system (Lack of easy credit facility);
- Less women involvement in decision making;
- Non availability of livestock development center;
- Lack of fodder banks;
- Lack of seed systems;
- Lack of information/knowledge about government schemes.

In order to manage existing constraints, the group identified the following action points (also see Appendix 5):

Rainfed systems:

- Intensification by intercropping in cotton, tur;
- Cropping system optimization with resilient crop, varieties and component technologies;
- Agro-forestry/dryland horticulture;
- Circumstance specific integrated farming system;
- Rainwater management/harvesting and use for supplemental irrigation with micro irrigation systems;
- Value chain and mechanization;
- Capacity building at different scales and levels.

Irrigated Systems:

- Diversification/optimizing cropping system;
- Micro-irrigation;
- Laser land leveling in flood irrigation systems;
- Mechanization-planting to processing;
- Conservation agriculture;
- Protected agriculture/ high-value horticulture crops;
- Balanced plant nutrient application;
- Capacity building at different scales and levels.

Livelihoods:

- Small scale entrepreneurship;
- Capacity building;
- Value addition;
- Integrated Farming System (IFS) modules – site-specific and farmer circumstance-specific;
- Seed growers associations;
- Service windows;
- Promoting agro-forestry;
- Empowering educated rural youth for animal husbandry (A.I. etc), agri-clinics.

Institutional/ Infrastructure:

- Strengthening WUAs;
- Kisan clubs at Taluk level;
- Knowledge centers;
- Young professionals capacity building;
- Convergence;
- PPP;
- Farmer-to-farmer extensions;
- Market linkage;
- Post-harvest processing and value addition.

The district group on Raichur district planned timelines for Year 1 as in Table 4.

Table 4. Activities and timeline for Year 1 in Raichur district

Activity	**Time line**	**Roles/ Responsibilities**	**Nodal Agency**
Baseline survey instrument	January 2013	CG centers	DoA, CG
Baseline survey/characterization	Feb 2013	CG center	
Analysis of baseline data and prioritization	March 2013	IFPRI, ICRISAT,	
Putting together project team and capacity building	April 2013	DoA, CG	
Procurement of all required inputs like seed, fertilizer, m/c, etc	May 2013	DoA	
Defining the domains of available technologies	May 2013	CG, UASR	
Capacity building of service providers and farmers awareness camps	May 2013	UASR, CG	DoA, CG
Preparing training modules in local languages	Apr-May 2013	CG centers, UASR	
Establishment of pilot window service system	June 2013	CG and DoA	
Implementation of activities	June- onwards	CG, DoA	
Pilot ICT-based information system	Aug 2013	CG	
Traveling seminar	Sept 2013	CG, DoA	DoA and CG
Establishment of seed production system	Oct 2013	DoA, UASR	
Project review, setting priorities, next year planning	Dec 2013	All partners	

Concluding Session

In his wrap-up speech, Mr Kaushik Mukherjee, Additional Chief Secretary and Development Commissioner made a few points to be considered for the implementation of the project. These are:

- Use science-based data for identification of locations for water harvesting and other interventions;
- Water saving measures for horticulture, high-value vegetable crops for small farmers (vegetables, soybean, etc.);
- In-situ SWC to reduce siltation of water bodies/tanks;
- Short-term action research by CGIAR partners;
- Emphasized "implementation" rather than "recommendation", it has to be participatory for farmer's acceptance;
- Some innovative technologies to be promoted, such as solar powered sprayers, GIS tools to identify and preserve important local tree species (e.g. sweet tamarind).

Dr KV Raju suggested the following and insisted that these not be by-passed:

- Use agro-climatic and soil moisture data for planning cropping systems, e.g. short duration crops etc.;
- GIS mapping of the pilot project features different themes such as terrain features, critical issues, crop intensity, vegetation, fodder, groundwater, subsidy, beneficiaries, schemes operated in the area, GDP before and after the interventions, existing market, processing and storage facilities, etc., right from initial stage to time scale. The consortium team should come out with findings to improve the situation as diagnostic analysis/resource inventory to identify issues;
- Monitor the situation crop season-wise, and month-wise;
- Clarity among the partners should be brought out in the action plan.

Dr SP Wani conveyed the message that

- This initiative has to be established as a model for holistic development of rural livelihoods as has been delivered in Bhoochetana;
- It is research for development, and so the plan should be meticulous as regards the technologies to be implemented with >95% success level guaranteed;
- Synergies among partners are very crucial for the success of the project.

In conclusion Dr Sarvesh thanked one and all for active participation and meticulous planning during the two-day workshop.

Appendix 1

Memorandum of Understanding (MOU)

Between

Government of Karnataka

and

International Crops Research Institute for Semi Arid Tropics (ICRISAT)
Patancheru 502 324, Andhra Pradesh
(On behalf of CGIAR Centers)

for

"Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development in Karnataka"

6 June 2012

Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development in Karnataka

This Memorandum of Understanding dated 6 June 2012 is made between:

Government of Karnataka, Bengaluru, (hereinafter referred to as "GoK").

and

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh 502 324 (hereinafter referred to as the "Consultants" on behalf of CGIAR Centers included in this consortium) represented by, Director General.

Whereas:
The Hon'ble Chief Minister, Govt. of Karnataka, in his budget speech for 2012-13, has announced that "in order to ensure that our farmers in the coming years are protected from facing frequent drought conditions, steps have been taken to formulate special action plans in collaboration with international level scientific institutions such as International Crops Research Institute for the Semi-Arid Tropics, International Rice Research Institute, Maize and Wheat Research Institute, International Animal Husbandry Research Institute and International Food Policy Research Institute. Right strategies will be designed with assistance from these institutes, and implemented on pilot basis in some taluks/districts, which will then be extended to other areas".

- GOK require the Consultants to supply certain services under the terms of this MOU as per Section 3,

and

- The Consultants, having represented to GOK that they have the professional skills, personnel and technical resources, have agreed to provide the services when required during the period of the Contract for "Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development in Karnataka."

It is hereby agreed as follows:

1. Documents

The Contract shall comprise the following documents:

Section 1.	Form of Contract (this document)
Section 2.	Conditions of Consultancy Contract
Section 3.	Terms of Reference/Scope of Work
Section 4.	Schedule of Prices

2. Provision of Services

The Consultants agree to provide the required services in accordance with the terms during the contract period.

3. Financial Limit

The total financial limit for this project is Rs. 29.00 Crores for ICRISAT to develop, evaluate and coordinate the implementation of the interventions and to provide technical backstopping through a consortium of enlisted CGIAR Centres working in India.

4. Payment

In consideration of the Services performed by the Consultants under the terms of this Contract, GOK shall make to the Consultants such payments and in such manner as provided in Section 4 - Schedule of Prices, within the financial limit specified.

5. Commencement of the Services

This Contract will be effective from 6th June 2012 and shall be in force until on 5th June 2016.

The Parties hereto agreeing to the terms and conditions stated herein have signed this Contract in two original counterparts as of the date hereunder mentioned.

For and on behalf of
Government of Karnataka (GOK)

Signature: _____

Additional Chief Secretary and
Development Commissioner

Date: 06/06/12

For and on behalf of the CGIAR Institutions

Signature: _____

Director General, ICRISAT,
Hyderabad

Date: 6 June 2012

Section 2

CONDITIONS FOR CONSULTANCY CONTRACTS

1. Construction of Contract

1.1 The Contract shall be governed by and construed in accordance with the laws of India.

2. Definitions

2.1 "GOK" means the Additional Chief Secretary and Development Commissioner, Government of Karnataka, Bengaluru, India.

2.2 "The Consultants" means the person, firm or company with whom the Contract is placed. i.e. ICRISAT.

2.3 "The Contract" means the contract between GOK and the Consultants consisting of the Form of Contract and the documents listed therein.

2.4 "The Services" means those activities more particularly defined in Section 3 (Terms of Reference /Scope of Work), as referred to in Clause 1 of the Form of Contract.

3. Instruction and Approvals

3.1 Though the Services may be supplied directly to GOK, Bangalore, instructions for implementation of those services may be given by the State level Co-ordination Committee /Additional Chief Secretary and Development Commissioner/Principal Secretary (Agriculture).

3.2 No variation in the terms or scope of the Contract shall be valid or binding unless previously expressly agreed in writing by GOK and the Consultants in the form of a letter entitled "Contract Amendment No". GOK takes no responsibility for work outside the agreed contract Terms of Reference/Scope of Work.

4. Personnel

4.1 Nothing contained in this Contract shall be construed or have effect as constituting a relationship of employer and employee or principal and agent between GOK and the Consultants or any staff of the Consultants.

4.2 All Consultants' personnel provided shall be suitably qualified, experienced and physically fit to carry out the work required of them.

4.3 GOK shall not be liable to meet any costs arising from the replacement of the Consultants' personnel who are engaged on the Contract.

5. Financial Limit

5.1 The Financial Limit under this Contract is stated in the Form of Contract, the components of which are set out in the Schedule of Prices, Section 4. No expenditure may be incurred in excess of this limit

.6. Fees & Reimbursable

6.1 Fees quoted will cover the cost of salary and eligible travel allowances.

7. Payments

7.1 The payment will be subject to submission of annual report and that the Consultants have performed their duties. The payment shall be paid within 30 days of a valid invoice.

7.2 Payment shall be made in Indian Rupees.

7.3 In the event that any advance payment made is in excess of the expenditure actually incurred, GOK shall recover the amount of such excess from any further payments due.

8 Disclosure of Information, Intellectual Property Rights and Official Secrets Act

8.1 The Consultants shall not during or after the termination of the Contract disclose to any third party any Confidential Information arising from the Contract (other than in the proper performance of their duties hereunder or as may be required by a court or arbitration panel of competent jurisdiction) except with the prior written permission of GOK.

8.2 ICRISAT and GoK recognize the importance of Intellectual Property as a component of the agricultural research agenda. ICRISAT and the GoK reserve any and all Intellectual Property Rights, without limitation, discovered or produced as a result of the cooperation under this Agreement. ICRISAT will make available to their developing country partners, results of activities by the most appropriate mechanism, which may include seeking of statutory IP protection where appropriate. No information or invention developed as a result of this cooperation will be protected through any form of statutory or non-statutory intellectual property right mechanism by either collaborator without express written approval from the other.

8.3 Any publication shall contain an express acknowledgement of the Consultants' copyright and the following statement:

"This document is an output from a project funded by the Government of Karnataka for the benefit of Karnataka, India. The views expressed are not necessarily those of GOK."

Section 3

TERMS OF REFERENCE/ SCOPE OF WORK

Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development I Karnataka

Background

Karnataka is one of the progressive agricultural States in India, depicting 5.9% percent annual growth of agricultural sector during 2010-11. The Government of Karnataka has taken-up number of innovative measures for improving the agricultural production and livelihood of farmers in the State during the last three years. Some of the innovations undertaken are:

- A separate agricultural budget for the first time in the country was presented by Government of Karnataka in 2011-12;
- An innovative science-led mission project, Bhoochetana was initiated for increasing the agricultural productivity in rainfed areas with scientific backstopping by ICRISAT;
- Conduct of global investors improving to promote public private partnership for developing the agriculture in the State; and
- Devising an innovative scheme that enabled direct cash transfer to small and marginal farmers as an incentive to diversify production portfolio from low-value to high-value commodities.

The Hon'ble Chief Minister, Govt. of Karnataka, in his 2012-13 budget speech, has announced that "in order to ensure that our farmers in the coming years are protected from facing frequent drought conditions, steps have been taken to formulate special action plans in collaboration with international level scientific institutions such as International Crops Research Institute for the Semi-Arid Tropics, International Rice Research Institute, Maize and Wheat Research Institute, International Animal Husbandry Research Institute and International Food Policy Research Institute. Right strategies will be designed with assistance from these institutes, and implemented on pilot basis in some taluks/districts, which will then be extended to other areas".

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is closely working with the Government of Karnataka through various programs like World Bank aided Sujala-

ICRISAT initiative for increasing productivity in the watersheds, Bhoochetana, science-led consortium approach for increasing the productivity of rainfed agriculture in 30 districts and also Suvarna Bhoomi Yojane (Horticulture), technically supported beneficiaries for increasing the productivity on their farms. The impact of Bhoochetana during the last three years has clearly demonstrated the power of science-led development approach in the State as millions of farmers are benefitted with increased crop productivity ranging from 23 to 66% in different districts with different crops. As a result of the increased productivity, the State of Karnataka has recorded an impressive growth rate of 5.9% in 2010-11 as compared to 0.45% prior to the launch of the Bhoochetana program.

Realizing high impacts in terms of increased agricultural productivity, increased gross value of agriculture production and improved livelihoods, the State Government has requested the CGIAR Centers working in India to partner in a consortium-led by ICRISAT to operationalize impact oriented research for development in the State. ICRISAT-led consortium of CGIAR Centers can take-up this challenge and establish a "proof of concept" for translating strategic research knowledge into improving livelihoods through scaling-up of participatory research for development model.

Hypothesis

The CGIAR Centers in India have developed number of improved technologies for improving the agricultural production and if so, through scaling-up model, large number of farmers could be benefitted in the state of Karnataka through science-led knowledge-based development of agriculture in the state.

Objectives

The specific objectives of the innovative scaling-up model are:

1. To form action oriented consortium of CGIAR institutions to operationalize action research scaling-up model in partnership with development agencies (DoA, Animal Husbandry, Horticulture, Water Management, Rural Development, etc.) in the State of Karnataka
2. To establish sites of learning of integrated participatory research for development to benefit small and marginal farmers in irrigated and rainfed agriculture areas.

3. To develop the capacity of the agricultural related development agencies in the State have enhancing the impact of the development programs through science-led support systems.

Consortium Partners

The consortium partnership in the initial stage will be:-

- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
- International Water Management Institute (IWMI)
- International Livestock Research Institute (ILRI)
- International Rice Research Institute (IRRI)
- Center for International Maize and Wheat Improvement Center (CIMMYT)
- International Food Policy Research Institute (IFPRI)
- International Center for Agricultural Research in the Dry Areas (ICARDA)

Expected Outputs

The most important output of this unique initiative will be "integration of various CGIAR Centers strategic research knowledge into development oriented action for scaling-up benefits for improving livelihoods of rural poor in the State of Karnataka.

The specific outputs from this CGIAR-Government of Karnataka consortium will be as follows:-

- A model to increase productivity of agricultural crops (irrigated and rainfed) which would improve farmers' incomes through science-based market-led diversification of agricultural systems.
- Exchange of experiences from national and international locations with Government of Karnataka staff for enhancing the impact of various development programs in the state.
- A pilot scaling-up model to transfer strategic research knowledge into development oriented information useful for the policy makers, development departments and farmers to harness potential of agricultural through sustainable intensification
- Diversified livelihood sources to build the resilience of the farming communities.
- Information on enabling policies and institutional mechanism for harnessing the potential of agriculture in the state.
- The details of the deliverables will be worked out more specifically after the visit of CGIAR Scientists to the selected districts (Tumkur, Chikmagalur, Bijapur and Raichur) in the four revenue divisions for benchmark survey.

Duration:

Four years

Budget:

Rs. 29.00 Crores

Activities

Background

Karnataka is one of the progressive agricultural states in India, depicting 5.9% percent annual growth of agricultural sector during 2010-11. The Government of Karnataka has taken-up number of innovative measures for improving the agricultural production and livelihood of farmers in the state during the last three years. As the state of Karnataka has large area under agriculture of which 75% is under rain-fed agriculture which suffers heavily with occurrence of frequent drought and unfavourable rainfall events. The current trend with global warming and climate change, the impacts of climate change with vulnerable rural people in Karnataka is expected to be more as some area will be becoming rain-fed in the state. In order to build the resilience of the natural resources and the communities but cope with the future challenges including due to climate change, GoK and ICRISAT have initiated a consortium approach to bring together the CGIAR institutions dealing with different aspects of crop production like maize, paddy, lentils and other rain-fed crops such as sorghum, chickpea, pigeonpea, pearl millet, finger millet, groundnut and livestock based activities for improving the livelihoods of rural poor in Karnataka. This initiative will also address the issues of enhancing the efficiency of the irrigation projects and enhancing water use efficiency as well as enabling policies and institutions for enhancing the adoption of the improved technologies, increasing agricultural production and incomes. The CG centers together have proposed the possible interventions to develop the scaling-up model of participatory research for development and impact with the following activities:

ILRI

To sustainably improve livelihoods within small holder mixed crop livestock farming systems in Karnataka through more milk and meat from livestock

- Mapping and characterization of feed and fodder trade and transactions to determine feeding regimes- This will be done during the bench mark survey
- Evidence-based sensitization of crop breeders in the state for release of cultivars considering crop residue quality traits
- Test, evaluate and establish a small scale building model for small holders to participate in feed/fodder marketing
- Develop new feeding regimes thru improved feed/fodder marketing
- Develop new feeding regimes thru improved feed/fodder quality and popularize at pilot sites
- Capacity building of all stakeholders in improved livestock feeding
- Impact assessment

IFPRI

Develop policy and institutions guidelines for accelerating agricultural production thru accelerated adaption of improved technologies

- Assess challenges and opportunities for higher sustainable and inclusive agricultural growth
- Synthesize and prepare policy guidelines from various CG initiatives in the state
- Pilot test the innovative policies and guidelines

ICARDA

Popularise use of multipurpose cactus species as a source of income (food, feed and input for industry) in semi-arid and arid regions of Karnataka using degraded lands

- Establishment of on-farm demonstrations for suitable cactus cultivars
- Establish cactus nurseries for ensuing availability of required material for scaling-up
- Develop, evaluate and popularize use of suitable cactus cultivars as animal feed
- Demonstrate value-added products prepared from cactus as a source of livelihood activity

- Training and capacity building activities for rehabilitating degraded lands using multipurpose cactus

Promote high-yielding stress tolerant lentil cultivars in Karnataka

- Demonstrate farmer-participatory evaluation and selection of high-yielding lentil cultivars
- Conservation agriculture (CA) practice for sustaining lentil productivity
- Establish village seed systems for enhancing lentil production in the region
- Training of farmers and stakeholders in lentil production

IRRI

- Popularize high-yielding cultivars of rice and management practices thru direct seeding technique
- Training of farmers and other stakeholders in sustainable management of direct seeded rice

CIMMYT

- Develop and popularize Conservation Agriculture (CA) based innovation systems along with high-yield in maize cultivars in Karnataka
- Participatory selection of high-yielding maize hybrids thru farmers evaluation
- Demonstrate and establish scale-up model for CA-based production systems
- Validate and demonstrate decision support system for site-specific nutrient management in maize systems and provide location-specific real time decision guides for nutrient management using ICTs
- Design, development and participatory refinement of CA machinery suited to production systems through public-private partnerships and innovation centers
- Capacity building of stakeholders in CA-based sustainable production system

IWMI

To improve water use efficiency and increase agricultural production in Karnataka

- Enabling institutions and policies for enhancing the impact of the irrigation projects
- Enhancing water use efficiency in irrigated areas

- Capacity building of farmers and sensitizing the policy makers about improved water management initiatives.

ICRISAT

Facilitate the project on "Improving Rural Livelihoods through Innovative Scaling-up of Science-led Participatory Research for Development in Karnataka" by adopting consortium approach

- Team building workshops and sensitization of various stakeholders involved in establishing the sites of learning
- Documenting the process of implementing the programs and success case study emerging from this initiative
- Converge productivity enhancement initiative from Bhoochetana into the sites of learning
- To enhance reuse of waste water for agricultural production in rain-fed areas
- Enhancing livelihood opportunities and increase agricultural production in watersheds through sustainable intensification
- Capacity building of various actors in the area of convergence and collective action for enhancing the impact of initiative

Timeline and Action Plan

June

Approval of the proposed initiative by GoK and working out the budgetary requirements for taking the initiative forward. The details regarding the area, location number of demonstrations, the action plan and roles and responsibilities of each CGIAR center will be worked out after the visit of the scientists to selected districts.

- Nominating the State level Co-ordination Committee chaired by Additional Chief Secretary and Development Commissioner along with the members from the Departments of Agriculture, Animal Husbandry, Water Resources, Horticulture and Rural Development along with Vice Chancellors of State Agricultural Universities, University of Horticulture Sciences, Karnataka Veterinary, Animal and Fisheries Sciences University and Economic Advisor to Hon'ble Chief Minister of Govt. of Karnataka

- For this particular initiative, mechanism for interaction and releasing the money should be vested with Chairman of the State Co-ordination Committee and appropriate orders to be released for the same
- Finalize the benchmark locations for establishing the sites of learning in the four revenue divisions of Karnataka
- Approval of the budgets and signing the MoU with GoK and release of the first instalment.
- Communication from Chairman, State Co-ordination Committee, GoK to the concerned departments/Universities for nominating the nodal persons to interact with CGIAR nodal officers

July

- Team Building workshop of all the partners to internalize the objectives, strategies and finalize the modalities of work for this initiative
- Visit benchmark locations by the consortium team members and assess the ground situation potential and constraints which need to be tackled in the benchmark locations
- Finalize the process of establishing sites of learning and initiate different activities starting with baseline collection for the specific activities to be undertaken by CGIAR consortium partners
- Prepare detailed work plans and operationalize strategy by different consortium partners for the benchmark sites

August

- Have the first review meeting to assess the progress and develop the work plans for the next six months to be approved by the State Co-ordination Committee. Annual Work plans will be prepared and presented to the State Co-ordination Committee (SCC) chaired by the Additional Chief Secretary and Development Commissioner.

Section 4

SCHEDULE OF PRICES

This is issued as a price contract for a maximum value of Rs. 29 Crores. The Payments will be linked to the satisfactory completion of the following stages in the service delivery.

- Annual instalments on submission of yearly report
- Progress and financial reports will be submitted every year as per the MoU
- ICRISAT will submit a Project completion report to the Additional Chief Secretary and Development Commissioner.
- CGIAR centers should submit valid invoice in triplicate for release of grants.
-

The details of the budget are given in Table below:

(Rs. in Crores)

Year 1	Year 2	Year 3	Year 4	Total
6.50*	**7.00**	**7.50**	**8.00**	**29.00**

*The component wise budgetary requirement needs to be provided by the ICRISAT on behalf of the CGIAR Centers before release of first installment.

Appendix 2

Benchmark Locations with their Characterization

Benchmark sites	Annual Rainfall (mm)	Soil type	Major crops	Livestock	Market linkages
Tumkur	1000	Red Loamy Red Sandy Mixed Red and Black Soil	Coconut Paddy Maize Arecanut Vegetables Banana	Small ruminants, cattle	
Bijapur	590	Shallow to medium deep black soil	Pearl millet (*Kharif*) jowar (*Rabi*), chickpea sunflower groundnut greengram pigeonpea	Indigenous cattle and small ruminants	
Raichur	620	Black cotton soil and red soil	Paddy, sunflower, bajra and groundnut Jowar, bengal gram	Cattle and small ruminants	
Chikmagalur	1904	Red loamy, red sandy, red clay	Plantation crops (Coffee, coconut, arecanut) Dryland crops (Ragi, paddy, maize, pulses, groundnut, sunflower) Fruits, vegetables	Indigenous cattle and small ruminants	

Appendix 3

General Constraints across the Districts

Benchmark sites	General constraints
Tumkur Bijapur Raichur Chikmagalur	• Water scarcity • Labor scarcity • Lack of access to market • Acute power shortage • High cost of cultivation • Low resource use efficiency • Lack of storage facility • Lack of processing units • Fodder scarcity • Poor mechanization • Lack of access to real time information • Lack of convergence of schemes • Mono-cropping with subsistence

Appendix 4

Benchmark Sites along With Specific Constraints

Bench mark sites	Watershed development and rainfed agriculture	Irrigated agriculture	Livelihood options	Institutions, infrastructure and policy
Tumkur	• Soil erosion and poor fertility • Uncertain and low rainfall • Low crop yield in major crops (e.g. cereals, groundnut, pigeonpea, coconut, pomegranate) • Pest problem • Fodder scarcity • Large extent of fallow lands • Lack of improved cattle breeds and ruminants • Labor problem • Lack of multipurpose equipments	• Water, labor shortages • Low cropping intensity • Pest problem • Low farm profitability • Lack of market linkages • Lack of cold storage facilities for fruits and vegetables • Low access to credit • Lack of storage, processing, value addition, packing and marketing	• Seed bank • Dairy • Feed cakes and blocks • Vocational training • Vermicomposting • Sheep & goat raising • Primary processing and value addition • Fisheries • Sericulture • Apiculture	• Lack of livestock breed development centers • Lack of disease diagnostic centers • Lack of quality Seed systems • Lack of awareness about government schemes • Poor access to input and output markets • Low access to credit • Lack of storage, processing, value addition, packing and marketing
Bijapur	• Water scarcity • Poor quality water • Erratic rainfall • Poor soil • Low forest cover • Fodder scarcity, only low yielding local breeds, some villages have no cattle, low biomass availability • Low mechanization	• *Rabi*-based cropping system • Low crop yields – far below the district and state averages • Poor extension, lack of information • Large area is fallow under kharif	• Lack of skill development • Coal making has potential in Bijapur using *prosopis julifera* • Lack of feed marketing • Low usage of neem cake • Lack of micro-enterprises • Lack of dairy cooperative societies • Lack of apiculture activities	• Lack of alternative livelihoods – high rate of migration • Poor infrastructure – poor roads, etc. • Low insurance cover for crops • Market • Community organization • Credit and subsidies

Bench mark sites	Watershed development and rainfed agriculture	Irrigated agriculture	Livelihood options	Institutions, infrastructure and policy
Raichur	• Erratic rainfall and uncertain cropping plan • Single/Mono crop system • Low cropping intensity • Climate change effects • Improper mechanization/ value chain machinery • Low farm profitability • Fodder-Quality/quantity issues	• Delayed canal supply/ unequal distribution • Poor groundwater availability • Poor groundwater quality • Monotonous cropping pattern-lack of diversity • Salinity/ water logging • High cost of production & low farm profitability • Labor shortage • Residue removal/burning • Improper mechanization • Imbalance plant nutrient-high doses-leaching-NO_3 contamination in ground water	• High agrarian population • No regular income • No small-scale enterprises • No value addition facility • Low literacy	• Poor access to input/output market • Tenant system (Lack of easy credit facility) • Less women involvement in decision making • Non-availability of livestock development center • Lack of fodder bank • Lack of Seed systems • Lack of information/knowledge about government schemes
Chikmagaluru	• Soil and water issue • Groundwater depletion • Poor water use efficiency • Low productivity • Poor fertilizer use efficiency • Labor shortage • Livestock issues • Fodder scarcity • Pests and diseases • Crop diversification and issues • Credit constraints	• Excess use of fertilizer • Soil and water issue • Poor quality seeds • Pests and diseases • Acidic soils, especially in plantation • Poor mechanization	• Lack of milk collection centers • Sheep & goat raising • Lack of primary processing and value addition facilities • Fisheries • Apiculture • Piggery • Floriculture • Lack of local micro-enterprises	• Lack of livestock breed development centers • Lack of disease diagnostic centers • Lack of quality Seed systems • Lack of awareness about government schemes • Poor access to input and output markets • Lack of timely and adequate finance

Appendix 5

Benchmark Locations and CG Centers Potential Interventions at Different Locations

CG centers	Tumkur	Bijapur	Raichur	Chikmagalur
ICRISAT	• Soil test-based fertilizer recommendations • Introduction of short duration legumes and cereals • *In-situ* and *ex-situ* soil and water conservation • Crop intensification and diversification			
IWMI	• Water management (irrigation and drainage) • Micro-irrigation methods • Enabling policies • Potential solutions for WUAs			
CYMMIT	• Improvement of maize seed system and new cultivars • Mechanization • Conservation agriculture (CA) • Crop intensification			
ILRI	• Feed, fodder improvement • Mapping and characterization • Breed improvement			
IRRI	• Direct-seeded rice • Improved varieties • Mechanization • Crop intensification			
ICARDA	• Wasteland rehabilitation using edible cacti • Evaluation of lentil cultivars			
ICRAF	• Fodder and tree species • Agro-forestry • Wasteland rehabilitation			
IFPRI	• Baseline characterization • Policy interventions • Capacity building (knowledge integration) • Monitoring and evaluation			
AVRDC	• Short duration varieties • High value vegetables			

Review and Planning Workshop Proceedings – 28 February-2 March 2013 at ICRISAT, Patancheru

Background

Karnataka is the largest dryland agriculture state in the country with 60% of its population dependent on agriculture for their livelihoods. For improving the livelihoods of small farm holders in the state by increasing agricultural growth rate, the Government of Karnataka launched a mission program "Bhoochetana" in 2009 for bridging the yield gaps through science-led interventions. The goal of this mission program was to increase average productivity of selected crops in the 30 districts by 20% in four years. The specific objectives are: (i) to identify and scale-up best-bet options (soil, crop and water management) including improved cultivars to enhance productivity by 20% of the selected crops in selected 24 (later extended to 30) districts; (ii) to train DoA staff in stratified soil sampling at villages, analysis of macro- and micronutrients, preparation of GIS-based soil maps; (iii) to guide DoA to establish a high-quality soil analytical laboratory at Bengaluru and to undertake stratified soil sampling, its analyses and then sharing results in nine districts; and (iv) to build capacity of the stakeholders (farmers and consortium partners) in the sustainable management of natural resources and enhancing productivity in dryland areas.

In 2012, a Review and Planning Workshop for Bhoochetana and Government of Karnataka, a CGIAR initiative (Bhoochetana Plus) was held at ICRISAT during July 2012 at Patancheru. Based on the success of Bhoochetana during the last four years (2009-2012), the Government of Karnataka has undertaken a holistic integrated systems approach for converging all sectors of agriculture namely rainfed agriculture, irrigated agriculture, horticulture, livestock, cooperation and marketing, for enhancing the incomes of farmers with technical backstopping from the ICRISAT-led consortium of eight CGIAR institutions. The institutions are: International Water Management Institute (IWMI), International Livestock Research Institute (ILRI), International Rice Research Institute (IRRI), International Maize and Wheat Improvement Center (CIMMYT), International Center for Agricultural Research in the Dry Areas (ICARDA), International Food Policy Research Institute (IFPRI), and the World Agroforestry Center (ICRAF). The World Vegetable Center (AVRDC), state agricultural and horticultural universities and different line departments of the Government of Karnataka also partnered. This GoK-CGIAR initiative is referred to as "Bhoochetana Plus". Following planning workshops at Bengaluru, Karnataka and Patancheru, Andhra Pradesh, detailed planning for four benchmark sites namely, Tumkur, Raichur, Chikmagalur and Bijapur was conducted along with Bhoochetana workshop. In all, 250 participants representing Department of Agriculture officials from 30 districts along with headquarter officials including Shri SV Ranganth (CS); Shri Kaushik Mukherjee (ACS&DC); Dr KV Raju, Economic Advisor to Hon'ble CM; Shri Shankarlinge Gowda, Principal Secretary (Ag&Hort); Shri GVK Rau, Principal Secretary (Co-op); Shri V Chandrasekhar, Commissioner (Ag); Dr KV Sarvesh, Director (Ag); and Dr SA Patil, Chairman, Karnataka Krishi Mission; district CEOs along with the representatives from DoA Karnataka, CGIAR institutes, AVRDC, State Universities, Corporates, NGOs, Farm Facilitators (FFs) and farmers participated in the workshop. The executive summary of the Review and Planning Workshop has been put together.

Snap Shots of Workshop Deliberations

Inaugural Session

During the three-day Review and Planning meeting, the progress of the GoK-CGIAR initiative during the last one year and Bhoochetana during the last four years along with detailed planning for the GoK-CGIAR initiative and Bhoochetana Mission Program (Bhoochetana II) were deliberated upon and finalized. The workshop reviewed key drivers of success and identified critical areas for building on earlier successes during Bhoochetana II, which included strategies to address climate related risks and improve livelihoods.

1. Dr Peter Craufurd welcomed the dignitaries (M/s. SV Ranganath, IAS, Chief Secretary; Kaushik Mukherjee, IAS, Additional Chief Secretary & Development Commissioner; Dr KV Raju, Economic Advisor to Hon. Chief Minister of Karnataka; M/s Shankarlinge Gowda, IAS, Principal Secretary (Ag & Hort); GV Krishna Rau, IAS, Principal Secretary (Cooperation); V Chandrasekhar, IAS, Commissioner (Agriculture); Dr KV Sarvesh, Director (Agriculture); Dr SA Patil, Chairman, Karnataka Krishi Mission; district CEOs, JDAs and ADAs of all the districts, Farm Facilitators, representatives of SAUs, CGIAR centers, private corporates, and ICRISAT team members.

2. Dr Suhas Wani presented in a nutshell the journey during the last four years of Bhoochetana implementation, identified the drivers of success, key areas which need to be built further such as strengthening of farm facilitators which is a novel mechanism to reach millions of farmers, inputs delivery system, data recording, effective convergence and establishing climate change researchers network in the state, inclusive livelihood approach and value addition for linking farmers to the market. The progress of baseline characterization of the selected four benchmark sites for the GoK-CGIAR initiative (Bijapur, Raichur, Tumkur, and Chikmagalur) and detailed plan of works to be undertaken by different CGIAR partner institutions where also discussed.

3. Mr Kaushik Mukherjee appreciated the benefits of Bhoochetana and stressed the need to strengthen the extension system for sustaining Bhoochetana, possibly through public private partnerships and address the challenges during Bhoochetana II. Mr Kaushik Mukherjee raised queries about the *ex-ante* benefits (additional household income) from the project. This query was clarified and it was agreed that the analysis will be revisited to examine the higher level of benefits from the initiative.

4. Dr William D Dar, Director General of ICRISAT appreciated the Bhoochetana initiative and acknowledged different stakeholders during his opening remarks. Dr Dar congratulated the DoA team for their hard team work as well as the team led by Dr Wani for the impressive achievements of Bhoochetana. Dr Dar noted that Bhoochetana has played a crucial role in inclusive market-oriented development of farmers in Karnataka. It has not only improved

the livelihoods of farm families but also enabled them to manage risks, such as droughts by building resilience in production systems.

5. Dr Sarvesh stressed the importance of collective action in Bhoochetana I for operationalizing the holistic solution at farm level and challenge to improve the timely supply of quality inputs to cover all 7.4 m ha in the state. Mr Chandrashekhar highlighted the importance of the holistic approach; Dr SA Patil highlighted the need to ensure regular/ sustainable income for the farmers. Mr Shankarlinge Gowda identified the missing link of farmers to the market and suggested due attention should be given to address the missing link for sustainability.

6. Mr SV Ranganath, Chief Secretary, lauded the success of Bhoochetana which enabled Karnataka to achieve 5-6% annual growth rate in agriculture during the last four years as compared to the previous stagnant 2% growth and appreciated the efforts of ICRISAT and DoA teams. He stressed the need to address the missing links in the system like livestock, horticulture, agro-forestry and market linkages. He also identified persistence, persuasion and ensuring inclusiveness of small farmers in agricultural development as the drivers of Bhoochetana's success. He also ensured full support and help of GoK for the Bhoochetana II and GoK CGIAR initiative. He recommended that the name of the GoK-CGIAR initiative be finalized as Bhoochetana Plus**.** He emphasized the need to strengthen the involvement of private players in the extension system and also address the issue of reducing the gap between rural and urban incomes for reducing migration.

Figure 11. *Dr William D Dar addressing the participants*

Figure 10. *Sri SV Ranganath, Chief Secretary, GoK delivering the Inaugural Address*

Technical Session

7. In Technical Session I, co-chaired by Dr KV Raju and Mr Kaushik Mukherjee, a detailed presentation was made by Dr Suhas P Wani on baseline characterization including GIS layer maps of four benchmark sites for Bhoochetana Plus along with different activities to be undertaken. A detailed discussion took place on the ex-ante economic benefit analysis and

it was implied that benefits from Bhoochetana Plus will be far more than projected, though, it was indicated that conservative calculations are made with adoption ceilings and ground realities. Dr KV Raju appreciated the progress made by the partner institutions and suggested that specific interventions be identified with measurable monitoring indicators along with a timeline. The role of SAUs was clarified and made it clear that the SAUs are involved in all the programs at various levels. They were appreciated for their participation in taking science-led approach to the farmers' doorstep.

8. In the parallel sessions on convergence, inputs, capacity building, interventions and demonstrations, and public private partnerships (PPP) for extension were deliberated upon by the groups. The PPP session was for the private corporate representatives and the group discussion was steered by Kaushik Mukherjee and KV Raju with support from Suhas Wani. During the discussions presentations were made by the corporate representatives and what is expected by the GoK was highlighted. It was stressed that the extension bundled with inputs supply and machine hiring is expected and payment need to be based on performance and partial recovery of charges from the farmers as per the GoK guidelines. Suggestions were sought from the private corporates on what they can provide, what they expect from the government and how it can be made an model system in the country.

Figure 12. *Dr William D Dar presenting mementos to Sri SV Ranganath and Dr KV Sarvesh*

9. Drs Siddaraju/Subbaiah presented the summary of discussions from the Inputs Mobilisation group including machinery with the salient recommendations being to ensure timely inputs availability with focus on assessment of requirement finalisation of rate contract; indenting; ensuring quality; adequate godown facilities and timely payment to the vendors. It was agreed to have all inputs in place 15 days to 1 month before the actual start of the season. Dr BK Dharmarajan summarized the recommendations from the Convergence group, which suggested establishment of state, district and taluk level committees to plug issues in convergence of on-shelf technologies and demonstration, supply of inputs, credit linkage, integrated farming system, farm mechanization, micro-irrigation, capacity building, post-harvest technologies, value addition, and market linkages. Capacity building group led by Shankarappa suggested considering the existing constraints in benchmark sites, to follow improved production technologies, use of natural resources and external inputs, post-

harvest technologies, and market information. Dr Prabhakara Shetty speaking for the interventions/demonstrations group suggested output-oriented interventions with measurable monitoring indicators. The potential interventions suggested include soil-water conservation and management, productivity enhancement, increasing labor efficiency, increasing livestock productivity, nutritional insecurity, and market linkages, etc.

10. On the second day, Dr Suhas Wani presented a detailed synopsis of Bhoochetana progress during four years and stated that the area coverage has increased progressively from 0.2, 1.2, 2.85 to 3.73 m ha by 2012-13 with impressive yield gains of 23 to 66 per cent over farmers' practice. Even during the low rainfall years during 2011 and 2012, yield gains saw 25-38% increase and touched the lives of 3.6 million families, particularly small and marginal farmers. Soil mapping was completed, soil health information was effectively shared with all the stakeholders and use of balanced nutrient management including use of micronutrients was promoted among the farmers as entry point. In addition, crop diversification like castor in Kolar, coriander and pigeonpea as intercrop, were introduced which significantly raised farmers' incomes. Various farmers' success stories have been compiled in a book and released. An economic assessment showed increased economic value to the tune of Rs. 646 crores in Karnataka due to adoption of improved management under Bhoochetana. This initiative is now widely publicized at international and national fora. Key drivers of success identified are:
    - Convergence, collective action, capacity building and consortium approach;
    - Holistic and integrated approach;
    - Effective monitoring and evaluation;
    - Innovative extension system using farm facilitators and lead farmers;
    - Champions at the policy level;
    - Working passionately and persistently;
    - Tangible economic benefits for small farmers (inclusiveness);
    - Broke the vicious cycle of supply driven approach.

Figure 13. *Dignitaries releasing the BC success stories book and Directory of BC team*

11. Dr Sarvesh recommended strengthening the concept of FFs through quality assuarance and effective monitoring on a weekly basis by the ADAs, communicating deliberations from the Video Conference (VC) to FFs, replacing new cultivars, timely reporting, and online communication with inputs supply companies.

12. Dr KV Raju highlighted the challenges of crop cutting experiments (CCEs) and inclusion of CCE's data in to state statistics. A committee consisting of representatives from revenue department, RDPR department, watershed department, along with agriculture and DES is constituted to report within one month. He sought suggestions from the house to incorporate in the ToRs of the committee.

13. Dr Dharmarajan presented the recommendations of the Bhoochetana II *kharif* plan workshop held at Belgaum on 28 January 2013.

- During *kharif* plan 50 lakh ha rainfed area plus 6 lakh paddy area and 2 lakh sugarcane area is targeted;
- Establishment of seed villages and agri machinery hiring centers in the villages;
- For FFs minimum qualification recommended is 10th standard (SSLC) and need to be engaged for 180 days during *kharif* season and 270 days for *kharif* and *rabi* seasons;
- The area per FF will be 500 ha in all areas and they should be given an honorarium and not salary; their honorarium may be increased to Rs 200 against 150 per day;
- All FFs to be provided with similar T-shirt, cap and a bag from a centralized place;
- Two Lead Farmers are recommended per FF for 15 days;
- All existing trainings to continue along with two additional days for all FFs/extension agents on climate change;
- Current wall writings to continue, but other possible means such as tractors etc., may also be used for dissemination of Bhoochetana information. The information must be crisp and eye catching;
- Establishment of district level technical committee with JDA as chairman and DWDO, DDA, KVK head, ICRISAT scientist as members for convergence and monitoring;
- Establishment of demonstrations in 5 ha per hobli @ Rs. 2,000 ha-1 under KVK scientist;
- Conduct of exposure visits for 50 farmers/extension workers in the neighboring districts @ Rs. 25,000 per visit;
- Studies on climate resilient agriculture to be undertaken, and pilot the ICT Tablet-based extension system in a few districts;
- Setting up of kiosks in the districts;
- Incentives and awards for good farmers, FFs and extension officers along with competitions for farmers. The estimated budget is Rs. 172 crores.

Dr Dharamarajan listed the responsibilities as under:

- ICRISAT – technical recommendations, reports and climate studies;
- KSNMDC – climate studies;
- KSSC – seed production;
- Universities – guidance for kiosks, crop research and recommendations, capacity building through KVKs;

- DoA – guidance for crop cutting experiments.

14. The innovative extension system established by the DoA in Karnataka need to be nurtured properly and made sustainable through ensuring quality, close monitoring, taking precautions that this cadre remains as honorary cadre and does not proliferate. There is an urgent need to converge FFs of various departments to avoid over populating the FFs in villages. There is need to internalize that FFs are paid honorarium and not salary as they are not full time service providers. Also there is need to build their capacity and ensure quality support delivery for the farmers.

15. Joint Directors of Agriculture (JDAs) of Mysore, Bidar, and Bellary districts and Assistant Director of Agriculture, Hassan highlighted best practices adopted in their districts for Bhoochetana. These are as follows:

- In Mysore district Bhoochetana rally during Dassera festival proved quite effective for dissemination along with seed treatment campaigns and farmers' field schools. Crop diversification with maize in place of paddy covered 5,446 ha with 3,630 farmers and it resulted in additional income of Rs. 12,000 ha^{-1}.

- Similarly, introduction of maize in tribal area (538 ha) of Hunsur taluk have generated net profit of Rs. 32,000 ha^{-1}. For rice farmers, mechanical rice transplanter was introduced to address the problem of labor shortage.

- JDA Bidar indicated well distributed rainfall during 2012 which resulted in good agricultural productivity with increase of 30%. He said that farmers have realized the importance of soil test-based fertilizer application and they follow the integrated nutrient management method. Sugarcane farmers have adapted drip irrigation system to improve water use efficiency.

- *Krishi Raths* showed greater reach and impact on the information sharing among farmers. Need for increased involvement of KVK Scientist & Watershed Department with effective convergence of different departments and schemes with Bhoochetana was highlighted.

- JDA Bellary highlighted the need for timely actions for CB, and inputs delivery. A big achievement during 2012 *kharif* season was that the crop yield increased in the range of 17-45%.

- Assistant Director of Agriculture, Hassan shared experiences of Bhoochetana initiative in the district and pointed out that regular capacity building training programs helped FFs and lead farmers to act as effective extension agents. The regular awareness programs and publicity strategies worked well in spreading the awareness and information about the program.

16. In the Technical session V, Suhas Wani highlighted the vision of Bhoochetana Mission Program (BCMP) and mentioned that the focus is on sustainable improvement of livelihoods of small and marginal farmers in the state by developing a farmer-centric, science-led, inclusive market-oriented integrated farming system with a participatory development approach. The objectives of Bhoochetana II are:

    - Strengthening the Bhoochetana consortium for increasing crops (irrigated and rainfed) yields by 20 per cent in five years in 30 districts of Karnataka through science-led development and new innovation systems;

    - Strengthening institutional mechanisms, such as seed villages, village seed banks, participatory research for development (PR4D), inputs supply, agricultural machinery hiring centers, farm extension through farm facilitators and communication systems for small and marginal farmers in the state for the DoA through capacity development, convergence, collective action, and partnerships;

    - To assess the impact of climate change in different agro-eco regions of the state in terms of anticipated shifts in the crop growing periods, water availability, major crop yields, and evaluate adaptation strategies for developing climate resilient farming systems; and

    - To document the process of consortium functioning, learning, and impact of BCMP in terms of increased crop yields, institutional development and capacity building of different stakeholders in the state.

17. He urged all the stakeholders and policy makers to make this initiative a grand success, by harnessing the positive energy generated in the DoA and to adopt and institutionalize the science-led development approach in the state. Strengthen the consortium and linkages with SAUs e.g. India-EU Project, Indo-US, special projects, etc. He also felt that small farm holders should be treated as equal partners through inclusive growth and there is an urgent need to develop sustainable agricultural practices considering the vulnerability of the fragile rainfed agro-ecosystems while intensifying the systems. Similarly, he stressed that we need to enhance not only the productivity but also focus on enhancing incomes, linking farmers to markets, improving nitrogen use efficiency (NUE) and water use efficiency (WUE) besides better soil health management.

18. The new initiatives in the second phase of Bhoochetana are to assess the impact of climate change in different agro-eco regions of the state in terms of anticipated shifts in the crop growing periods, water availability, major crop yields, and evaluate adaptation strategies for developing climate resilient farming systems. He also said that we need to identify and train suitable team members from the SAUs and form a Climate Change Team (CCT) at the state level to handle assessment of impacts of climate change at micro level in a coordinated manner. He also pointed out that the Climate Change Network will assess the impacts in the state by collating the historical weather data sets, soil information and quality checking and assessing the impacts of climate change on changes in the agro-eco regions in the state,

crop growing period, crop yields, and identify suitable crops as adaptation strategy to cope with the impacts of climate change. He stressed need for climate resilient agriculture and evaluation of suitable strategies in the benchmark locations of the target agro-eco regions in the state and develop awareness among the farmers in the state about the potential impacts of climate change on their crops and livelihoods and potential adaptation strategies based on the results of the participatory evaluation of adaptation strategies in the bench mark locations. He emphasized better convergence among all the stakeholders and need for strengthening of new extension system through farmer facilitators. Piloting of innovative Tablet-based, as well as farmer-to-farmer videos using Pico projectors are also proposed as new interventions.

19. Mr Rikin Gandhi from Digital Green described the role of "Social Networks for Agricultural Development". He shared his experience of shooting 5-10 minute videos of farmers, basically to share their views and experiences about agriculture for other farmers. This 5-10 minutes shoot will be useful in showcasing through battery operated small Pico projector to other farmers about practical information on any particular technology besides giving them a chance of having ownership in the project. He informed that they have planned to train 4-6 people in each group (either SHGs or others) about its handling and usage.

20. Improved new cultivars – seed introduction strategies in the state was described in detail by Dr Ananda Krishna K, Managing Director, Karnataka State Seeds Corporation. He elaborated on the concept of introducing and promoting new varieties and hybrids in the market and also highlighted strategies/steps involved in introducing new cultivars. He discussed the existing situation in public sector and in today's context he pointed out that there is need to have i) a varietal replacement perspective plan – for a period of 5/10 years; ii) planning for product development strategies; iii) monitoring for new variety development and replacement; iv) institutional mechanisms and working together by DOA, SAUs and SSCS.

21. During presentation by the group leaders the difficulties in positioning of new crop varieties like paddy, groundnut, soybean, red gram and green manuring crop seeds, lack of storage in Hassan, Dakshina Kannada and Yadgir were highlighted. Cooperative societies could be rolled in to reduce the burden on DoA.

Figure 14. *Discussing in groups as a part of group activity*

22. As regards to capacity building, group leader told to effectively use video conferencing for experience sharing; to have satellite-based training program; establish electronic display boards at GPs; farm schools; issue regular press releases; services of local TV channels; video shows; street plays; Krishi Melas; distribute CDs on crop and farm enterprises; effective extension literature and acknowledge achievers.

23. The group leader on documentation and dissemination suggested having one handicam per taluk. Group suggested using radio, TV local channels, mobile messages, etc., for effective dissemination. The group also pointed the idea of having a slot in online farmers' query call centers. The Convergence group leader suggested having district and taluk level committees to plug issues in convergence. The areas targeted for convergence included seed production, fodder production, capacity building, farm mechanization, micro irrigation, post-harvest technologies, market linkages, and credit linkages.

24. The group leader on climate change suggested adaptive strategies and group leader on seed production expressed need to replace absolute varieties and suggested to have SAU's concerned breeder to inspect seed production farms. There was a need to subsidize regulation and inspection charges and provide incentives to popular and new varieties.

25. During the centenary year of the DoA it was suggested to provide Tablets for ICT-based dissemination and collection of data up to ADAs for BC II. Dr Sarvesh also stressed the need to enhance the efficiency and effectiveness in implementing Bhoochetana during the second phase.

Concluding Session

26. During the concluding session, in order to bring competitiveness and efficiency in Bhoochetana, Dr Wani announced awards from ICRISAT side for the leading blocks/taluks in respect of developing 1,000 ha as a climate smart benchmark site and develop suitable interventions.

Some of the interventions proposed are:

- Glyricidia plantation;
- Soil water conservation (*In-situ*, Land form treatment, contour farming);
- Convergence (MGNREGA);
- Vermicomposting;
- New cultivars;
- New extension system;
- Documentation;
- Conduct of Farmers day;
- Crop replacement;
- SRI, Direct seeding;
- Market linkages;
- Value addition;
- Seed production/Seed bank;
- Crop cutting experiment;
- Fodder production;
- Micro-irrigation;
- Bio-fertilizer;
- Any other climate change interventions.

The program ended with a vote of thanks by Drs Sarvesh (DoA, Bengaluru) and Anantha (ICRISAT).

Figure 15. *Participants visited watershed development at ICRISAT*

Figure 16. *Team presenting the award to Mr CM Patgar, AAO Mirjan RSK*

GoK-ICRISAT Initiatives
Review and Planning Workshop:
Bhoochetana II and GoK-CGIAR Initiative

28 February – 2 March 2013
ICRISAT, Patancheru, AP, India

Process for Identifying the Benchmark Locations and Preparing the Workplans:

For Bhoochetana Plus a rigorous process for identifying representative benchmark locations in four revenue divisions of Karnataka was adopted. Number of consultations of the department officials and GoK senior officials were conducted, followed with workshops by the officials from all the four benchmark locations and visits by multi-disciplinary and multi-institutional teams were undertaken to identify the benchmark locations and prepare the work plans for each benchmark location accordingly. Details are enclosed as follows:

Considerations for Selection of Pilot Sites

The GoK-CGIAR initiative is for creating an innovation platform to develop a "Proof of Concept" to demonstrate how science-led participatory Research for Development (PR4D) can enhance the impact and trigger the sustainable agriculture development through scaling up model. With this objective in mind the pilots are planned with the following considerations:

- Select a representative benchmark pilot district representing each of the four revenue divisions in Karnataka;
- Adopt a cluster approach and select villages to form a cluster of 10,000 ha in each district to test, refine and validate the improved technologies as well as understand the farmers' acceptability for the interventions and enabling conditions for scaling-up. As number of scientific institutions and line departments are involved in the pilot and it is essential to ensure that success must be achieved under normal situations. We need to keep in mind that "***failures travel faster than the success*"** and as we are trying out the new things we should take a cautious approach and build the "Must win" mindset amongst the partners;
- We are piloting a systems approach where several line departments and multidisciplinary scientists will be working together through ***convergence*** mode. Convergence on ground in thinking and actions can be only achieved through Change in the mindset of the actors and to achieve this it takes time. One weak link in the chain can cause difficulty for the consortium to work and strong political will is needed;
- Once we are sure that the refined technologies will benefit the farmers from second year onwards area expansion is planned to reach 80,000 ha by the fourth year in each district;
- Even for a simple intervention like popularizing seeds of improved new cultivars is difficult as number of steps involved in multiplying the seeds take their own time as these are season-based activities and are also sensitive to various biotic and abiotic factors;
- Target-based approach for such innovative PR4D pilot would not work as it involves farmers who have to accept the new interventions willingly as observed worldwide. The assembly line approach by putting more resources for increasing production would not work with the communities may be counterproductive also and it will not

be sustainable in the long run. To build rapport with the communities and gain their trust it takes time and target-based coverage is not recommended for such novel initiatives;

- Any intervention to be scaled up on large area will need lot of forward and backward linkages to ensure success, sustainability and profitability for the farmers and quality supply of the inputs. This point has been taken in to account;
- We are piloting systemic changes through this initiative which need time to achieve as researchers, administrators and policy makers thinking need to be changed at least for implementing the pilot site. Once the success is there then individuals are ready to change as it creates a Win-win situation for all the stakeholders;
- The new approaches or interventions to be piloted need more investments as more benefits are to be harnessed in the long run.

Stakeholders' Consultations

The preliminary visits were made by the consortium team to selected four pilot sites viz., Bijapur, Chikmagalur, Raichur and Tumkur and interacted with different stakeholders (Figures 17-20). The visiting teams identified the constraints which were common across the four pilot sites which are listed below:

- Water scarcity
- Labor scarcity
- Lack of access to market
- Acute power shortage
- High cost of cultivation – Low resource use efficiency
- Lack of storage facility – Narrow window of procurement - Post harvest losses – lack of processing units – minimum support price
- Fodder scarcity
- Poor mechanization
- Lack of access to real time information
- Lack of convergence of schemes
- Mono-cropping with subsistence

The specific constraints for the particular pilot sites were identified which are as follows:

Chikkamagalur	Tumkur	Bijapur	Raichur
• Lack of allied activities • Lack of improved seeds • Infrastructure – connectivity • Poor mechanization • Indiscriminate use of fertilizer and water • Forest encroachment	• Depleting water table • Poor crop establishment • Low WUE & NUE • Non availability of timely inputs • Fallowing practice	• Depleting water table • Deteriorating water quality • Low forest cover • Low yield • Low WUE & NUE • Fallowing practice • Low forest cover • Local low yielding non-descriptive animal breeds • Improper utilization of dry fodder • Low per capita availability of animal foods	• Over use of fertilizer • Degrading ground water quality • Low forest cover

Figure 17. *Scientists interacting with farmers during their visit to benchmark villages in Tumkur district*

Figure 18. *Team of scientists interacting with stakeholders at Raichur, Karnataka*

Figure 19. *Multi-disciplinary team interaction with stakeholders at Bijapur district*

Figure 20. *Scientists interacting with stakeholders at Chikmagalur district*

Consultation with State and District Level Line Departments

After obtaining first-hand information from grassroot level stakeholders viz., farmers, women, landless and rural youths, several meetings, and discussions were held with state and district level line department staff (Figure 21). Similarly, two day stakeholder consultation held at Bengaluru with the guidance of Mr Kaushik Mukherjee (ACS&DC) to seek suggestions and to draw a road map for implementing the initiative. The discussion has seen high profile policy makers and bureaucrats attending and contributing. Based on the different consultation meetings as well as discussions, stakeholders who have attended the meetings deliberated and identified district-wise constraints and suggested different strategies to tackle these problems.

Figure 21. *Consultation meeting with state and district level line departments staff at Bengaluru*

Benchmark Districts

Bijapur

Bijapur district is located in the northern part of Karnataka State. It lies between two major rivers namely the Krishna and the Bhima. The district is bounded on the North by Sholapur district of Maharastra State, on the West by Belgaum district, on the East by Gulbarga district and on the South by Bagalkot district of Karnataka. Bijapur district is land locked district and is accessible both by rail and road. Bijapur town is the headquarters of the district. The district has a total geographical area of 10,541 sq kms. The district has been divided into five taluks for administrative convenience viz. Basavana Bagewadi, Bijapur, Indi, Muddebial and Sindagi taluks. The details of selected villages are shown in Table 5.

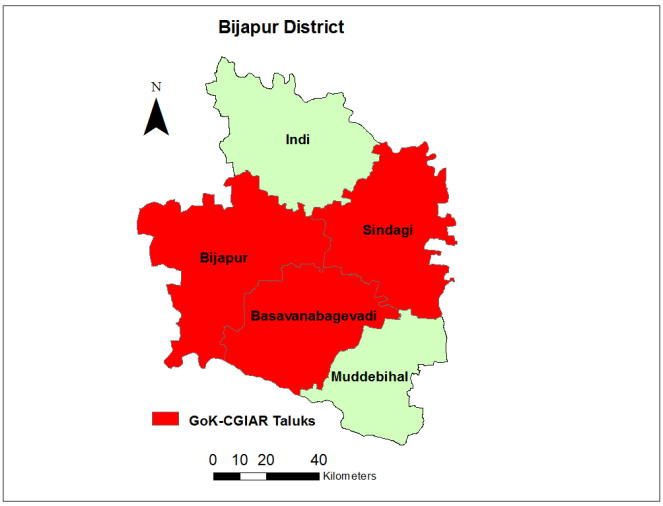

Figure 22. *Map of selected benchmark taluks in Bijapur district*

Table 5. Villages selected under Bhoochetana Plus in Bijapur district for 2013-14

S. No	Taluk	Village name	Geographical area	Cultivable area	watershed area (IWMP)	Area already treated under different scheme	Area to be treated in next plan
1	Bijapur	Kumate	1887.6	1809.0	669.50	851.19	-
		Nidoni	6234.1	5958.0	2087.76	1386.88	2759.46
2	Sindgi	Nivalkhed	784.0	759.0	583.53	200.47	-
		Mulsavalagi	4320.0	4169.0	1767.32	2552.68	-

Issues and Concerns

- Fill the gaps in integrated watershed management thru *in-situ* and *ex-situ* water conservation structures;
- Waste water use for fodder production;
- Soil test-based balanced and integrated nutrient management system;
- Short-duration crop varieties during kharif season;
- Intercropping and mixed cropping;
- Dryland horticulture: drought resistant fruits, like guava, etc.;
- Crop diversification to high value crops;
- Timely availability of quality seeds;
- Custom hiring centers;
- Horticulture (grapes, lime, pomegranate, onion) with drip irrigation;
- Development of cold-storage facility;

- Development of processing facility;
- Marketing chain and warehousing;
- IPM in fruits particularly for bacterial blight in pomegranate;
- Capacity-building of farmers and stakeholders;
- Greenhouses and shade houses;
- Improved cattle breeds to be introduced;
- Introduce improved feeding regime and crop residue utilization;
- Using fallow lands to produce fodder;
- Introduce poultry;
- In-land fishing where water bodies are present;
- Income-generating activities (skill development, coal making using prosopis julifera, feed marketing, neem-cake);
- Promotion of SHGs and micro-enterprises;
- Dairy development;
- Apiculture, especially in sunflower growing areas;
- Vermicomposting to be encouraged;
- Azolla to be grown as INM;
- Horticulture nurseries, bio-fuels to be developed;
- Precision irrigation systems;
- Market linkages;
- Community organization;
- Credit and subsidies.

Based on the identified constraints, concerned line departments have prepared detailed plan of action for the year 2013-14. These activities are proposed to implement in selected villages in Bijapur and Sindagi taluks (Table 6). For detailed village-wise action plan see Annexure 1.

Table 6. Bijapur District Action plan for the year 2013-14

S.No	Identified Intervention	Details of Intervention	Targeted area (ha) (No)	Department responsible	Resources required	Source of funding	Remarks
1	**Watershed development**	Rainwater harvesting structures (Nalaband, checkdam and Farm ponds)	4 No	Watershed	12.00	IWMP- 12.00	
		Soil conservation on farms (Field bunding)	447 ha	Watershed	40.20	IWMP- 40.20	
		Trees (fodder/Timber) plantation in waste/fallow lands.	26 ha	Forestry	32.50	MGNREGS-32.50	
2	**Land & water management**	Drip and sprinkler systems	174 ha	Agriculture	74.28	BC Plus- 74.28	
		Drip systems	12 ha	Sericulture	4.50	Catalitic devt- 4.50	
		Micro irrigation Systems	100 ha	Horticlture	47.48	MIS - 47.475	
		Tank rehabilitation	80 ha	Minor Irrigation	45.00	State Govt 45.00	
		Irrigation through LIS using borewell	37.61 ha	Minor Irrigation	45.00	State Govt 45.00	
		Construction of bridge cum barrages through tank rehabilitation	52 ha	Minor Irrigation	98.00	State Govt 98.00	
3	**Productivity enhancement**						
	A) Integrated nutrient management						
	(i) Soil test-based balanced nutrition	Use of balanced fertlisers, micronutrients, biofertilizers, vermicompost etc	12695 ha	Agriculture	243.94	BC 2-28.125, SDP-23.25, BC Plus 192.565	
		Use of balanced fertlisers, micronutrients, biofertilisers, vermicompost etc	40 ha	Horticulture	0.40	NHM- 0.40	

S.No	Identified Intervention	Details of Intervention	Targeted area (ha) (No)	Department responsible	Resources required	Source of funding	Remarks
	(ii) Vermicomposting	Construction of vermi pits to encourage the organic farming	400 Nos	Agriculture	16.00	BC Plus-16.00	
		Providing mobile vermi pits to encourage the organic farming	39 Nos	Watershed	1.95	RADP- 1.95	
		Construction of biodigester pits to encourage the organic farming	37 Nos	Agriculture	11.10	BC Plus-11.10	
	B) Improved cultivars	Use of hybrid bajra, maize, sunflower; high yield varieties of redgram, bengal gram, jawar, wheat, groundnut, sugarcane; Bt cotton	9400 ha	Agriculture	61.38	NFSM- 25.00, SFMF- 36.38	
		Use of new variety of pomegranate	15 ha	Horticulture	2.70	NHM - 2.70	
	C) Integrated pest management	Use of biopesticide and plant protection chemicals	13436 ha	Agriculture	63.725	NFSM-30.00, ISOPAM-33.725	
		Use of IPM components	40 ha	Horticulture	0.40	NHM- 0.40	
	D) Farm mechanisation	Use of farm machineries in agriculture	449 Nos	Agriculture	15.14	Farm Mech-9.83	
		Sericulture equipments	16 Nos	Sericulture	9.00	Catalitic devt- 9.00	
	E) Diversification and intercropping	Integrated farming system (IFS)	80 ha	All Dept	80.00	ATMA - 5.31, BC Plus- 74.69	
		Demonstration	8 ha	Watershed	0.80	IWMP- 0.80	
	F) Agroforestry activities	Tree plantations on farm bunds	490 ha	Forestry	49.00	BC Plus- 38.00, MGNREGS-11.00	
4	**Livestock-based livelihood activities**						
	Artificial insemination for breed improvement	Providing AI facilities at their doorsteps through mobile veterinary clinic	4168 No	Animal Husbandry	4.00	BC Plus- 4.00	

S.No	Identified Intervention	Details of Intervention	Targeted area (ha) (No)	Department responsible	Resources required	Source of funding	Remarks
	Animal health camp	Conducting health check up, treatment mass deworm dose supply of minerals and vaccination	9353 Nos	Animal Husbandry	6.00	BC Plus- 6.00	
	Sheep/goat rearing	Induction of proven superior germplasm of Sheep/goat in the existing blocks	358 families	Animal Husbandry	5.70	BC Plus- 5.70	
	Fodder development	Supply of quality fodder seeds/root slips of napier & bajra	400 families	Animal Husbandry	9.00	BC Plus- 9.00	
	Backyard poultry	Supply of deshi birds (Giriraj/Chabra)	245 families	Animal Husbandry	2.45	BC Plus- 2.45	
	Induction of high-yielding milch animals	Induction of high-yielding milch animals	41 No	Animal Husbandry	10.25	BC Plus- 10.25	
	Fish culture	Supply of fish seeds to existing ponds and wells	120 No	Fisheries	0.80	BC Plus- 0.80	
		Construction of new ponds for fish culture	2 ha	Fisheries	8.00	BC Plsu-5.00, NMPS- 3.00	
	Kitchen garden	Kitchen garden	20	Horticulture	0.50	RKVY - 0.50	
	Sericulture	Rearing house	8 No	Sericulture	8.00	Deptl- 8.00	
		Plantation	40 ha	Sericulture	6.75	BC Plus- 6.75	
		Nursery raising	1.6 ha (4,00,00 seedilings)	Sericulture	3.00	BC Plus- 3.00	
	Village seed banks	Seed production and collection of local varities	1000 Qtls	Agriculture	10.00	NFSM/OPP- 10.00	
5	**Capacity-building**						
	Formation of farmers groups	To enahance the knowledge and capacity-building	3 Nos	Horticulture	0.30	ATMA- 0.30	
	Training for farmers	To enhance the knowledge and capacity-building	800 Farmes	All Dept	1.60	ATMA- 1.60	
		do	7 Nos	Watershed	0.35	IWMP- 0.35	
		do	100 farmers	Fishries	5.00	BC Plus- 5.00	
		do	670 farmers	Horticulture	0.63	ATMA- 0.63	

S.No	Identified Intervention	Details of Intervention	Targeted area (ha) (No)	Department responsible	Resources required	Source of funding	Remarks
	Training for SHGs	To enhance the knowledge and capacity-building	2000 (Members)	Watershed	1.20	IWMP- 1.20	
	Farmers field school (FFS)	Educating the farmers through conducting technical sessions	9 No	Agriculture	1.35	BC-2- 1.35	
		Field Days	9 No	Agriculture	0.23	BC-2- 0.23	
	Publicity	Wall/tractor/ trailer writing	4 No	Agriculture	0.40	BC-2- 0.40	
	Awareness building	Tablet-based extension system	9 No	Agriculture	4.50	BC Plus- 4.50	
	Exposure visit	Visit to progressive farmers' fields	830 farmers	Horticulture	0.40	ATMA- 0.40	
		Visit to CBO to study livestock based livelihood activities	40 farmers	Animal husbandry	0.60	BC Plus- 0.60	
		Visit to progressive farmers' fields	4 Nos	Watershed	1.00	IWMP-1.00	
6	**Inclusive Market Oriented Development (IMOD)**	Marketing linkage		Horticulture	0.00		HOPCOMS
		Marketing linkage		Animanal Husbandry	0.00		KMF
		Marketing linkage		Agriculture	0.00		APMC
	All Activities Dist. Total				**1046.49**	**Convergence-571.51, Grants reqd under BC Plus-475.00**	

Chikmagalur

Chikmagalur a place known for its scenic beauty, fresh green, lush forests, eye catching waterfalls, Cool climate is situated in the Malnad region bounded by Bababudangiri Hills at a mean sea level of 3338 ft. The District is located in Southwest part of the state surrounded by Hassan, Chitradurga, Davanagere, Shimoga, Udupi and Dakshina Kannada district. The total Geographical area of the district is 7220 Sq. kms, 28% covered by forests. The District is the birth place for Six rivers: Thunga, Bhadra, Hemavathi, Vedavathi, Yagachi and Netravathi. Chikmagalur District is spread over seven Taluks, with 1039 inhabited villages, population is 11.41 Lakhs with 9.18 Lakh in Rural areas. Average population density is 158 per sq. kms ranging from 82 in Narasimharajapura Taluk to 204 in Kadur Taluk. Literacy rate of the District is 75%.Geographically the district lies between the latitude of 12^{o} 57' N to 13^{o} 52 N and longitude of 75^{o} 7' E to 75^{o} 20' E. The district comes under 3 Agro Climatic Zones, namely Hill zone (Chikmagalur, Mudigere, Koppa, Sringeri and N.R.Pura) Southern transitional zone (Tarikere) and Central dry zone (Kadur). The list of villages selected under Bhoochetana Plus initiative are shown in Table 7.

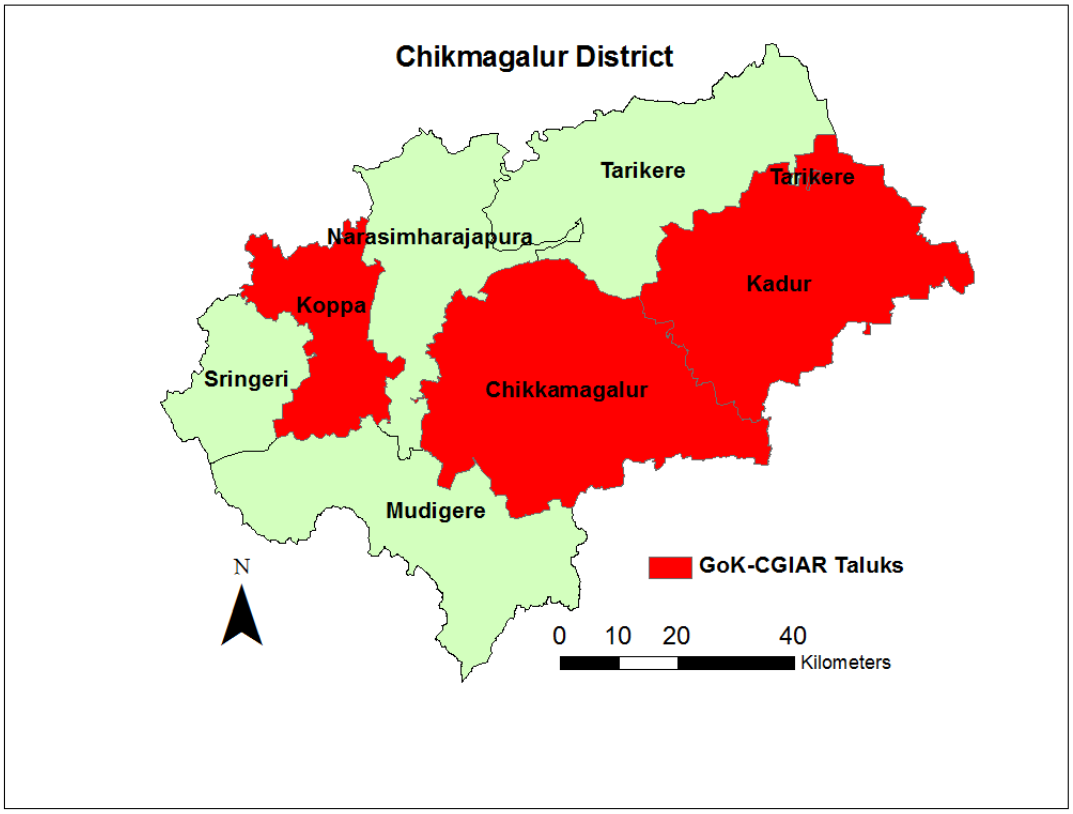

Figure 23. Map of selected taluks in Chikmagalur district

Table 7. Villages selected under Bhoochetana Plus in Chikmagalur district for 2013-14

S.No.	Taluk	Villages	Geographical Area (ha)	Cultivable Area (ha)
1	**Chikmagalur**	Kurichikkanahalli	214.4	108
2		Kengenahalli	81.6	67.33
3		Karisiddanahalli	181.2	113.7
4		Karehalli	78.4	64.8
5		Uddeboranahalli	186.01	146.1
6		Kunnalu	366.92	258.4
7		Lakkamanahalli	511.2	322.4
8		Sirabadige	692.2	269.32
	Total		**2311.93**	**1350.05**
1	**Kadur**	Emmedoddi	8557	1607.3
2		Shakunipura	56	47.6
3		Chikkagangla	762	586.8
4		Haralaghatta	189.7	76.5
5		Howthanahalli	162.4	149.5
6		Karithimmanahalli	92.8	88.8
7		Gollarahalli	160.8	151.2
8		Kannenahalli	153.5	128
9		Govindpura	779	426
	Total		**10913.20**	**3261.70**
1	**Tarikere**	Chinnapura	243.56	243.24
2		Sowthanahalli	378.4	311.648
3		Sollapura	386.48	333.716
4		Begaru	606.156	482.04
5		Thammatadahalli	166.116	139.208
6		Mugali	738.156	575.736
7		Katiganere	496.916	440.488
8		Gowrapura	468.508	419.688
	Total		**3484.29**	**2945.76**
1	**Koppa**	Gunavanthe	1399.2	295.6
2		Harandur	476.8	179.6
	Total		**1876.00**	**475.20**
	Grand Total		**18585.422**	**8032.714**

Issues and Concerns

- Integrated Watershed Development (*In-situ* moisture conservation and runoff water harvesting measures, improvement to enhance the storage and percolation capacity, etc.);
- Rejuvenation of existing tanks by desilting, bunds strengthening, sluice gate, etc;
- Construction and maintenance of community water bodies (gokatte, local ponds, etc.)

- Borewell recharge pits;
- Micro irrigation – Drip and sprinkler to be promoted;
- Water efficient crops and varieties;
- Mixed cropping with short duration pulses followed by ragi;
- Coconut and mango with cowpea, green gram, horsegram;
- Balanced nutrient application
- Compost/green manuring/vermicomposting;
- Mechanization;
- Customised service;
- Transplanter and combined harvester;
- Strengthening of artificial insemination to improve low yielding breeds of cattle and goats;
- Napier grass, Multi cut bajra, Multi cut jowar on farm bunds; Suspenia, jack trees, drumstick, Leucenia on farm boundary and fallow/waste lands;
- IPM, IDM, crop rotation;
- Summer tillage, trap cropping;
- Site-specific diversification to high value crops and building storage facility (DoA, warehouse corporation;
- Agro-processing units on community basis;
- Horticultural crops (pomegranate, *amla*, mango, jack, etc) on fallow lands;
- Existing schemes like processing (incentives) to be linked;
- Micro-finance institutions;
- Linking with banks/GoK with subsidy component;
- Credit cooperative societies.

Based on the identified constraints, concerned line departments have prepared detailed plan of action for the year 2013-14. These activities are proposed to implement in selected villages in Chikmagalur, Kadur, Tarikere and Koppa taluks (Table 8). For detailed village-wise action plan see Annexure 2.

Table 8. Summary of Chikmagalur district Action plan for the year 2013-14

Rupees in Lakhs

S.No	Identified intervention	Details of intervention	Units	Targetted area	Department responsible	Resources required	Source of funding
1	**Watershed development**	Rainwater harvesting structures (Nalaband, checkdam and farm ponds, Gokatte)	No	636	WDD	246.65	IWMP RADP
		Soil conservation on farms (Field bunding)	ha	4028	WDD	483.36	IWMP
2	**Land & water management**	Distribution of micro-irrigation systems@ 75% subsidy max 15000 Per Ha	ha	500	DoA	75.000	Micro irrigation
		Distribution of PVC pipes @ 50% subsidy max per 15000/farmer	No	100	DoA	15.000	NFSM
		Micro-irrigation system	ha	410	Horticulture	54.500	ZP,SS NMMI
		Subsidy for micro-irrigation	ha	7.6	Sericulture	2.850	Deptl scheme CDP
		Groundwater recharge (Recharge pits)	No	247	WDD	71.630	IWMP
3	**Productivity enhancement**						
	a) Integrated nutrient management						
	(i) Soil test-based balanced nutrition	Distribution of gypsum/Lime as soil amendment @ 50% subsidy (max. Rs 750/- ha)	ha	450	DoA	3.375	Bhoochetana
		Distribution of micronutrients @ 50% subsidy (max. Rs 750/- ha)	ha	450	DoA	2.250	Bhoochetana
		Distribution of biofertilizers @ 50% subsidy (max. Rs 100/- ha)	ha	2000	DoA	2.000	Soil enrichment program & organic fertilizers

S.No	Identified intervention	Details of intervention	Units	Targetted area	Department responsible	Resources required	Source of funding
		Distribution of Karnataka Agrigold @ 50% Subsidy (max. Rs 4000/- Tn)	Ton	55	DoA	2.200	Oganic fertilizers, soil enrichment program
		INM and IPM	ha	420	Horticulture	4.200	NHM
		Distribution of plant growth promoters	ha	7.6	Sericulture	0.135	Deptl schemes RKVY
	(ii) Vermicomposting	Distribution of Vermicompost @ 50% Subsidy (Max Rs. 2200/ Ha)	ha	18	DoA	0.396	Oganic fertilizers, soil enrichment program
	B) Improved cultivars	Incentive for certified seed production Rs 1000/- Qtl for growers	Qtl	100	DoA	1.000	NFSM
		Certified seed distribution 50 % Subsidy	Qtl	735	DoA	8.820	Seed distribution
		Large scale demonstrations @ Rs. 4000/hectares	ha	26	DoA	1.040	ISOPAM
		Protected cultivation	No	3	Horticulture	6.000	NHM/ RKVY
		Cultivation of high yielding varieties of vegetables	ha	330	Horticulture	99.500	NHM/ RKVY
	C) Integrated pest management	Distribution of biopesticides @ 50% subsidy (max. Rs 100/- ha)	ha	2000	DoA	2.000	NFSM, Bhoochetana
		Distribution of plant protection equipment @ 50% subsidy (max. Rs 2500/- Tn)	Ton	275	DoA	6.875	NFSM, ISOPAM
		Distribution of plant protection chemicals @ 50% subsidy (max. Rs 500/- ha)	ha	550	DoA	2.750	NFSM, ISOPAM
		Disinfectants distribution	ha	7.6	Sericulture	0.095	Deptl schemes (CDP)
	D) Farm mechanization	Distribution of Hi-tech implements @ 50% Max Rs 15000 /-Unit	No	180	DoA	27.000	Farm mechanization
		Distribution of power tillers @ 50% Max Rs 56500/ Unit	No	14	DoA	7.910	Farm mechanization
		Farm machinery	No	119	Horticulture	60.000	NHM/ RKVY
	E) Diversification and intercropping	Crop diversification demonstrations @ 4000/hectares	ha	8	DoA	0.320	ISOPAM
		Cultivation of banana (G9)	ha	386	Horticulture	70.948	NHM/ RKVY

S.No	Identified intervention	Details of intervention	Units	Targetted area	Department responsible	Resources required	Source of funding
		Promotion of nursery	No	5	Horticulture	20.000	NHM
		CHD potato	ha	170	Horticulture	5.930	State fund
		Dryland horticulture	ha	195	WDD	13.930	IWMP
		Vegetable mini kits	No.	1475	WDD	4.430	IWMP
		Demonstrations	ha	48.62	WDD	5.83	IWMP RADP
	F) Agro-forestry activities	Distribution of green manure seeds @ 50% subsidy Max Rs. 2000/ Ha	ha	18	DoA	0.360	Soil enrichment program, organic fertilizers
		Agro-forestry	ha	2430	WDD	100.76	IWMP
4	**Livestock-based livelihood activities**						
	Artificial Insemination for breed improvement	Artificial insemination program	No	8000	DoAH	2.000	
	Animal health camp	Animal health programs	No	10000	DoAH	10.000	
	Sheep/goat rearing	Supply of sheep units (10+1)	No	100	DoAH	15.000	
	Fodder development						
	Backyard poultry	Assistance to farmers to set up poultry units (Backyard Poultry)	No	500	DoAH	2.500	
	Induction of milch animals	Livestock insurance (milch cows)	No	1600	DoAH	14.400	
	Fish culture	Distribution of kits for fishing to fish farmers	No	27	Fishery	1.350	
		Distribution of Mathsyavahini (Moped) for fish marketing to fish farmers	No	4	Fishery	0.400	
		Housing for fishermen (Mathsyashraya)	No	9	Fishery	5.400	
		50% seed subsidy for seed purchased	No	2	Fishery	0.258	

S.No	Identified intervention	Details of intervention	Units	Targetted area	Department responsible	Resources required	Source of funding
	Kitchen garden				Horticulture		MGNREGA
	Sericulture	Assistance to mulberry cultivation	ha	7.6	Sericulture	1.148	Deptl schemes (CDP)
	Village seed bank						
5	**Capacity-building**						
	Formation of farmers groups	RSG Formation and revolving fund @ 10000/- per group	No	7	DoA	0.700	RKVY
	Training for farmers	Extension services	No	125	Horticulture	8.900	NHM/ State Fund
		Training to farmers	No	300 farmers	DoAH	3.000	
		Training to officials	No	100 officials	DoAH	1.000	
		Training to farmers	No	2922	WDD	19.510	IWMP
	Training for SHGs	Training to SHGs	No	2352	WDD	15.290	IWMP
	Farmers Field School	FFS -IPM Practices Rs 10000/ FFS	ha	12	DoA	1.200	Bhoochetana
	Publicity				DoA Horticulture WDD,DoAH Sericulture Fishery	0.3	Farm information ZP schemes
	Awareness building	Conducting seed treatment campaigns	No	4	DoA	0.600	Plant protection
	Exposure visit	Exposure visits	No	2136	WDD	31.98	IWMP
6	**Inclusive Market Oriented Development (IMOD)**	Assistance for Agro-processing units @ 50% subsidy max Rs 25000/-	No	61	DoA	15.250	Agro processing
		Processing units	No	9	Horticulture	4.000	NHM
		Market (Procurement outlets)	No	3	Horticulture	15.000	NHM/State fund
		All activities Dist. Total				**1578.23**	

Raichur

Raichur district belongs to North Eastern Dry Zone (Raichur, Manvi and Deodurga taluks) and Northern dry zone (Zone 3, Sindhanur and Lingasugur taluks) of Karnataka comprising five taluks, 808 villages, 164 gram panchayats and 8 towns with a total population of 16.69 lakh and a density of 200 persons/ sq.km. About 70 per cent of the geographical area (8356 sq.km) is under net cultivation and only 4 per cent of it is classified as forest. For the first year Bhoochetana Plus initiative two taluks are selected and the details of selected villages is given in Table 9.

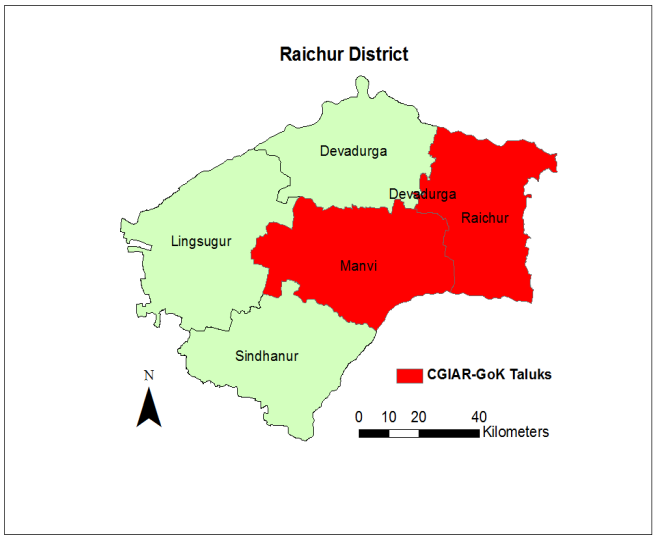

Figure 24. *Map of selected taluks in Raichur district*

Table 9. Selected villages under Bhoochetana Plus in Raichur district for 2013-14

S.No	Taluk	Village	Area (ha)
1	Raichur	Idapanur	3600
		Panchaladinni	660
		Midagaladinni	500
2	Manvi	Harvi	1400
		Govinadoddi	300
		Kardigudda	450
		Kurukunda	1500
		Vadavatti	840
		Patkamadoddi	825

Issues and Concerns

Rainfed systems

- Erratic rainfall and uncertain cropping plan
- Single/Mono-cropping system
- Low cropping intensity
- Climate change effects
- Improper mechanization/value chain machinery
- Low farm profitability
- Fodder- quality/quantity issues

Irrigated systems

- Delayed canal supply/ unequal distribution
- Poor groundwater availability
- Poor groundwater quality
- Monotonous cropping pattern-lack of diversity
- Salinity/ waterlogging
- High cost of production & low farm profitability
- Labor shortage
- Residue removal/burning
- Improper mechanization
- Imbalance plant nutrient-high doses-leaching-NO_3 contamination in ground water.

The district group also identified specific livelihood issues and other institutional and infrastructure issues as under:

- High agrarian population
- No regular income
- No small scale enterprises
- No value addition facility
- Low literacy
- Poor access to input/output market
- Tenent system (Lack of easy credit facility)
- Less women involvement in decision-making
- Non availability of livestock development center
- Lack of fodder bank
- Lack of Seed systems
- Lack of information/knowledge about government schemes
- Intensification by intercropping in cotton, tur
- Cropping system optimization with resilient crop, varieties and component technologies
- Agro-forestry/dryland horticulture
- Circumstance specific integrated farming system
- Rainwater management/harvesting and use for supplemental irrigation with micro irrigation systems
- Value chain mechanization
- Capacity-building at different scales and levels
- Diversification/optimizing cropping system
- Micro-irrigation
- Laser land leveling in flood irrigation systems
- Mechanization-planting to processing
- Conservation agriculture
- Protected agriculture/ high value horticulture crops
- Balanced plant nutrient application

- Capacity-building at different scales and levels
- Small scale entrepreneurship
- Capacity-building
- Value addition
- IFS modules-site-specific and farmer circumstance-specific
- Seed growers/ associations
- Service windows
- Promoting agro-forestry
- Empowering educated rural youth for animal husbandry (A.I. etc), agri-clinics
- Strengthening WUAs
- Kisan clubs at taluk level
- Knowledge centers
- Young professionals Capacity-building
- Convergence
- Public-Private Partnership (PPP)
- Farmer to farmers extensions
- Market linkage
- Post-harvest processing and value addition.

Based on the identified constraints, concerned line departments have prepared a detailed plan of action for the year 2013-14. These activities are proposed to implement in selected villages in Raichur and Manvi taluks (Table 10). For detailed village-wise action plan see Annexure 3.

Table 10. Summary of Raichur district Action plan for the year 2013-14

S. No	Identified Intervention	Details of intervention	Targeted area (ha) (No)	Department responsible	Resources required (Rs in lakhs)	Source of funding
1	**Watershed development**					
		1.Low cost rainwater harvesting structures (Farm pond, Check dam and mini percolation tank)	12 ha	Watershed	10.0	IWMP- 12.00
		2.Soil conservation on Farms (Field bunding)	50 ha	Watershed	2.90	IWMP- 2.90
		3.Green fodder development	570 ha	Animal husbandry and V. S	5.70	Dept of AH&VS-5.70
2.	**Land and water management**					
		Micro irrigation-Drip & Sprinkler systems installation	1925 ha	Agriculture	7.5	Agriculture Dept.-7.5
		Drip irrigation in plantation crop		Horticulture	11.82	NHM-11.82
		Drip irrigation	6 ha	Sericulture	3.38	Dept. of sericulture-3.38
		Trenching and mulching	9 ha	Sericulture	1.35	Dept. of sericulture-1.35
3.	**Productivity enhancement**					
	A) Integrated nutrient management					
	1.Soil test-based balanced nutrition	Use of balanced fertilizer, micronutrients (zinc, boron and gypsum), vermicompost, biofertilizer etc	10015 ha	Agriculture	23.18	BC-23.18
		Use of balanced fertilizer, micronutrients (zinc, boron and gypsum), vermicompost, biofertilizer, etc	9 village	Horticulture	30.0	NHM-30
	ii) Vermicomposting	Construction of vermi pits to encourage the organic farming	90	Agriculture	3.6	BC-3.6
		Construction of bio-digesters to encourage the organic farming	27	Agriculture	8.1	BC-8.1
		Cultivation of green manure crops and *in situ* incorporation	24 q	Agriculture	0.67	GoK-0.67

S. No	Identified Intervention	Details of intervention	Targeted area (ha) (No)	Department responsible	Resources required (Rs in lakhs)	Source of funding
	iii) Improved cultivars	Use of redgram variety (TS 3R), hybrid bajra, sunflower and paddy cultivar BPT 5204	129 q	Agriculture	4.43	BC-4.43
		Use of new variety of pomegranate, sapota, citrus crop, banana and papaya	35q	Horticulture	16.80	NHM-16.80
		Use of new variety of vegetables and cost of production	20q	Horticulture	14.70	NHM-14.70
	iv) Integrated pest management	Use of biopesticide and plant protection chemicals	4500 lts	Agriculture	22.50	Dept. of Agriculture-22.50
	Farm mechanization					
		1.Distribution of hi-tech equipments	30	Agriculture	13.2	GOK-13.2
		2.Subsidy for rearing equipments	9	Sericulture	2.7	Dept. of sericulture-2.7
	v) Diversification and intercropping	Agro-forestry activity-tree plantation on farm bunds	90 ha	Forestry	20.61	Social forestry-20.61
4	**Livestock-based and livelihood activities**					
	1.Artificial insemination for breed improvement					
		a) Animal health camps	18 Nos	AH&VS	18.00	AH&VS-18.00
		b) Backyard poultry	275 families	AH&VS	4.12	AH&VS-4.12
		c) Sheep/goat distribution/rearing	498 Nos	AH&VS	49.8	AH&VS-49.8
		d) Fodder Development	570	AH&VS	5.7	AH&VS-5.7
		e) Establishment of mobile Vety. clinic	3	AH&VS	6.57	AH&VS6.57
	2.Fishery	a) Assistance for construction of fish pond in water logged and saline lands (Min 1.00 acre area)	9.5	Fishery	2.1	Dept. of fishery-2.1
		b) Fishery requisite kits	8	Fishery	0.40	Dept. of fishery-0.40
	3.Sericulture	a) Incentive for establishment of mulberry garden	9 ha	Sericulture	0.93	Dept. of sericulture-0.93
		b) Construction of rearing house	9 No	Sericulture	6.75	Dept. of sericulture-6.75

S. No	Identified Intervention	Details of intervention	Targeted area (ha) (No)	Department responsible	Resources required (Rs in lakhs)	Source of funding
5	**Capacity-building**					
		a) Training and exposure visits	36 No	Sericulture	1.35	Dept. of sericulture-1.35
		b) Trainings to farmers regarding soil sampling methods, seed treatment, soil and water conservation measures and IFS model by inclusion of all allied departments	18 No	Agriculture	2.7	BC-2.7
		c) Demonstrations	45 No	Agriculture	4.5	BC-4.5
		d) Wall writings	45 No	Agriculture	0.9	BC-0.9
		e) Farmer's field school	18 No	Agriculture	1.8	BC-1.8
		f) Creating awareness program regarding rearing of cross bred cows and management of dairy	27 No	Animal health and veterinary service	0.54	Dept. of AH &VS-0.54
All activities district total						**326.98**

Tumkur

Tumkur is one of the 30 administrative districts of Karnataka state, located North-west of Bangalore at a distance of about 70 kms. The district is bounded by Mandya District in the South; Chitradurga and Hassan districts in the West; Chikkamangalore in the Northeast and Anantapur District of Andhra Pradesh state in the Southeast direction. The district occupies an area of 10,598 km². The district consists chiefly of elevated land intersected by river valleys. The district is famous for its iron ores.

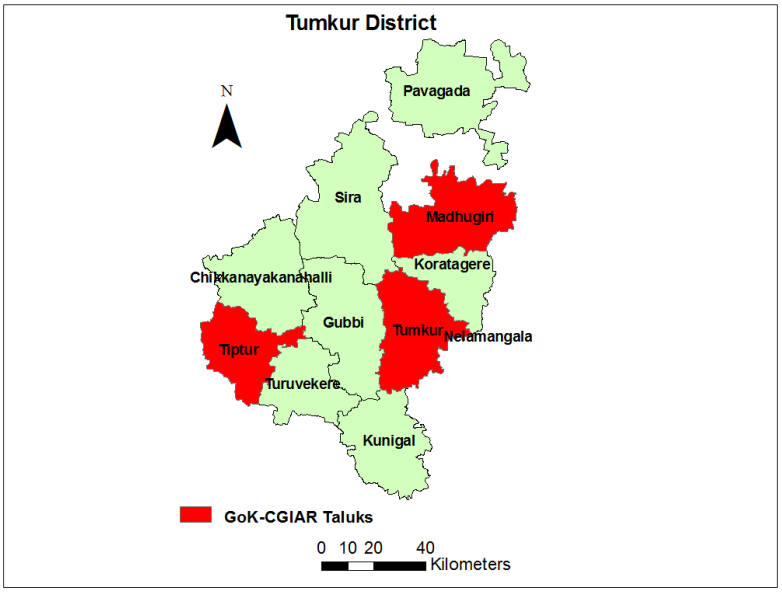

Figure 25. *Map of selected taluks in Tumkur district*

Table 11. Selected villages under Bhoochetana Plus in Tumkur district for 2013-14

S. No	Taluk	Hobli	No. of villages	Primary information on land use pattern of the selected villages					
				Geographical area (ha)	Cultivable land (ha)				
					Rainfed	Irrigated	Horticulture crops	Others	Total
1	Tumkur	Bellavi & Kora	15	4543.26	2936.9	317.56	605.96	49.12	3909.6
2	Tiptur	Kasaba and Honnavalli	10	7910.44	4273.11	112.39	1361.64	514	6261.14
3	Madhugiri	Puravara & Kodagenahalli	15	5146.43	2922.6	504.88	278.48	499.5	4205.5
Total			**40**	**17600.13**	**10132.7**	**934.83**	**2246.08**	**1062.6**	**14376.2**

Issues and Concerns

- To rejuvenate the existing water bodies by desiltation and reviving feeder canals;
- Tank silt to be added into adjoining farm fields;
- Integrated watershed management targeted at *in-situ* and runoff water harvesting through low cost effective methods like nullah plugging, mulching, check dams, farm ponds, recharge pits, etc.;
- Baseline of ongoing watershed activities and fill in the gaps;

- Intercropping with greengram, horsegram, chickpea in coconut plantations;
- Short-duration varieties of groundnut and finger millet to be introduced to cope with delayed rains and late crop sowing;
- Castor, horsegram, red gram to be promoted as next best alternative crops to groundnut in low and very late rainfall scenario;
- Integrated nutrient management (INM) in groundnut and coconut to be taken on priority to take care of existing pest problems like mites, black hairy caterpillar and rats;
- To market effectively certain region specific crop varieties like red tamarind and Chandrahaslu variety to fetch good prices;
- Improved grass (Napier, multicut bajra/jowar) planting on farm bunds and fallow lands (which are quite large in the district), and also planting of fodder trees (Sesbania, Leucenia, Milia dube, drumsticks) on farm boundaries and fallow lands;
- Dryland horticulture (pomegranate, guava, *amla*) for private fallow lands;
- Coconut and groundnut oil plant processing on community basis thru organizing >50 farmers and utilizing current scheme to get 75% incentive for that;
- Coconut rope/mat making and handicrafts to improve farm livelihoods;
- To introduce hand decorticator and implements to remove coconut shells;
- To expand maize cultivation for better water use efficiency;
- Intercropping in coconut based system with diverse crops like turmeric, ginger, nutmeg, tapioca, fodder grass, legumes, cocoa, flowers, vegetables, banana;
- Crop intensification by taking two crops for example maize-legumes and rice-legumes;
- Short-duration suitable crop varieties e.g. mung bean could be grown in kharif followed by suitable crop (e.g. vegetable soybean) during rabi season;
- Conservation agriculture (direct seeded rice, zero tillage etc) to be taken up in irrigated areas;
- Drip and sprinkler irrigation for coconut/horticultural and high value cropping systems;
- Landform treatment and land leveling to improve water use efficiency;
- Seed-cum-fertilizer drill, planters for multi crops, zero till planters, power sprayers and other agriculture machinery to be introduced to support resource use efficiency;
- Agronomic and management interventions, like balance nutrients management, INM, weed management, IPM, IDM;
- Promotion of “mobile artificial insemination units”; “disease diagnostic center”; fodder development program on waste and fallow land with reuse of wastewater; stall feeding for sheep, goats and other small ruminants;
- Increasing collection centers for vegetables and milk;
- Promotion of other income generating activities viz, seed bank, vermicomposting, primary processing and value addition, apiculture, fisheries, feed cakes/blocks, vocational training;
- Establishment of value addition and agro processing units under public-private-partnership (PPP) mode with market linkages in order to increase the profitability;
- Establishment of desiccated coconut powder unit, coir pith industries for coir boards, virgin oil production firm;
- Capacity-building of farmers and all other stakeholders;
- Establishment of custom hire service centers at GP level;

- Supply of farm machineries at subsidized rates;
- Encouraging group approach for sharing of labor for field operations;
- establishment of rural godown at GP level;
- Establishment of agro processing units, primary processing center and facilities for transportation to markets;
- Development of cold storage facility;
- Streamlining procurement and providing MSP;
- Timely access to finance with zero interest for SF&MF;
- Strengthening of SHG;
- Direct cash transfer;
- To establish biocontrol laboratories for production of bio-control agents;
- To put in place an early warning system for pest and disease management to avoid crop losses;
- Convergence of different schemes;
- Formation of steering/coordination committees to address day to day issues through effective monitoring and evaluation.

Based on the identified constraints, concerned line departments have prepared detailed plan of action for the year 2013-14. These activities are proposed to implement in selected villages in Tiptur, Tumkur and Madhugiri taluks (Table 12). For detailed village-wise action plan see Annexure 4.

Table 12. Summary of Tumkur district Action Plan for the year 2013-14

Identified interventions	Details of interventions	Units	Targeted area	Resources required (Lakh)	Department responsible	Sources of funding
1. **Watershed development**						
Low-cost rainwater harvesting structures	Low-cost rainwater harvesting structures (Checkdams, Nalabunds, farm ponds etc)	ha	1017	431.26	Watershed	
Recharging of the wells	Recharging of the wells	ha	243	56.19	Watershed	
Aquifer recharging	Aquifer recharging	ha	400	37.80	Watershed	
Dry land horticulture in waste/fallow lands	Dryland horticulture in waste / fallow lands	ha	260	40.92	DoH	
Other interventions (specify)	Other interventions (rock fill dams, rubble Check, nala Revetment, Gokatte)	ha	745	42.25	Watershed	
2**. Land and water management**						
Land form treatment (BBF and conservation furrow)	Land form treatment (BBF and conservation furrow)	Rmt	100000	50.00	Watershed	
Improved irrigation methods (micro irrigation) and scheduling	Improved irrigation methods (micro irrigation) and scheduling	Rmt	100	10.00	Watershed	
	Micro irrigation(sprinkler/drip)	ha	330	32.38	DoA	NMMI
	Improved irrigations methods (Drip)	ha	463	89.75	DoH	
3**. Productivity enhancement**						
Large scale demos	Large-scale demonstration @500 ha	ha	200	7.70	DoA	NFSM
	Demonstration plots in coconut	ha	250	43.75	DoH	

Identified interventions	Details of interventions	Units	Targeted area	Resources required (Lakh)	Department responsible	Sources of funding
a) INM						
Soil test-based balanced nutrition	Micronutrient - zinc sulphate 5 kg/ha @ Rs 19500/ton	ha	8200	8.90	DoA	Bhoochetana NFSM,OPP
	Micronutrient -Borax 2.5 kg/ha @ Rs 28000/ton	ha	8200	5.82	DoA	Bhoochetana NFSM,OPP
	Gypsum 100 kg/ha @ Rs 1800/ton	ha	8200	14.26	DoA	Bhoochetana NFSM,OPP
	INM	ha	460	4.60	DoH	
	INM	ha	51	26.90	Sericulture	
Vermicompost/ *Glricidia*/ Biomass/ other organics application	Vermicompost/biodigester units	No.	60	18.00	DoH	
Bio-fertilizer application	Biofertilizer application		4410	3.15	DoA	Soil fertility, OPP, Bhoochetana
	Biodigester		23	2.90	DoA	Soil fertility enrichment scheme
	Vermicompost units		452	18.40	DoA	GoK-CGIAR , soil fertility enrichment scheme
	Green leaf manure		2260	8.78	DoA	GoK-CGIAR, soil fertility enrichment scheme
b) **Improved cultivars**						
New crop variety for crop-1	Improved seeds	ha	2700	31.00	DoA	RKVY, NFSM, Soil fertility enrichment scheme
New crop variety for crop-2	Improved cultivars crop 1 + 2	ha	1301	40.04	DoA	ATMA, RKVY
	Stem bleeding/Anabe roga	ha	100	5.25	DoH	
	Mango	ha	50	10.67	DoH	

Identified interventions	Details of interventions	Units	Targeted area	Resources required (Lakh)	Department responsible	Sources of funding
	Banana (Suckers)	ha	62	10.66	DoH	
	Banana (Suckers-Hi density)	ha	34	53.08	DoH	
	Tender coconut variety introduction	ha	10	1.38	DoH	
	Pomegranate	ha	10	1.80	DoH	
	Loose flower	ha	10	1.20	DoH	
c) Diversification & intercropping Intercropping in existing horticulture plantation	Lime	ha	50	10.67	DoH	
	Coco	ha	62	10.66	DoH	
	Pepper	ha	34	53.08	DoH	
	Kitchen Gardens	ha	10	1.38	DoH	
	Mechanization	ha	10	1.80	DoH	
	Apiculture	ha	10	1.20	DoH	
d) IPM						
IPM activity	Plant protection chemicals	ha	700	1.50	DoA	Bhoochetana, NFSM,OPP
	IPM	ha	1301	40.04	DoA	NFSM, ATMA
IPM activity	IPM	ha	135	1.35	DoH	
e) Farm mechanization	Mechanization program (cultivators/blade harrow)	ha	205	32.73	DoA	RKVY,
	Custom hiring centers @ 3 units	Nos	7	55.00	DoA	GoK- CGIAR
f) Agro-forestry						

Identified interventions	Details of interventions	Units	Targeted area	Resources required (Lakh)	Department responsible	Sources of funding
activities						
Agro-forestry	Agroforestry activities (planting of seedling)	ha	605	181.50	Forestry	
Tree plantation on farm bunds	Tree plantation on-farm bunds (Trench mound)	ha	235	75.20	Forestry	
4. Livestock-based& livelihood activities						
Artificial Insemination for breed improvement	Establishment of dairy units	Nos	95	66.50	DoAH	
Animal health camps	Animal health camps		1546	15.63	DoAH	
Backyard poultry	Backyard poultry units		300	7.20	DoAH	
Sheep/goat rearing	Establishment of sheep/goat Stall fed Units		90	45.00	DoAH	
Fish culture	Fish culture			49.60	Fishery	
	Fishing equipments			8.00	Fishery	
Sericulture	Livestock-based & livelihood activities sericulture		23	23.88	Sericulture	
Fodder Development	Fodder development	ha	1638	9.35	DoAH	
other livelihood activities	Revolving fund for SHG/RSG	Nos	43	17.50	DoA	ATMA, RKVY
5. Capacity-building						
Training & awareness building				11.07	DoA	GOK-CGIAR, RKVY,NFSM

Identified interventions	Details of interventions	Units	Targeted area	Resources required (Lakh)	Department responsible	Sources of funding
Farm facilitators/ farmers exposure visits	Farmer facilitator (Rs. 10000 per month)		3	3.60	DoH	
	Exposure visit of farmers (Rs. 300 per day for 3 days)		150	1.35	DoH	
	Training on fish culture			1.60	Fishery	
Wall writing	Exposure visits - Fish farm			4.00	Fishery	
	Wall writings		172	3.44	DoA	Bhoochetana
	Wall writings		30	1.50	DoH	
	Capacity-building on sericulture		110	6.30	Sericulture	
6. Inclusive Market Oriented Development (IMOD)						
Cold storages	Post-harvest facilities		38	11.50	DoA	RKVY
	Processing units @ Rs 50000		47	16.00	DoA	RKVY
	Threshing yards @ Rs 50000		600	7.20	DoA	RKVY
	Tarpaulins		172	3.44	DoA	RKVY

Area of Operation

Four sites in the pilot districts will cover 10,000 ha area in each site during the first year and progressively will increase to cover 80,000 ha each in four districts as mentioned below. The size of the pilot in a district may vary depending on the area covered by the selected villages and we will adopt the cluster approach for operating the pilot sites.

	Year 1	Year 2	Year 3	Year 4
Area (ha) in each pilot district	10000	20000	40000	80000

Each pilot site will be

- Looked after by one Scientific Officer (M.Sc level); and

- One Technician to handle day-to-day operations and liaising with the line departments;

- As each CG center will be contributing the specialized interventions and innovations six Scientific Officers specialized in specific interventions will support all the four benchmark sites for improving agricultural productivity and livelihoods of rural people in the benchmark sites;

- A multi-disciplinary team of scientists from CGIAR centers will provide technical and hand-holding support to the staff located in pilot sites and line departments in the pilot districts;

- An ICRISAT scientist based in Bengaluru will do the liaising and co-ordination for all the sites;

- The Project Coordinator from ICRISAT will coordinate all the activities related with GoK-CGIAR initiative with the nodal department as well as CGIAR institutions.

At the district level several activities were conducted. District-level workshops were conducted in all the four benchmark locations to discuss and prepare work plans (Figures 26 and 27). Before the district level workshops were held, ICRISAT along with DoA collected soil samples in selected villages by adopting stratified soil sampling method (Figures 28 to 29). Analysis of soil samples is in process and the results will be made available in due course of time. However, the district-wise selected cluster village level soil maps based on Bhoochetana mission project are provided for general understanding of the soil condition in the benchmark locations (Figures 14-37). Apart from soil samples, baseline survey format for collection of socio-economic and biophysical data is being developed and ready for pre-testing (Annexure 5).

Figure 26. Glimpse of district-level workshop held at JDA office in Chikmagalur

Figure 27. *Interaction with stakeholders by line department staffs and CGIAR Scientists in Tumkur district*

Figure 28. *Hands-on training on soil sample collection; and soil sample collection by farmers at selected villages in Chikmagalur district*

Figure 29. *Soil sampling in Tumkur and Raichur districts benchmark locations*

Soil Nutrient Status of Bijapur District

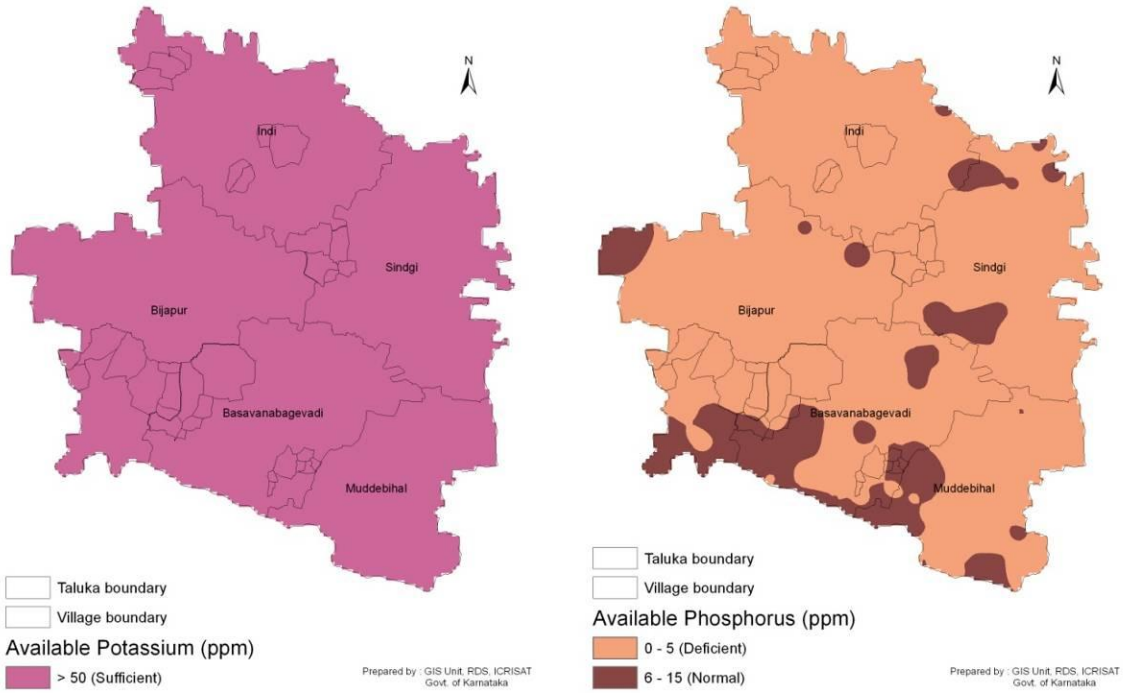

Figure 30. *Available Patassium and Phosphorus status in Bijapur district and selected villages*

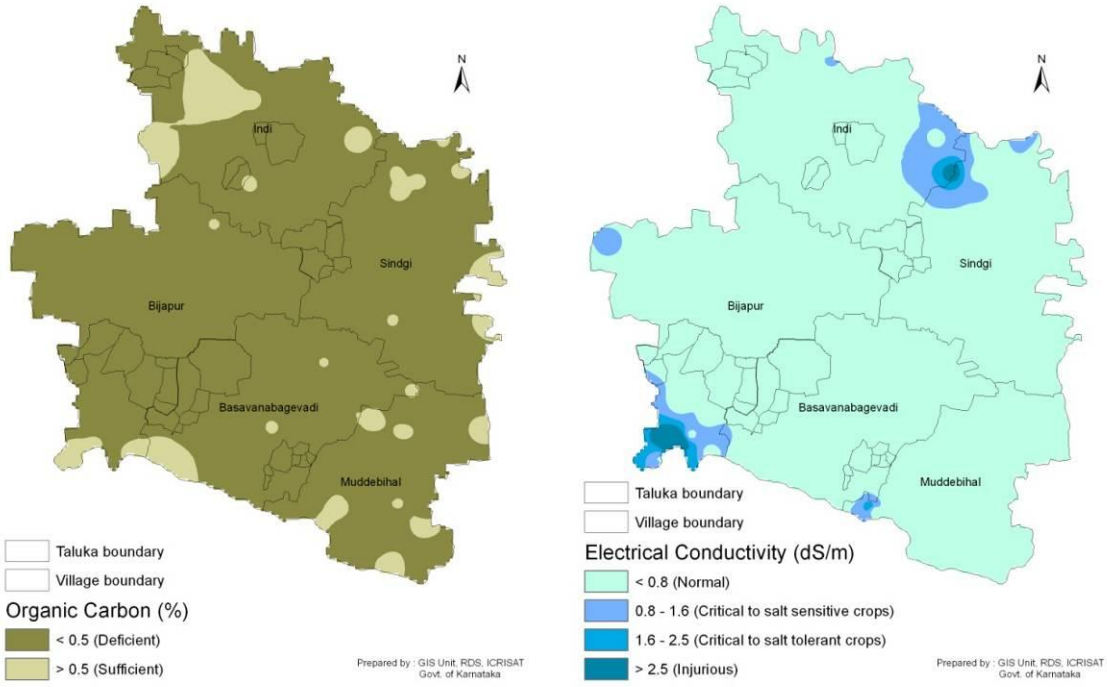

Figure 31. *Organic carbon and EC in Bijapur district and selected villages***.** *Soil pH and available S in Bijapur district and selected villages*

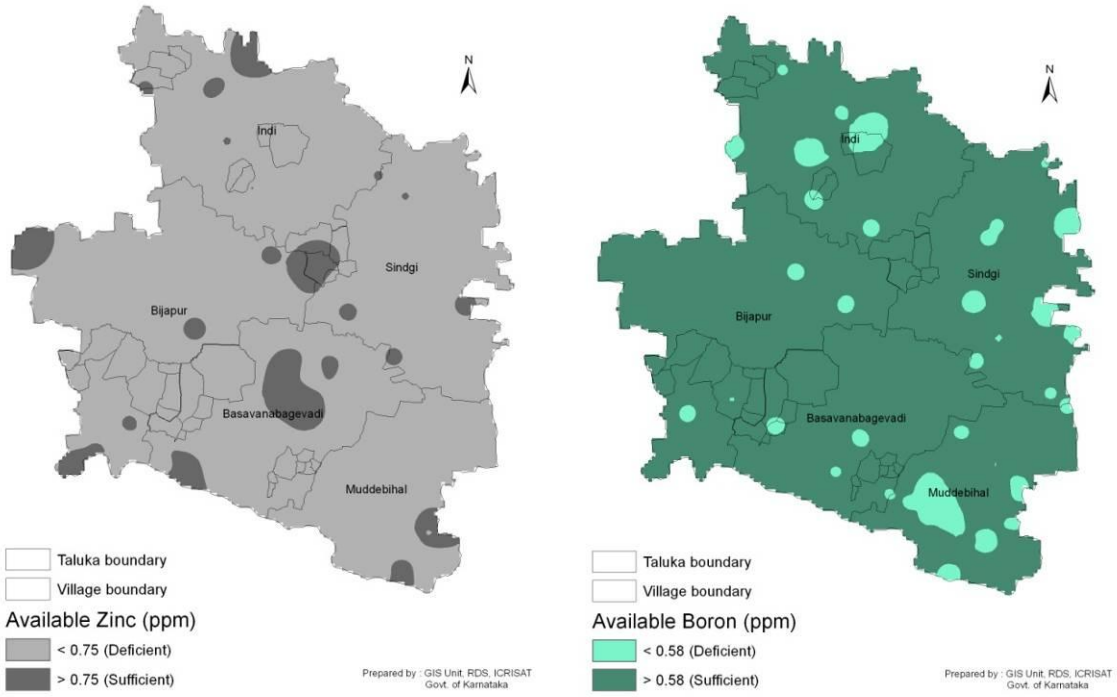

Figure 32. *Available Zn and B in Bijapur district and selected villages*

Soil Nutrient Status of Chikmagaluru District

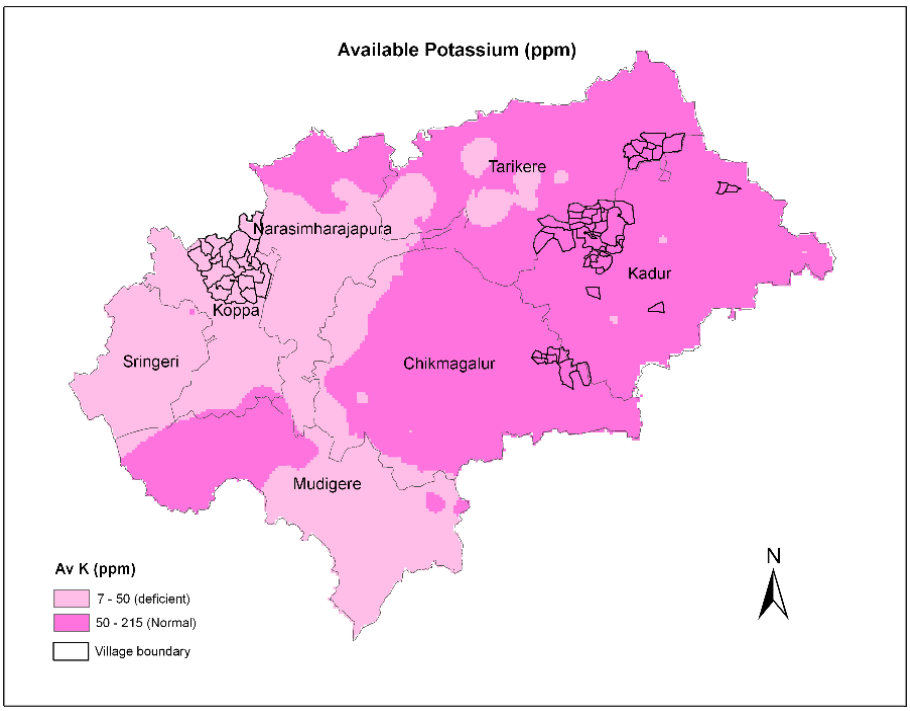

Figure 33. *Status of available Potassium (ppm) in selected cluster villages of Chikmagalur district*

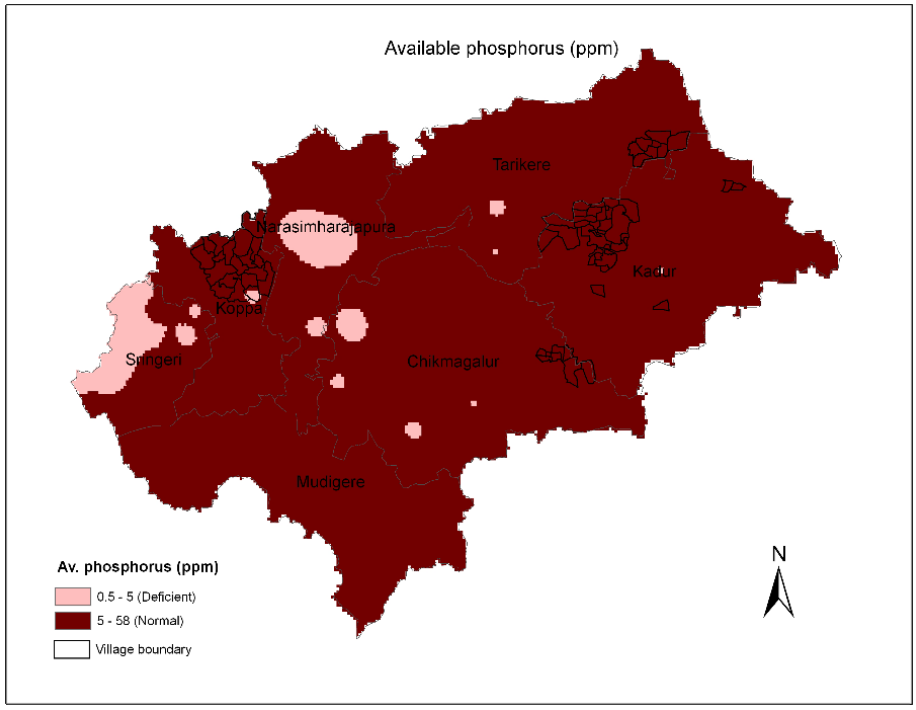

Figure 34. *Status of available phosphorus (ppm) in selected cluster villages of Chikmagalur district*

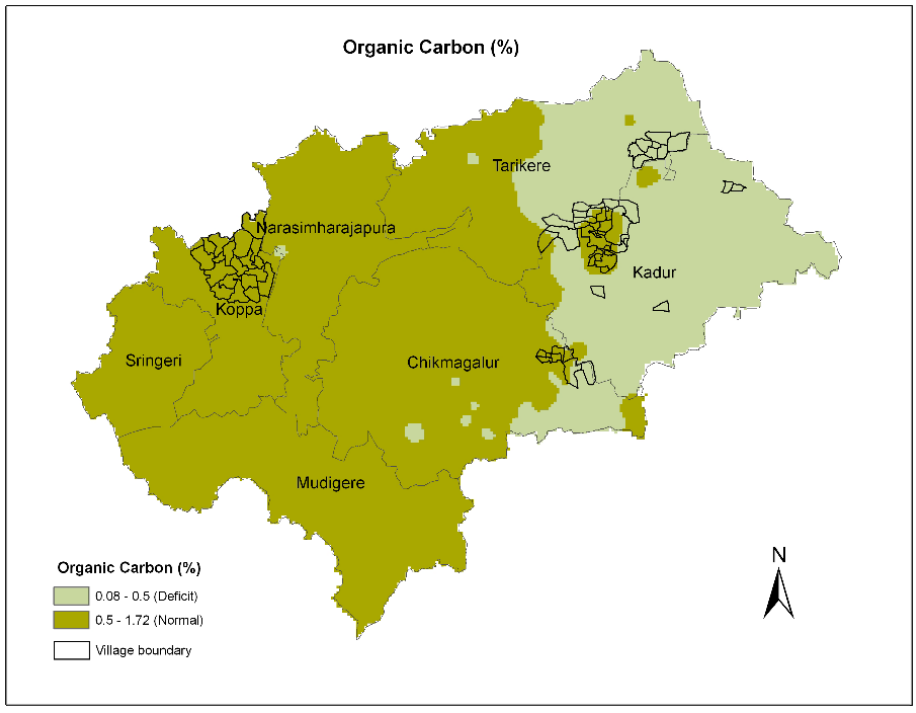

Figure 35. *Status of organic carbon (%) in selected cluster villages of Chikmagalur district*

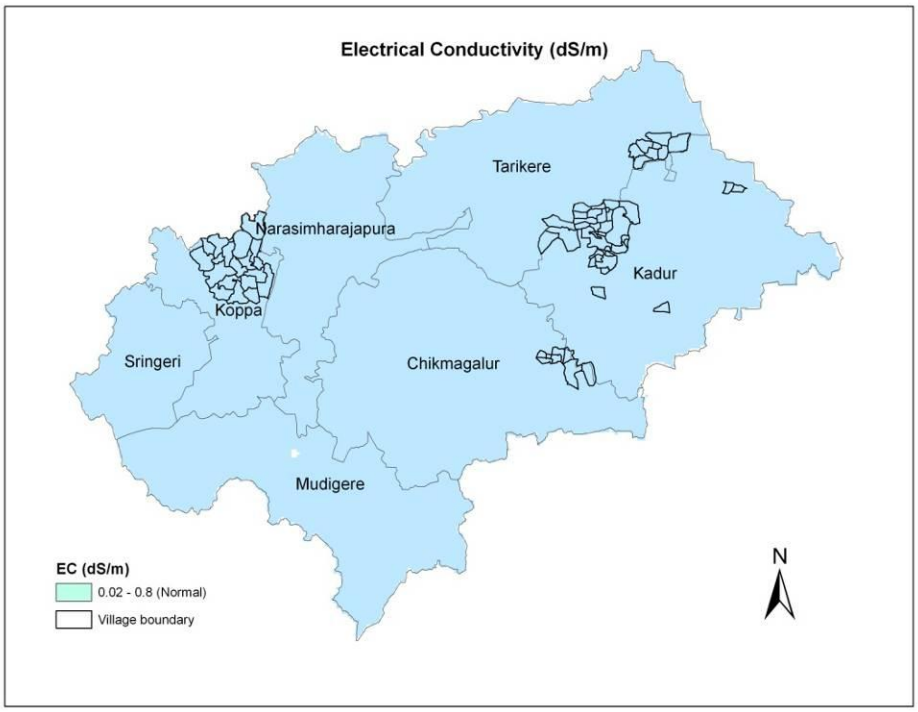

Figure 36. *Soil electrical conductivity (ds/m) in selected cluster villages of Chikmagalur district*

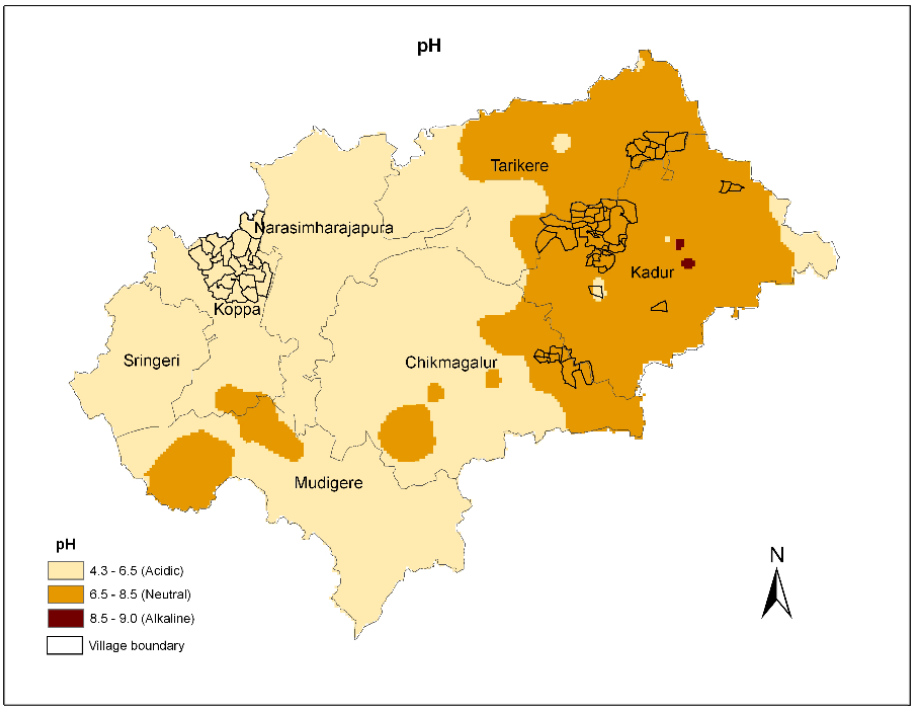

Figure 37. *Soil pH in selected cluster villages of Chikmagalur district*

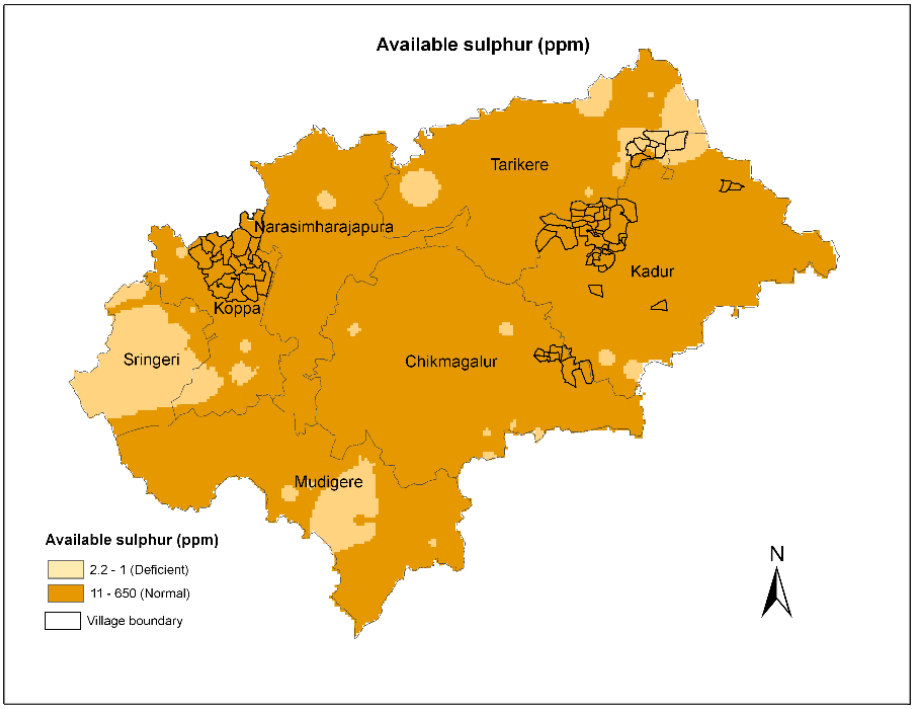

Figure 38. *Status of available sulphur (ppm) in selected cluster villages of Chikmagalur district*

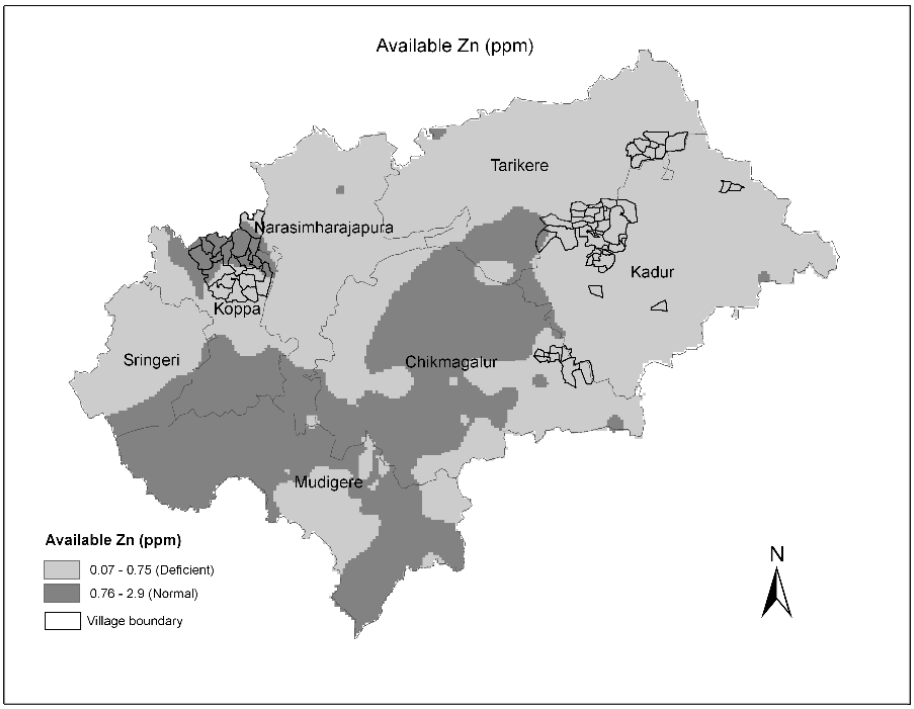

Figure 39. *Status of available Zn (ppm) in selected cluster villages of Chikmagalur district*

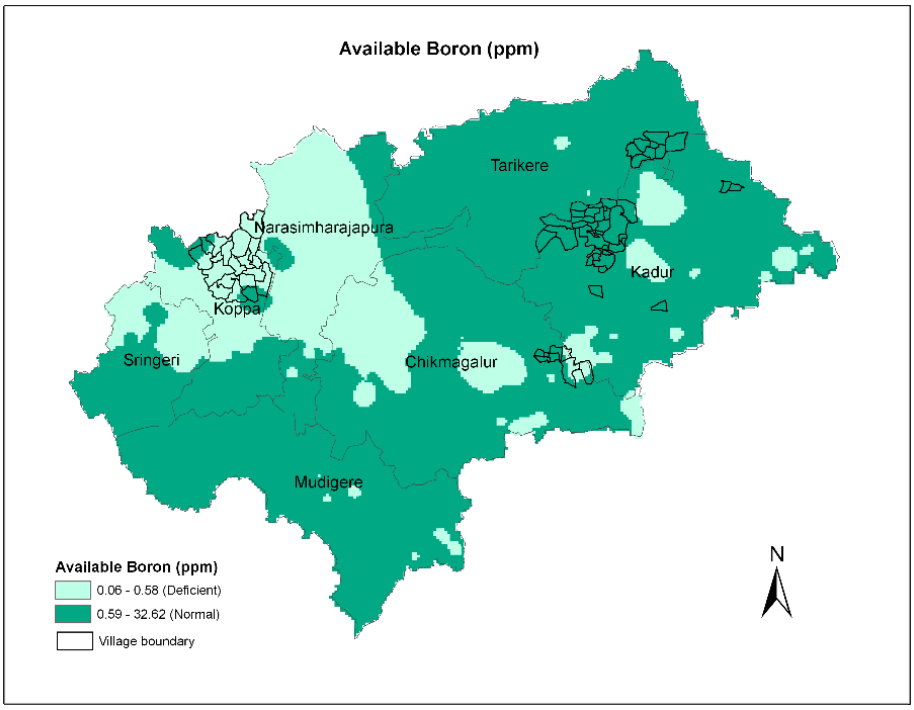

Figure 40. *Status of available Boron (ppm) in selected cluster villages of Chikmagalur district*

Soil Nutrient Status of Raichur District

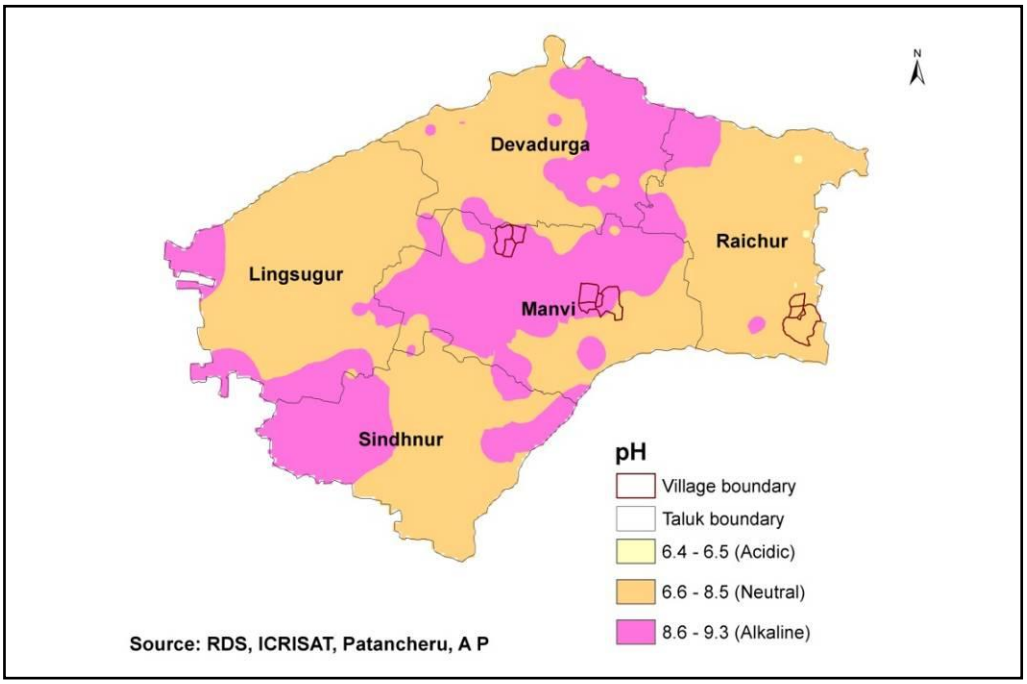

Figure 41. *Status of soil pH in selected villages of Raichur district*

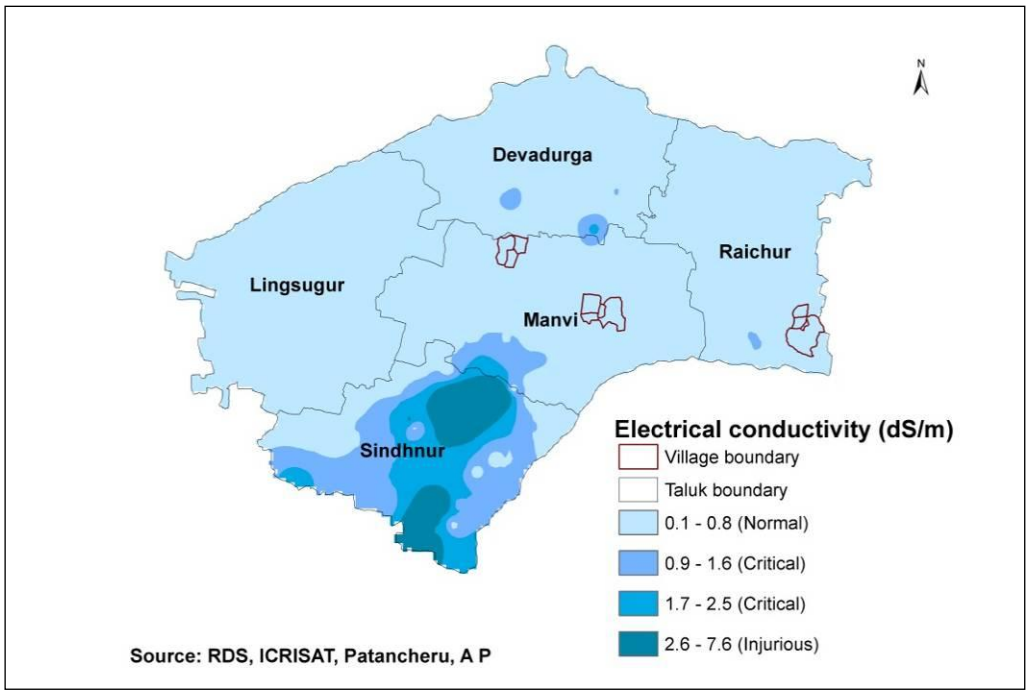

Figure 42. *Electrical conductivity in selected villages of Raichur district*

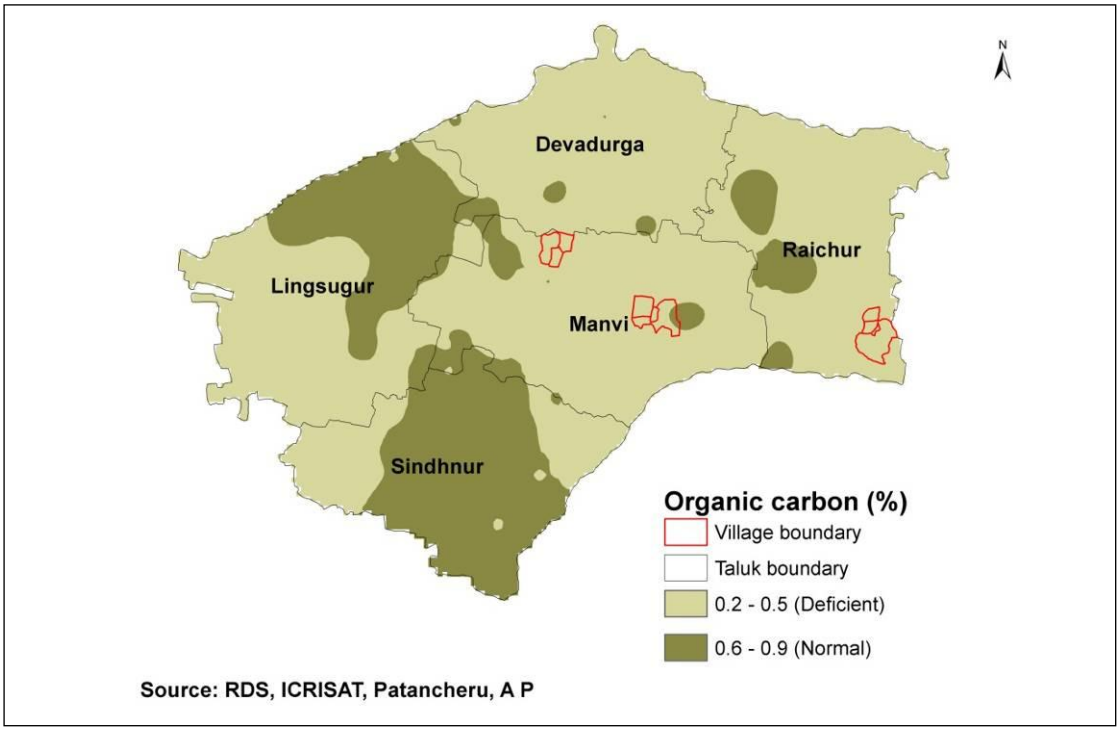

Figure 43. *Organic carbon in selected villages of Raichur district*

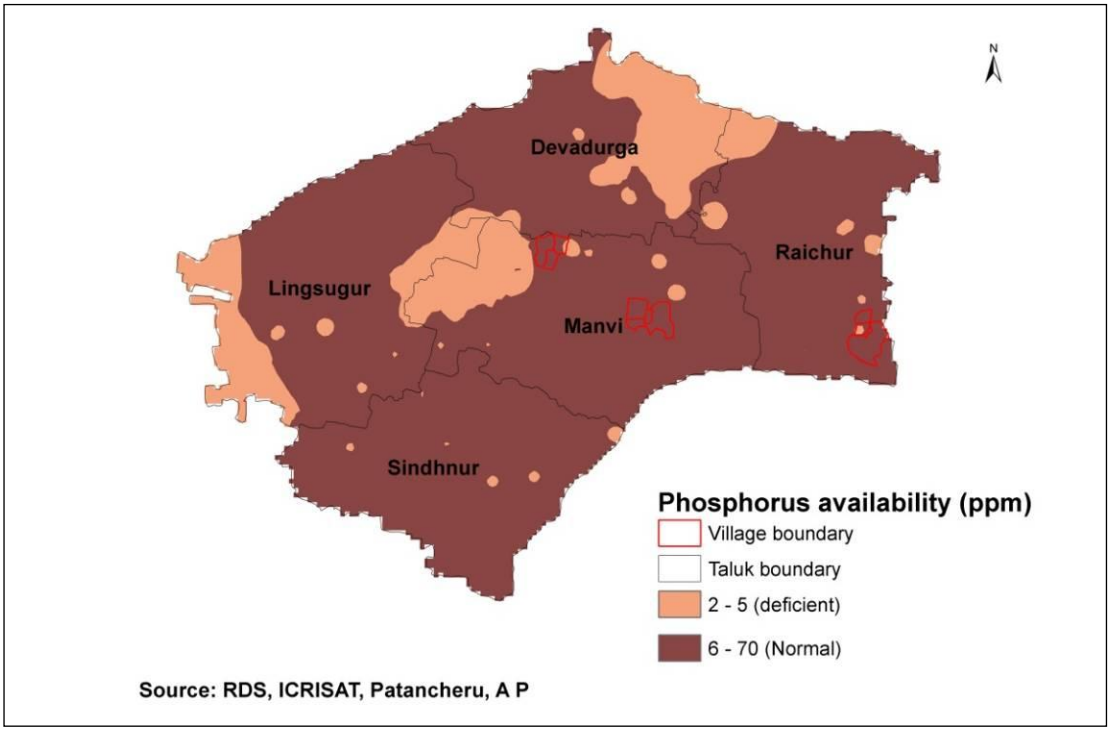

Figure 44. *Phosphorus availability in selected villages of Raichur district*

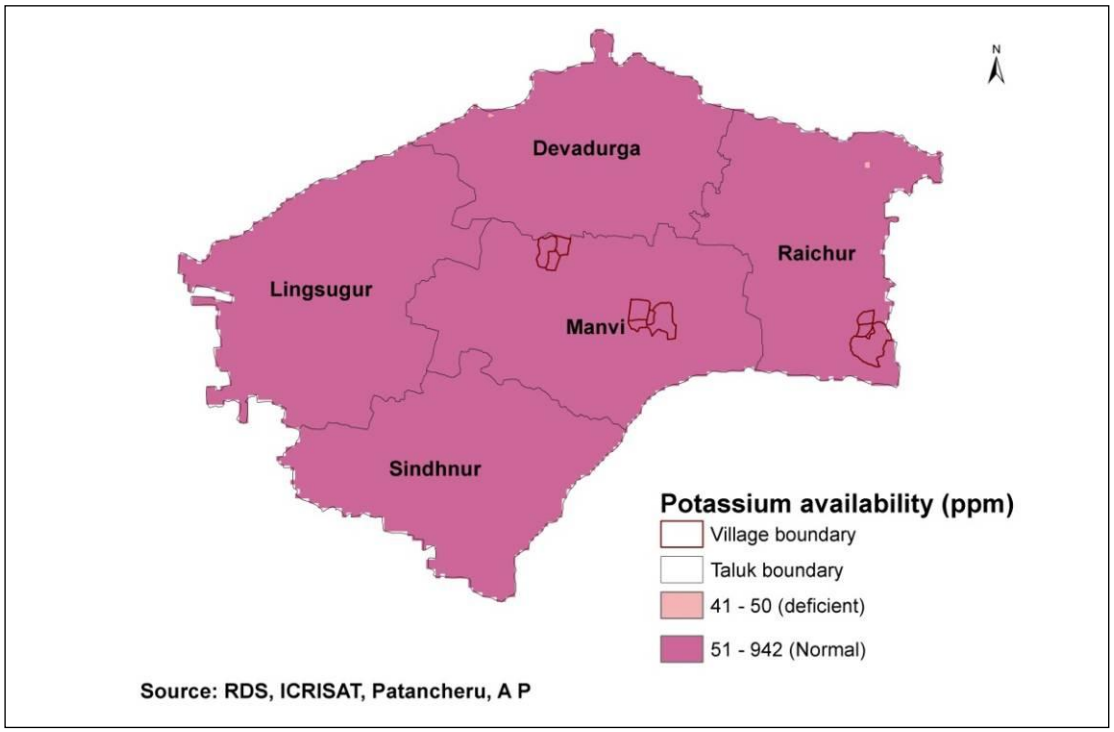

Figure 45. *Potassium availability in selected villages of Raichur district*

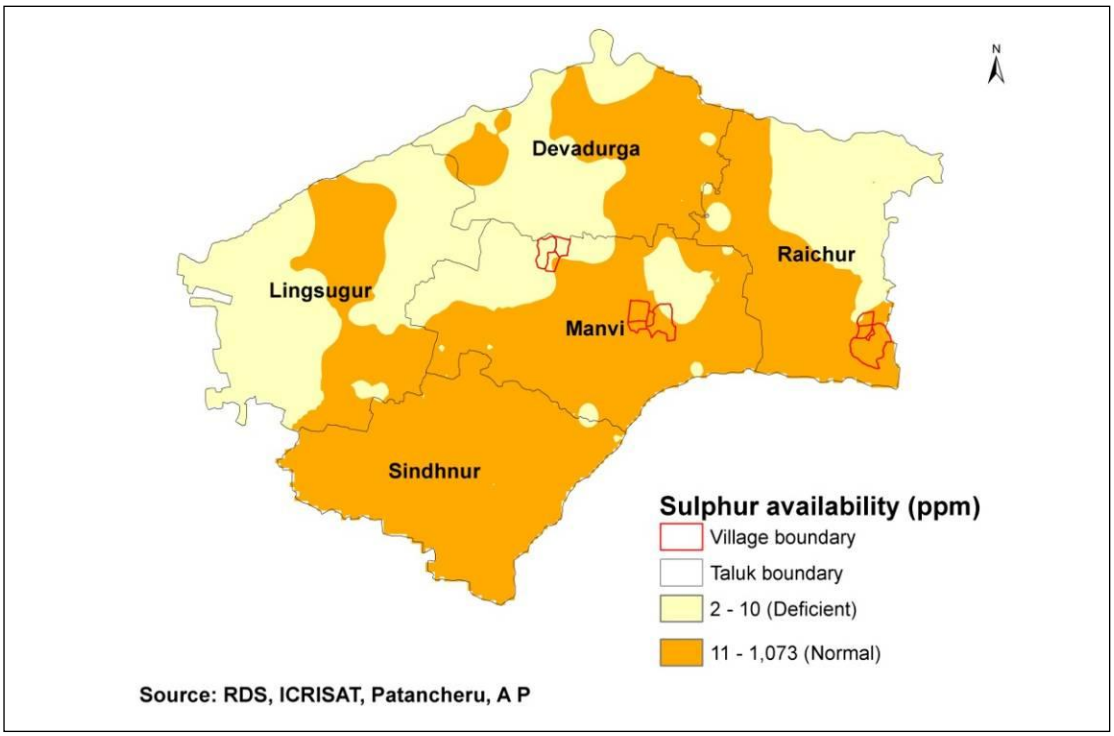

Figure 46. *Sulphur availability in selected villages of Raichur district*

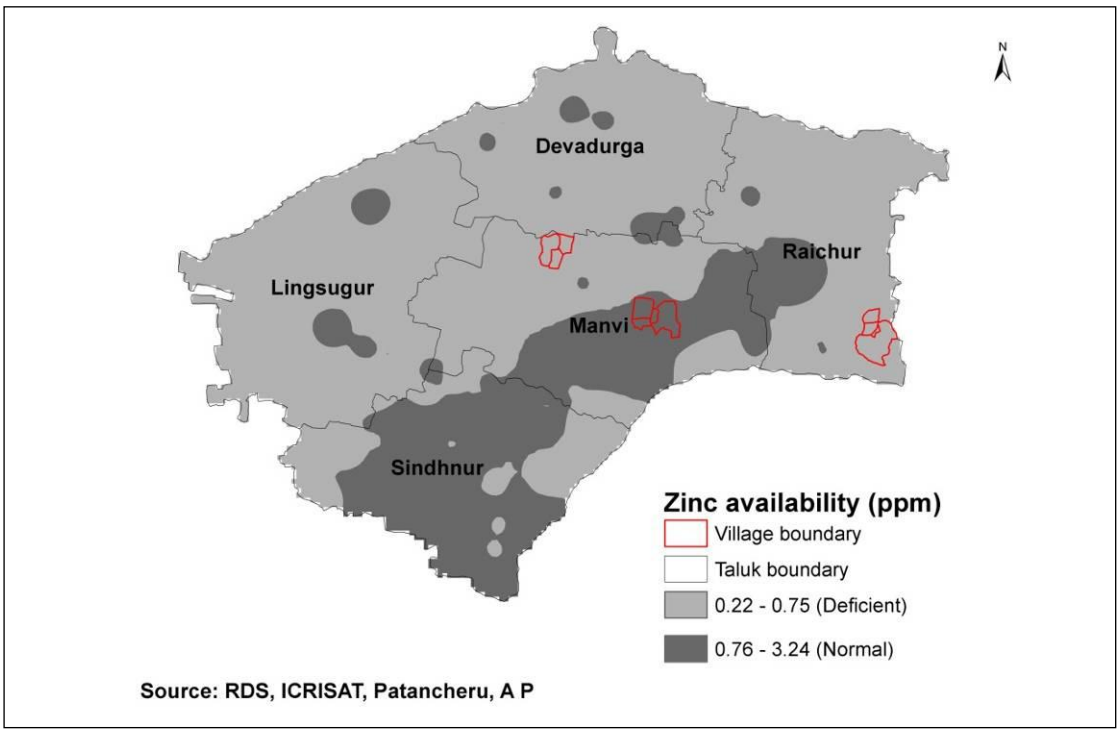

Figure 47. *Zinc availability in selected villages of Raichur district*

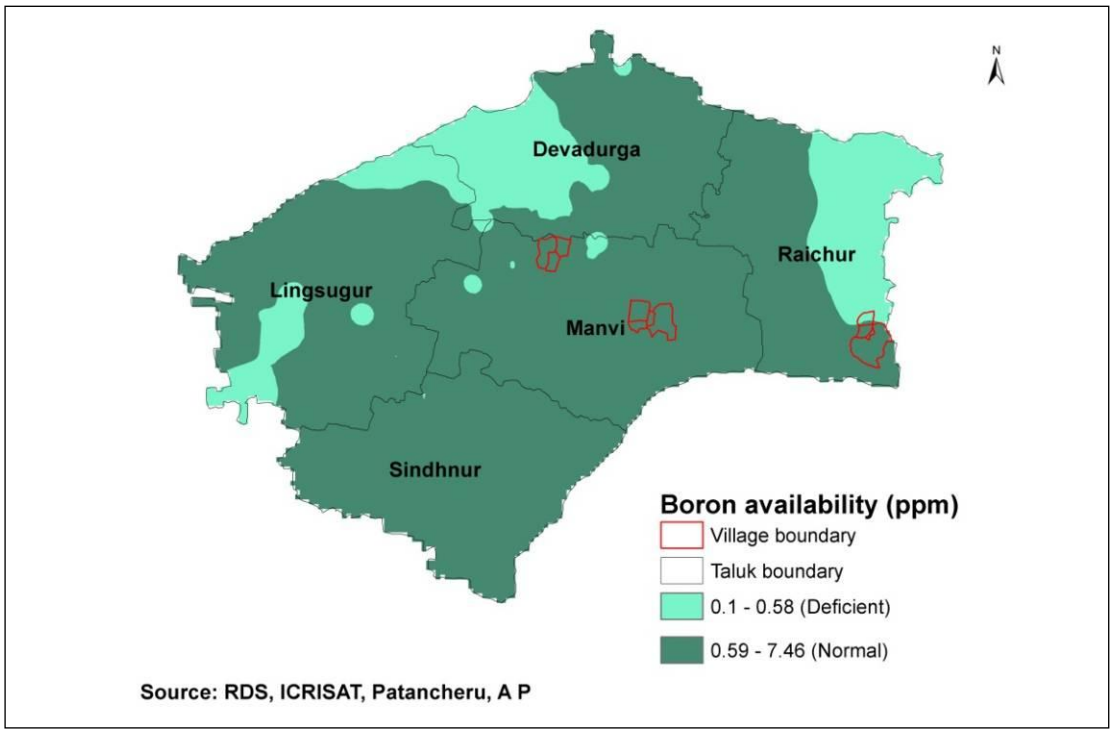

Figure 48. *Boron availability in selected villages of Raichur district*

Soil Nutrient Status of Tumkur District

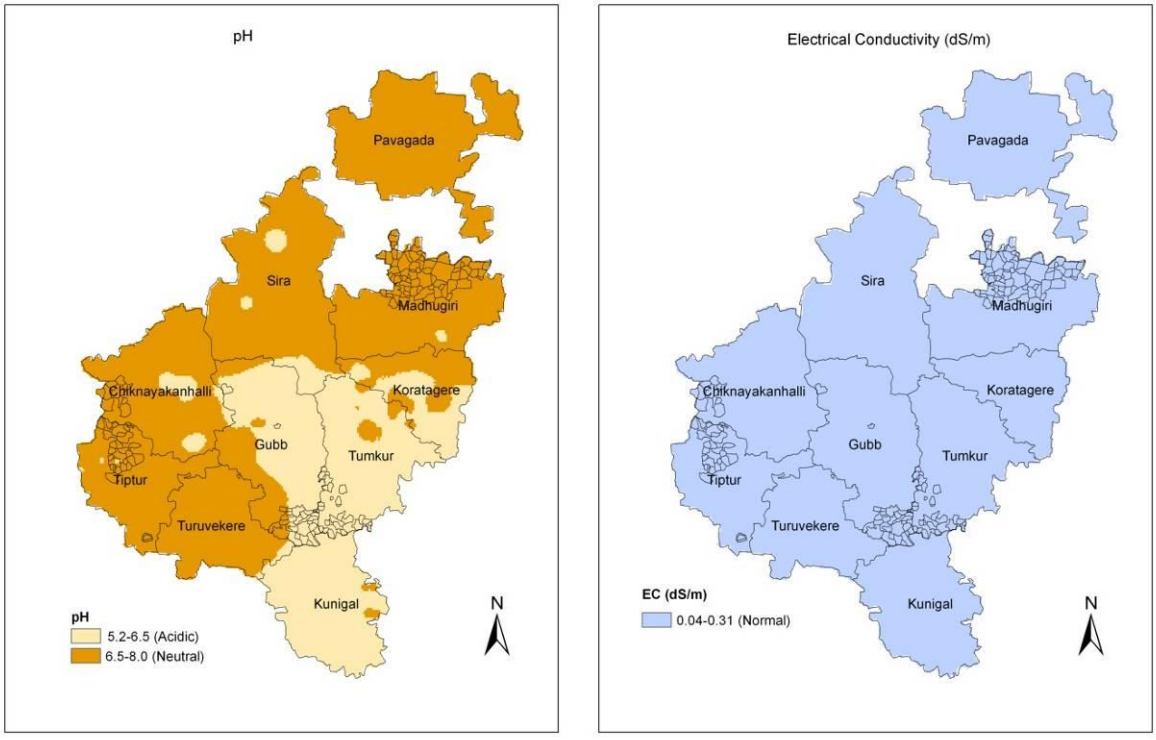

Figure 49. *Soil pH and EC in selected villages of Tumkur district*

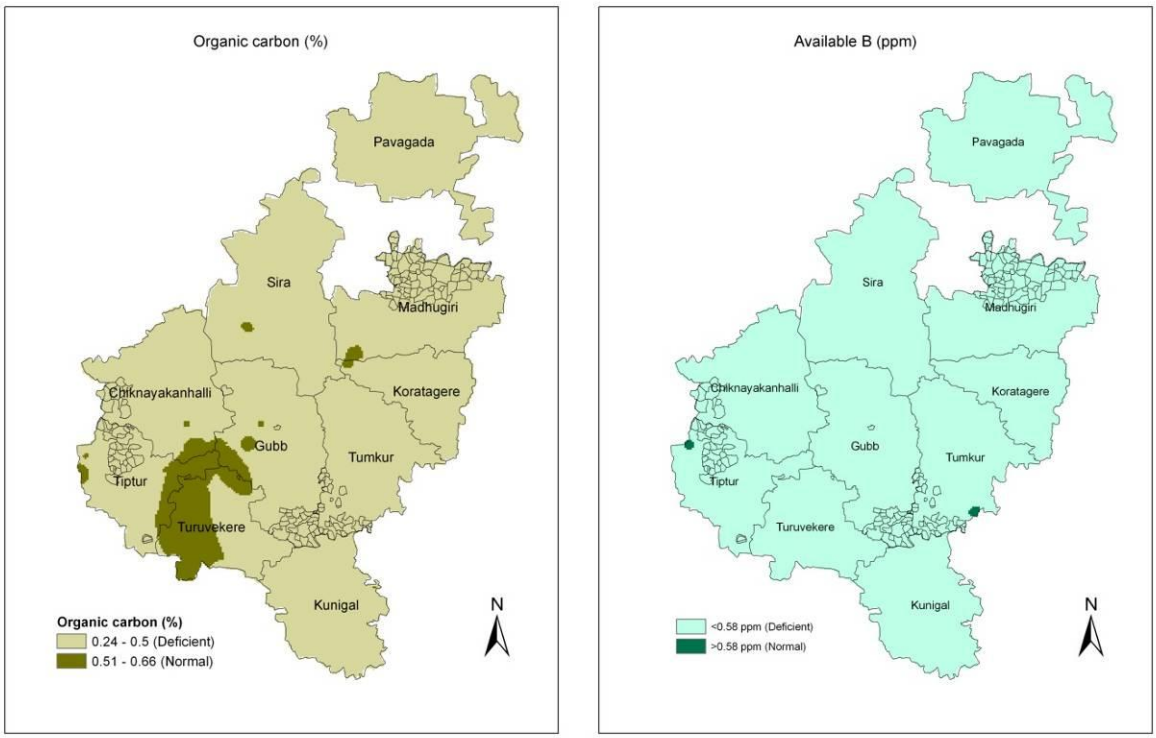

Figure 50. *Organic Carbon and available B status in selected villages of Tumkur district*

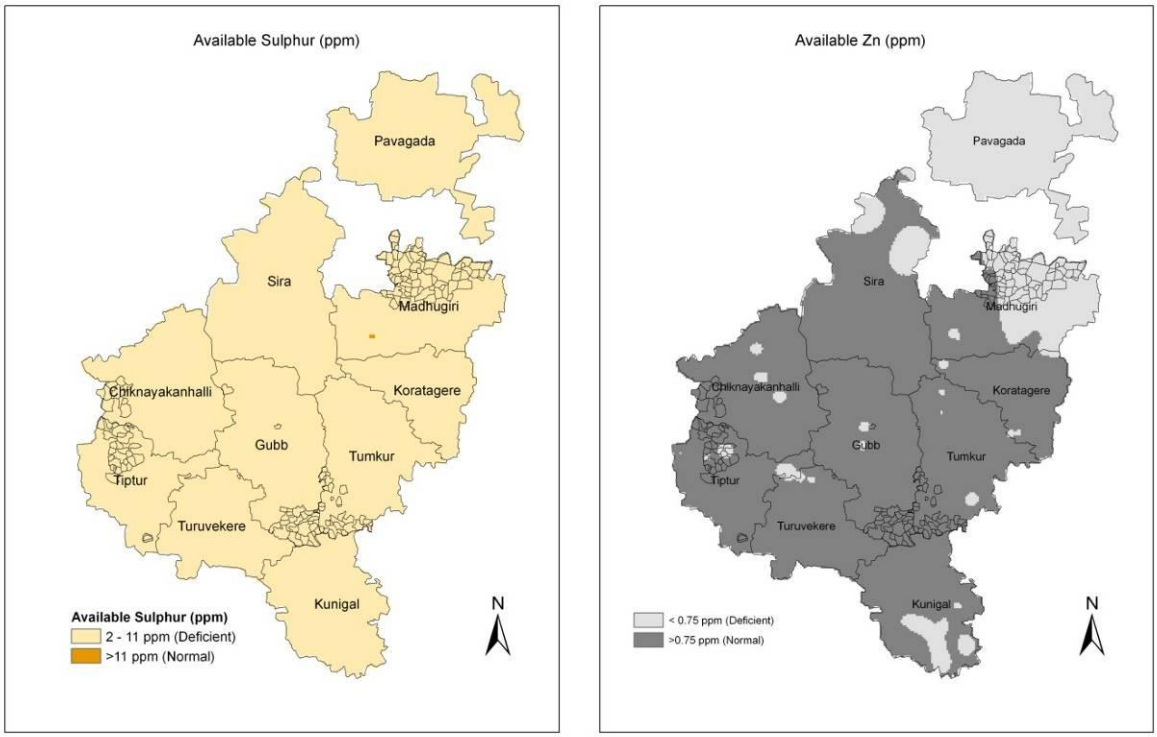

Figure 51. *Available Sulphur and available Zn status in selected villages of Tumkur district*

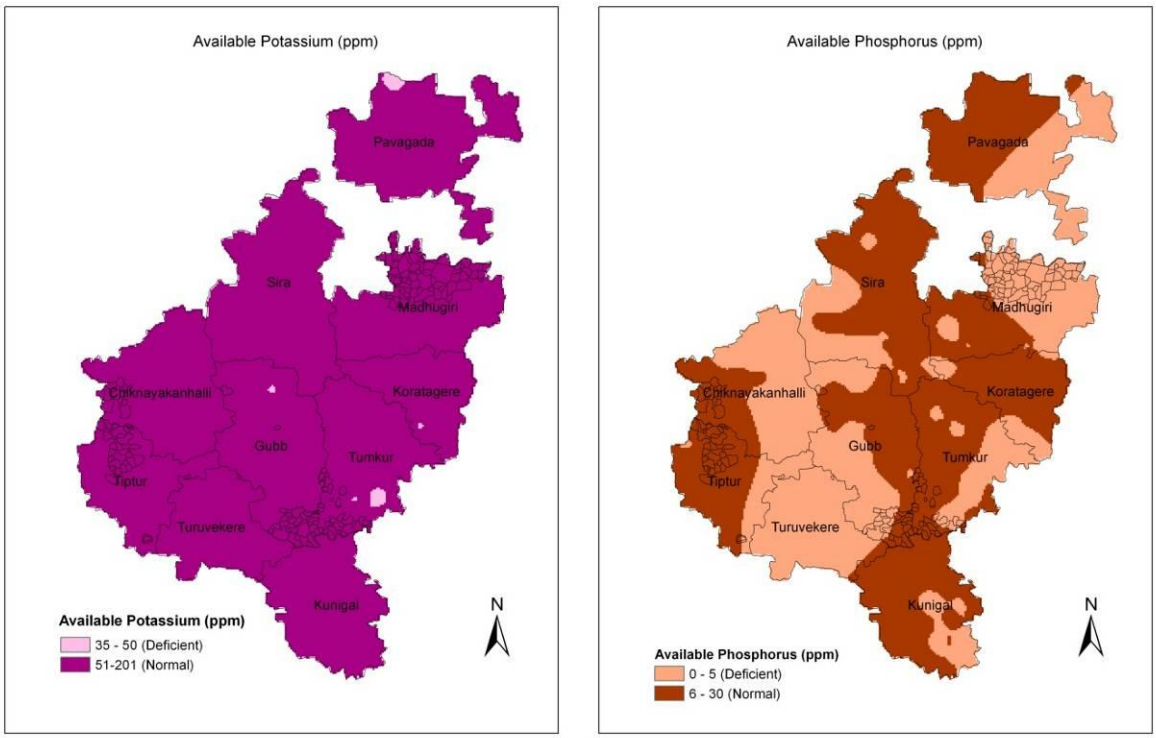

Figure 52. *Available K and Phosphorus status in selected villages of Tumkur district*

Location Specific Activities by CG Centers

Eight CG centers along with AVRDC have planned activities specific to constraints identified in all the four benchmark locations. These activities were identified based on the concern expressed by local level stakeholders as well as line department staff during different stakeholders' consultation in these locations. The location specific activities are indicated below:

Benchmark locations	Interventions	Technical backstopping
Bijapur	Minimizing rainy season fallows with short duration pulses and improved soil, water and nutrient management	ICRISAT
	Intercropping in plantations with short-duration legumes for increasing incomes and improving soil health	ICRISAT
	In-situ generation of N-rich organic matter through bund plantations of *Gliricidia*, etc.	ICRISAT
	In-situ moisture conservation measures for crop intensification using suitable land forms	ICRISAT
	Agroforestry initiative to enhance fodder availability and perennial tree species	ICRAF

Bijapur	Participatory evaluation, selection and popularization of high yielding lentil cultivars	ICARDA
	Characterize feed use and determine feeding regimes in the current livestock production system	ILRI
Chikmagalur	Crop intensification using rice fallows for cultivation of short duration pulses with seed priming.	ICRISAT
	Direct seeded rice in mid and uplands	IRRI
	In-situ generation of N-rich organic matter	ICRISAT/ CIMMYT
	Crop diversification in midlands and uplands to minimize impacts of climate variability	ICRISAT/ CIMMYT/ ICRAF/IRRI
Raichur	Crop diversification with high value vegetables	AVRDC/ICRISAT
	Direct seeded rice for minimizing water use	IRRI
	Popularize water impact calculator for scheduling need-based irrigation	ICRISAT/IWMI
	Pilot experimentation for demonstrating minimum tillage benefits for sustainability	CIMMYT/ ICRISAT
	Crop diversification using groundnut and other high-value pulses	ICRISAT
	Efficient use of phosphorus through improved nutrient and crop management interventions	ICRISAT/IRRI/ CIMMYT
Tumkur	Popularizing high yielding drought tolerant groundnut and pigeonpea cultivars	ICRISAT
	Market driven crop diversification piloting confectionary groundnut cultivation in irrigated areas	IFPRI/ICRISAT
	Intercropping in plantations with short duration legumes for increasing incomes and improving soil health	ICRISAT
	Demonstration, evaluation, and scaling-up of micro-irrigation system	IWMI
	Participatory evaluation, selection and popularization of high yielding lentil cultivars	ICARDA
	Participatory selection, evaluation and scaling-up of improved maize varieties	CIMMYT
Cross-cutting activities	Piloting irrigation scheduling thru Water Impact Calculator (WIC)	ICRISAT/IWMI
	Piloting innovative tablet-based knowledge delivery system (Krishi Gyan Sagar)	ICRISAT
	Mobile messaging	ICRISAT
	ICRISAT with all the partners assesses the impact of climate change at ecoregional level	All CG centers
Cross-cutting activities	Developing and evaluation of adaptation and mitigation strategies to cope with the impacts of climate change	All CG centers

	Piloting convergence of WDD, DoA, DoH and DoAH to address systems issues	All CG centers
	Evaluating new fertilizer formulations for balanced nutrient management strategies	ICRISAT with all CG centers
	Farmers' participatory evaluation and selection of improved new cultivars	All CG centers
	Develop current and predict future feed resources scenario (demand-supply) based on cropping pattern, livestock numbers, productivity level and human population in all the four districts	ILRI
	On-farm demonstrations, evaluation and scaling-up of suitable cactus cultivars as animal feed, establishment of nurseries and rehabilitation of degraded lands	ICARDA
	Awareness building amongst school children for climate change impacts and sustainable management of natural resources	All CG centers
	Link farmer to markets through value chain in vegetables	AVRDC/ICRISAT
	Pilot testing of vegetable kits for school children from selected schools at each benchmark site, etc.	AVRDC/ICRISAT
	Introduction of dual purpose (food and fodder) types of selected crops suitable at benchmark location	ILRI
	Baseline survey at four benchmark locations	IFPRI/ICRISAT
	Process documentation and recording success stories for dissemination	All CG centers
	Use of Pico projectors and preparation of short videos for farmers to farmers dissemination	ICRISAT with all CG centers
	Concurrent monitoring and evaluation	IFPRI/ICRISAT

Rainy Season Activities

ICRISAT

With the help of line department staff and farmers, we identified benchmark locations for undertaking strategic research in all the locations.

Soil sample collection and analysis: ICRISAT along with DoA staff collected soil samples in selected villages by adopting stratified soil sampling method. Analysis of soil samples has been done and the results are available.

Figure 53. *Demonstrating soil sample collection with farmers in farmers' field*

Distribution of Glyricidia seeds for nursery raising: Adequate quantity of Glyricidia seeds has been supplied to districts to establish nurseries with the help of Forestry department and Department of Horticulture.

Soil and water conservation: Undertook detailed field visit to benchmark locations to identify suitable locations for establishing hydrological monitoring stations (like run-off recorder, sediments monitoring, automatic weather stations, etc). In order to analyze the impact of AWM interventions in different ecological and rainfall regions in Karnataka, two watersheds of 300-500 ha scale were identified for hydrological monitoring in Tumkur and Chikmagaluru districts. With help of Google earth, we primarily identified two to three IWMP watersheds and stream network in selected CG plus villages and visited. The entire stream network was tracked and positions and capacity of various water harvesting structures (e.g., check dams and tanks) are recorded. Topographical and land use (plantation crops, agriculture land) details were collected during ground-truthing and interviewed local farmers regarding their land and water management practices and challenges. We identified two potential sites for installing runoff recorder covering total 300-350 ha catchment area on a first-second order stream in Tumkur. Similarly three potential locations (adjacent streams) were identified with various combinations of land use joining to a high order stream for hydrological monitoring in Chikmagalur.

Tablet-based extension system: With the aim to reach large number of farmers with innovative technologies, ICRISAT along with Department of Agriculture and all other line departments has

established an innovative extension system called Tablet-based extension system to cater the needs of farmers. Initial level trainings have been provided to Farm facilitators and local level extension officers of DoA, ICRISAT and others. Green SIM cards have been distributed along with Tablets to facilitate FFs to register farmers and to provide needed information.

Figure 54. *Scientists identifying suitable locations for establishing hydrological monitoring stations at Tumkur*

Farmer-to-Farmer videography: In partnership with Digital Green, Department of Agriculture and ICRISAT introduced Farmer-to-Farmer videography to record and disseminate innovative technologies, practices, methods, etc., to fellow farmers. Initial level trainings and orientation programs were organized with the help of DoA and ICRISAT.

Dry seeded rice (DSR) in Raichur: ICRISAT in partnership with DoA, UAS Raichur and other partners have undertaken activities in rice based systems. Particularly, research activities are aiming to enhance water productivity and profitability of resilient cropping systems (Table 13). The three types of research trails are undertaken viz., transplanted rice; wet seeded rice and dry seeded rice.

Table 13. Rice-based research activities under Bhoochetana Plus in Raichur district

Research Activity	No. of Farmers	Area (acre)	Remarks
Water productivity and profitability of resilient cropping systems	**18***	**12**	*Kharif Season:* TP,WSR, DSR Systems *Rabi Season:* Chickpea, Pigeonpea & Mustard
DSR-Based Sequential Cropping System	**5**	**5**	*Kharif Season:* DSR System *Rabi Season:* Dryland Crops (to be determined)
Yield and water use efficiency of resilient dryland crops through participatory varietal evaluation (PVE)	**4**	**4**	*Kharif Season:* Four Varieties of Rice (BPT 5204, Sahbhagi Dhan, Gangavathi Sona & IET) *Rabi Season - Same Field Used in Kahrif Season:* Three Varieties of Chickpea & Pigeonpea (to be determined)
Total	**27**	**21**	

TP - transplanted; WSR - wet seeded rice; DSR - dry seeded rice

** - There were farmers who tested the system in less than 1 acre*

World Vegetable Center (AVRDC)

Staff appointed in the project: AVRDC appointed a Site Coordinator based in Chickmaglur, he will be managing both Raichur and Chikmagalur and supporting Tumkur and Bijapur interventions. A Research Technician is also appointed in Raichur.

Supplied seeds for trials and multiplication of elite mungbean lines and vegetable soybean lines in Raichur, Tumkur and Chikmagalur.

Identified the problems in chili farming belts of Raichur and identified a large scale buyer of Chili for processing in Tamil Nadu – a company called Paprika Oleos Private Limited. They are willing to pay 20% premium if cluster of farmers grow chili following GAP. We are in the process of organising a workshop for chili farmers and the company representatives. We have also provided elite lines of Chili with disease resistance to be tested in TNAU that can be used later in the project.

In August, AVRDC conducted a workshop on entrepreneurial opportunities for agricultural graduates in Karnataka and also shared internship/research opportunities for PG students of UAS, Raichur in Bhoochetana Plus project. Dean PGS and professors of Horticulture, Agriculture Economics and Extension along with 30 MSc and PhD students participated in the workshop.

Farmer identification has started in Raichur and Chickmaglur to work with them in coming seasons in growing vegetables, chili processing, promoting vegetable soybean and expanding mung bean cultivation.

Through participation in a competitive process, AVRDC has been selected by Johns Hopkins Carey Business School in their Innovation for Humanity Project where 3-5 Global MBA students will work for one trimester with AVRDC to come up with recommendations for improving market access for vegetable growers in Karnataka.

The Carey student team working on this project will deliver the following items:

- Analysis of current market challenges for small scale farmers in Karnataka
- Report on the best practices of improving market access and addressing market gaps, investigating how local laws and supply and value chains effect market dynamics
- Propose tactics to develop new markets for small scale farmers, including the private sector's role in market development, information exchange, e.g. ITC Chaupal, IFFCO, Reuters Market Lite, MCMX, etc.
- Identify infrastructure and institutional bottlenecks and post-harvest challenges

ICARDA

ICARDA has provided accessions of edible cactus to UHS, Bagalkot and same have been planted in the University for Multiplications. 600 pads of Cactus of three different varieties of edible cactus have been provided by ICARDA to plant and multiply at ICRISAT campus and are being multiplied currently in the campus.

IFPRI

IFPRI has conducted a policy related study on 'Accelerating Agricultural Growth for food security and livelihoods opportunities in Karnataka'. This study is a good start to focus on policy issues for dealing with food security in the state. The baseline questionnaire was developed by IFPRI along with ICRISAT is being used for baseline data collection in all four benchmark locations.

ICRAF

ICRAF is studying the suitability of promoting agroforestry in Chikmagalur and Tumkur. Initial field visits made by Dr SK Dalal and discussed with line department heads and staff at the district and identified suitable locations for promoting agroforestry.

ILRI

ILRI has collected basic information to chalk-out activities in different locations. The ILRI team is working on standardizing the feeding system for different livestock based on secondary data collected from different locations.

IWMI

The International Water Management Institute has assessed the constraints and opportunities to increase the adoption of micro irrigation system in selected benchmark locations. The awareness trainings for farmers are scheduled to create awareness among farming community to use extensively micro irrigation systems for enhancing water use efficiency in these areas.

CIMMYT

CIMMYT along with UAS Raichur, Department of Agriculture have organized a field day-cum-machine training for farmers in Raichur which include training on multi-crop transplanter, laser leveler, spray nozzle. Along with ICRISAT and IRRI, CIMMYT is promoting direct seeding in rice in Raichur district. In the Bhoochetana villages, CIMMYT is demonstrating mechanization of rice (DSR) in 95 acres and varietal maize trails in 4 acres and conservation agriculture trails are being implemented in the benchmark site.

IRRI

Rice is a major crop in the Raichur and Chikmagalur districts of the selected area under Bhoochetana plus during this year. Hence, IRRI activities were confined to these two districts of Karnataka. The following activities were undertaken:

Participation in District level workshops and creating awareness among agriculture department officials on IRRI rice technologies: IRRI has participated in the Chikmagalur, Bijapur, Tumkur and Raichur district level workshops and created awareness among the department staff on the best management technological options available with IRRI. Effort was made to incorporate the available technological options in the proposed demonstrations by the Department of Agriculture in the farmers' fields. Those demonstrations on rice are in progress in Chikmagaluru and Raichur districts.

Encouraging direct-seeding method of rice establishment by the farmers: The advantages of direct-seeding are being popularized among the farmers during the field visits by IRRI scientists. The area under direct-seeding has increased to around 40, 000 acres, as a result of combined efforts of CGIAR centers including IRRI, ICRISAT, CIMMYT, Department of Agriculture, GoK, K.V,K.s, the University of agriculture, Raichur and initiative by progressive farmers.

Providing technological inputs to department officials during the cropping season: During visits to farmer's fields, it was observed that farmers were applying herbicides like byspiribac sodium even when farmers' fields when the fields were dominated by broadleaved weeds. Hence, message was communicated to farmers through department officials to use proper herbicides like ethoxysulfuron, chlorimuron+ metsulfuron for managing broadleaved weeds (see photograph). In the similar way technological information was provided on the need for proper fertilizer use.

Encouraging machine transplanting and providing technical inputs: In Chikmagalur district, in collaboration with department of agriculture, emphasis is being given on transplanting using transplanting machines (see photograph). It is planned to take improved varieties and best management practices to farmers in the coming season.

Understanding farmers' concept of direct-seeding of rice: A survey is being undertaken in collaboration with University of Agricultural Sciences, Raichur, and Department of Agriculture, to understand the farmers concept of direct-seeded rice, which would enable to understand the farmers cultural practices and identify areas where IRRI technological interventions are needed so as to popularize those technologies in the coming season.

Providing technological inputs to farmers: During field visits to farmer's fields, technological information on available IRRI technologies is being passing on to farmers based on their location specific needs. As the staff was recruited late, this season emphasis is more on understanding the technological needs of the farmers. Based on the farmers location specific needs technological interventions would be demonstrated in the coming seasons.

Figure 55. *Field showing direct-seeded rice*

Direct-seeded rice is becoming popular method of establishment due to water, labor, energy and time saving.

Figure 56. *Direct-seeded rice with broadleaved weeds*

Direct-seeded rice predominated by broadleaved weeds. Technological inputs were made available to manage weeds depending on the weed flora (Photo by A.N. Rao)

Figure 57. *Machine transplanting of rice*

Technical support for popularizing machine transplanting and taking best management practices to farmers is being undertaken in Chikmagalur district in collaboration with staff of department of Agriculture.

Annexures

Bijapur District

Annexure 1

Department of Agriculture

Sindagi Taluk, Nivalakhed village

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Department responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
2	**Land and water mgmts.**											
	Improved Irrigation methods	Drip	6	0	0	0	0	0	0	4.39188	0	0
		Sprinkler	50	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	5.12		20.46
3	**Productivity enhancement**				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	a) INM				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	1) Soil test- based balanced nutrition	Use of fertilisers, micronutrients, biofertilisers etc	759	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	ICRISAT	1.64703	Dept. BC-2	
	2) Vermicompost	To improve the soil texture	759	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	12.90	Enrit of soil	
	3) Vermi pits	To encourage the organic farming	20	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.80	CGIAR	8.12
	4) Biodigester	To encourage the organic farming	3	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.90	CGIAR	6.00

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Department responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	b) Improved cultivars				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	1) New crop veriety for crop-I				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	Hybrid bajra	High yielding	168	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	1.26	NFSM	
	High yielding stress tolerant Red gram TS 3R and hybrids	Short-duration & high yielding wilt resistant	200	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.52	NFSM	
	Maize hybrid	High yielding	25	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.13	SFMF	
	Sunflower hybrids Cotton Bt	High yielding High yielding	20 5	Bijapur Bijapur	Sindagi Sindagi	Nivalakhed Nivalakhed	Agril. Agril.	ADA Sindagi &RSK D.HP ADA Sindagi &RSK D.HP	Dept Dept	0.08 0.12	SFMF CGIAR	1.16
	Bengal gram JG 11	High yielding	50	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.50	NFSM/SF MF	
	Jawar M35-1	High yielding	160	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	2.08		
	Wheat	High yielding	20							0.02		
	G.nut	High yielding	150							0.23		
	Sugarcane	High yielding										

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Department responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	c) IPM				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	Trichoderma	To encourage the use of biopesticide	150	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.06	NFSM/ OPP	
	Plant protection chemicals	To encourage organic farming	750	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	3.75	NFSM/ OPP	
	d) Farm mechanisation				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	Power sprayer		5	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.18		Farm mechanization
	MB plough		2	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.05		Farm mechanization
	Seed cum fertilizer drill		2	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.05		Farm mechanization
	Rotovator		2	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.084		Farm mechanization
	Oil engine		10	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.14		Farm mechanization
	IP sets		10	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.40		Farm mechanization

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Department responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	Cycle weeder		10	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.40		
	e) Trainings				Sindagi	Nivalakhed		ADA Sindagi &RSK D.HP				
	Training for farmers	To enhance their knowledge & capacity-building	3	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.30	Dept. BC-2	
	FFS	To enhance their knowledge & capacity-building	1	Bijapur	Sindagi	Nivalakhed	Agril.	ADA Sindagi &RSK D.HP	Dept	0.15		
	Total									**36.24**		**35.74**

Contd…

Department of Agriculture

Sindagi Taluk Mulasavalagi Village

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
2	**Land & water mgmt.**											
	Improved Irrigation methods	Drip	20	0	0	0	0	0	0	14.6396	0	0
		Sprinkler	3	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.31		20.46
3	**Productivity enhancement**				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	a) INM				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	1) Soil test-based balanced nutrition	To improve nutrient use efficiency, increase crop yield &improve sustainability	4169	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	ICRISAT	9.04673	Dept. BC-2	

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
	2) Vermi compost	To improve the soil texture	4169	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	70.87	Enrit of soil	
	3) Vermi pits		180	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	7.20	CGIAR	8.12
	4) Bio digester		10	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	3.00	CGIAR	6.00
	b) Improved cultivars				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	1) New crop variety for crop-I				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	Hybrid bajra	High yielding	800	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	6.00	NFSM	
	High yielding stress tolerant Red gram TS 3R and hybrids	Short-duration & high yielding wilt resistant	1500	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	3.90	NFSM	
	Maize hybrid	High yielding	150	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.79	SFMF	
	Sunflower hybrids	High yielding	150	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.60	SFMF	
	Cotton Bt	High yielding	0	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.00	CGIAR	1.16
	Bengal gram JG 11	High yielding	200	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	2.00	NFSM/SFMF	
	Jowar M 35-1	High yielding	700	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	9.10		
	Wheat	High yielding	169			Mulasavalagi				0.17		

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
	Sugarcane	High yielding	0			Mulasavalagi						
	G.nut	High yielding	300			Mulasavalagi				0.45		
	c) IPM				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	Trichoderma	To encourage the use biopesticide	200	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.08	NFSM/OPP	
	Plant protection chemicals	To encourage organic foaming	4169	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	20.845	NFSM/OPP	
	d) Farm mechanization				Sindagi	Mulasavalagi		ADA Sindagi &RSK D.HP				
	Power sprayer		30	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	1.05		FM*
	MB plough		10	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.25		FM
	Seed cum fertilizer drill		4	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.10		FM
	Rotovator		6	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.252		F M
	Oil engine		20	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.28		FM
	IP sets		5	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.20		FM
	Cycle weeder		25	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	1.00		
	e) Trainings				Sindagi	Mulasavalagi		ADA Sindagi				

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
								&RSK D.HP				
	Training for farmers		3	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.30	Dept. BC-2	
	FFS		3	Bijapur	Sindagi	Mulasavalagi	Agril.	ADA Sindagi &RSK D.HP	Dept	0.45		
	Total									**152.87**		**35.74**

* FM = Farm mechanization

Department of Agriculture

Bijapur Taluk, Nidoni village

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
2	**Land and water managements**											
	Improved Irrigation methods	Drip	10	0	0	0	0	0	0	7.32	0	0
		Sprinkler	50	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	5.12		20.46
3	**Productivity enhancement**				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	a) INM				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	1) Soil test-based balanced nutrition	Use of fertilizers micronutrients, biofertilizers, etc	5958	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	ICRISAT	12.93	Dept. BC-2	
	2) Vermicompost		5958	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	101.29	Enrit of soil	
	3) Vermi pits		150	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	6.00	CGIAR	8.12
	4) Biodigester		20	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	6.00	CGIAR	6.00

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
	b) Improved cultivars				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	1) New crop variety for crop-I				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	Hybrid bajra	High yielding	210	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	1.58	NFSM	
	High yielding stress tolerant Red gram TS 3R and hybrids	Short-duration & high yielding wilt resistant	140	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.36	NFSM	
	Maize hybrid	High yielding	500	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	2.63	SFMF	
	Sunflower hybrids	High yielding	200	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.80	SFMF	
	Cotton Bt	High yielding	0	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.00	CGIAR	1.16
	Bengal gram JG 11	High yielding	850	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	8.50	NFSM/ SFMF	
	Jawar M 35-1	High yielding	700	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	9.10		
	Wheat	High yielding	300		Bijapur	Nidoni		ADA Bijapur &RSK BBL		0.30		

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
	Sugarcane	High yielding	25		Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	G.nut	High yielding	300		Bijapur	Nidoni		ADA Bijapur &RSK BBL		0.45		
	c) IPM				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	Trichoderma	Encourage the use biopesticide	200	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.08	NFSM/OPP	
	Plant protection chemicals	Encourage organic farming	5958	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	29.79	NFSM/OPP	
	d) Farm mechanisation				Bijapur	Nidoni		ADA Bijapur &RSK BBL				
	Power sprayer		50	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	1.75		Farm Mechanization
	MB plough		4	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.10		Farm Mechanization
	Seed cum fertilizer drill		10	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	0.24		Farm mechanization
	Rotovator		6	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	0.25		Farm mechanization

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept responsible	Officials responsible	Parteners involved	Resources required	Source of funding	Comments
	Oil engine		20	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur &RSK BBL	Dept	0.28		Farm mechanization
	IP sets		5	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	0.20		Farm mechanization
	Cycle weeder		100	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	4.00		
	e) Trainings				Bijapur	Nidoni		ADA Bijapur & RSK BBL				
	Training for farmers		3	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	0.30	Dept. BC-2	
	FFS		3	Bijapur	Bijapur	Nidoni	Agril.	ADA Bijapur & RSK BBL	Dept	0.45		
	Total									**199.80**		**35.74**

Department of Agriculture

Bijapur Taluk, Kumate Village

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
2	**Land and water mgmts.**											
	Improved irrigation methods	Drip	5	0	0	0	0	0	0	3.66	0	0
		Sprinkler	30	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	3.07		
3	**Productivity enhancement**				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	a) INM				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	1) Soil test-based balanced nutrition	Use of fertilizers, micrinutrients, biofertilisers etc	1809	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	ICRISAT	3.926	Dept. BC-2	
	2) Vermicompost		1809	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	30.75	Enrit of soil	
	3) Vermi pits		50	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	2.00	CGIAR	8.12

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	4) Biodigester		4	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	1.20	CGIAR	6.00
	b) Improved cultivars				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	1) New crop variety for crop-I				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	Hybrid bajra	High yielding	100	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.75	NFSM	
	High yielding stress tolerant Red gram TS 3R and hybrids	Short-duration & high yielding wilt resistant	35	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.09	NFSM	
	Maize hybrid	High yielding	400	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	2.10	SFMF	
	Sunflower hybrids	High yielding	130	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.52	SFMF	
	Cotton Bt	High yielding	10	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.23	CGIAR	1.16

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	Bengal gram JG 11	High yielding	500	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	5.00	NFSM /SFMF	
	Jawar M 35-1	High yielding	125	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	1.63		
	Wheat	High yielding	100		Bijapur	Kumathe		ADA Bijapur &RSK BBl		0.10		
	Sugarcane	High yielding	15		Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	Gnut	High yielding	125		Bijapur	Kumathe		ADA Bijapur &RSK BBl		0.19		
	c) IPM				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	Trichoderma	Encourage the use of biopesticide	200	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.08	NFSM/ OPP	
	Plant protection chemicals		1809	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	9.045	NFSM /OPP	
	d) Farm mechanization				Bijapur	Kumathe		ADA Bijapur &RSK BBl				

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
	Power sprayer		20	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.70		FM
	MB plough		5	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.13		FM
	Seed cum fertilizer drill		5	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.12		FM
	Rotovator		3	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.126		FM
	Oil engine		15	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.21		FM
	IP sets		15	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.60		FM
	Cycle weeder		50	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	2.00		
	e) Trainings				Bijapur	Kumathe		ADA Bijapur &RSK BBl				
	Training for farmers	To enhance their knowledge & capacity-building	3	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.30	Dept BC-2	
	FFS	To enhance their knowledge &	2	Bijapur	Bijapur	Kumathe	Agril.	ADA Bijapur &RSK BBl	Dept	0.3		

S. No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Village	Dept. responsible	Officials responsible	Partners involved	Resources required	Source of funding	Comments
		capacity-building										
		Total								**68.82**		**15.28**

Department of Horticulture

Bijapur District

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required	Sources of funding
1	**Watershed development**										
2	**Land and Water management**										
	Improved irrigation methods (micro irrigation)	Micro irrigation	60	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		28.485	MIS
3	**Productivity enhancement**										
a)	INM										
	Soil test- based balanced nutrition		20	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		0.200	NHM
b)	Improved cultivars new crop variety for crop (Pomegranate)		10	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		1.800	NHM
d)	IPM										
	IPM activity		20	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		0.200	NHM
4	**Livestock- based and livelihood activities**										
	Kitchen garden (vegetable)		10	Bijapur	Nidoni, Kumate		Horticulture	SADH (ZP) Indi		0.250	RKVY
5	**Capacity- building**										

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required	Sources of funding
	1) Farmers groups		2	Bijapur	Bijapur	Arjunagi, Nidoni, Kumate	Horticulture	SADH (ZP) Indi		0.200	ATMA
	2) Exposure visits		300	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		0.260	ATMA
	3) Training		320	Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi		0.368	ATMA
6	**Inclusive Market-Oriented Development (IMOD)**										
	Market linkages			Bijapur	Bijapur	Nidoni, Kumate	Horticulture	SADH (ZP) Indi	Hopcoms		
	Total		**742**							**31.763**	

Department of Horticulture

Bijapur District

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required	Sources of funding
1	**Watershed development**										
2	**Land & water mgmt.**										
	Improved irrigation methods (micro irrigation)		40	Bijapur	Sindagi	Nivalakhed Mulasavalagi	Horticulture	SADH (ZP) Sindagi		18.99	MIS
3	Productivity enhancement										
a)	INM										
	Soil test- based balanced nutrition		20	Bijapur	Sindagi	Nivalakhed Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.2	NHM
b)	Improved cultivars										
	New crop variety for crop (Pomegranate)		5	Bijapur	Sindagi	Nivalakhed Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.9	NHM
d)	IPM										
	IPM activity		20	Bijapur	Sindagi	Nivalakhed Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.2	NHM

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required	Sources of funding
4	**Livestock-based & livelihood activities**										
	Kitchen Garden (Vegetable)		10	Bijapur	Sindagi	Nivalakhed, Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.25	RKVY
5	**Capacity - building**										
	1) Farmers Groups		1	Bijapur	Sindagi	Nivalakhed, Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.1	ATMA
	2) Exposure visits		530	Bijapur	Sindagi	Nivalakhed, Mulasavalagi	Horticulture	SADH (ZP) Sindagi		0.14	ATMA
	3) Training		350	Bijapur	Sindagi	Nivalakhed Mulasavalag,	Horticulture	SADH (ZP) Sindagi		0.245	ATMA
6	Inclusive Market-Oriented Development (IMOD)										
	Market Linkages			Bijapur	Sindagi	Nivalakhed Mulasavalagi	Horticulture	SADH (ZP) Sindagi	Hopcoms		
	Total		**976**							**21.025**	

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required	Sources of funding
1	**Watershed development**										
2	**Land and Water mgmt.**										
	Improved irrigation methods (micro irrigation)	Micro irrigation	100	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi	ICRISAT	47.475	MIS
3	**Productivity enhancement**										
a)	INM										
	Soil test- based balanced nutrition		40	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.40	NHM
b)	Improved cultivars										
	New crop variety for crop (pomegranate)		15	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		2.70	NHM
d)	IPM										
	IPM activity		40	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.40	NHM

S No.	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible		Resources required	Sources of funding
4	**Livestock-based & livelihood activities**										
	Kitchen garden (vegetable)		20	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.50	RKVY
5	**Capacity-building**										
	1) Farmers groups		3	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.30	ATMA
	2) Exposure visits		830	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.40	ATMA
	3) Training		670	Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi		0.6125	ATMA
6	**Inclusive Market-Oriented Development (IMOD)**										
	Market Linkages			Bijapur	Bijapur & Sindagi	4 Villages	Horticulture	SADH (ZP) Bijapur & Sindagi	Hopcoms		
	Total		**1718**							**52.788**	

Department of Sericulture

Sindagi Taluk

S. No	Program Component	Unit (ha/No)	Unit cost (Rs.Lakhs/ha)	Selected Villages	2013-14 Target unit cost		Expenditure to be incurred in lakh for subsidy	
					Phy	Fin	Phy	Fin
1	Nursery (lakh)	1 Lakh/ 1 acre	1.50	Nivalkhed Mulasavalgi	1.00 1.00	1.50 1.50	1.00 1.00	0.75 0.75
2	Plantation (ha)	ha	0.2250	Nivalkhed Mulasavalgi	10.00 10.00	2.25 2.25	10.00 10.00	1.687 1.687
3	Equipment (No.)	No	0.50	Nivalkhed Mulasavalgi	6 6	3.00 3.00	6 6	2.25 2.25
	Grand Total							**15.624**

Note: As per Departmental scheme guidelines the unit and subsidy is calculated (Dept. General Plan)

S. No	Program component	Unit (ha/No)	Unit cost (Rs.Lakhs/ ha)	Selected Villages	2013-14 Target unit cost		Expenditure to be incurred in lakh for subsidy	
					Phy	Fin	Phy	Fin
1	Drip irrigation (ha)	ha	0.50	Nivalkhed Mulasavalgi	3.00 3.00	1.50 1.50	3.00 3.00	1.125 1.125
2	Rearing house 1000 Sq.ft (No)	No.	2.00	Nivalkhed Mulasavalgi	2 2	4.00 4.00	2 2	2.00 2.00
	Total					**11.00**		**6.250**

S. No	Program component	Unit (ha/No)	Unit Cost (Rs Lakhs/ha)	Selected villages	2013-14 Target unit cost		Expenditure to be incurred in lakh for subsidy	
					Phy	Fin	Phy	Fin
1	Nursery (1 lakh)	1 Lakh/ 1acre	1.50	Kumathe Nidoni	1.00 1.00	1.50 1.50	1.00 1.00	0.75 0.75
2	Plantation (ha)	ha	0.2250	Kumathe Nidoni	10.00 10.00	2.25 2.25	10.00 10.00	1.687 1.687
3	Equipment (No)	No.	0.50	Kumathe Nidoni	6 6	3.00 3.00	6 6	2.25 2.25
	Grand Total							**15.624**

Note: As per Departmental scheme guidelines, the unit and subsidy is calculated (Dept. General Plan)

S No	Program component	Unit (ha/No)	Unit cost (Rs Lakhs/ ha)	Selected villages	2013-14 Target unit cost		Expenditure to be incurred in lakh for subsidy	
					Phy	Fin	Phy	Fin
1	Drip irrigation (ha)	ha	0.50	Kumathe Nidoni	3.00 3.00	1.50 1.50	3.00 3.00	1.125 1.125
2	Rearing house 1000 Sq.ft (No.)	No.	2.00	Kumathe Nidoni	2 2	4.00 4.00	2 2	2.00 2.00
	Total					**11.00**		**6.250**

Note: As per Departmental scheme guidelines the unit and subsidy is calculated

S. No.	Details of interventions	Targeted area (ha)		District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding
		Phy	Fin								
1	Nursery (lakh)	0.80 (2 lakh)	1.50	BIJAPUR	SINDAGI	Nivalkhed Mulasavalgi	SERICULTURAL EXTENSION OFFICER	Concerned Range Officer	ICRISAT	CGIAR	1.50
2	Plantation (ha)	20	3.374						ICRISAT	CGIAR	3.374
3	Equipment (No)	12	4.50						ICRISAT	CGIAR	4.50
	Total		9.374								9.374
4	Drip irrigation (ha)	6.00	2.25						ICRISAT	Department	2.25
5	Rearing house 1000 sq,ft (No)	4	4.00						ICRISAT	Department	4.00
	Total		6.25								6.25
	Grand Total		**15.624**								**15.624**

S. No.	Details of interventions	Targeted area (ha)		District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding
		Phy	Fin								
1	Nursery (lakh)	0.80 (2 lakh)	1.50	BIJAPUR	BIJAPUR	Kumathe Nidoni	SERICULTURAL EXTENSION OFFICER	Concerned Range Officer	ICRISAT	CGIAR	1.50
2	Plantation (ha)	20	3.374						ICRISAT	CGIAR	3.374
3	Equipment (No)	12	4.50						ICRISAT	CGIAR	4.50
	Total		9.374								9.374
4	Drip irrigation (ha)	6.00	2.25						ICRISAT	Department	2.25
5	Rearing house 1000 sq. ft (No)	4	4.00						ICRISAT	Department	4.00
	Total		6.25								6.25
	Grand Total		**15.624**								**15.624**

Department of Animal Husbandry

Bijapur Taluk, Kumate village

Identified interventions	Details of interventions	Targetted area	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Artificial Insemination for breed improvement	Providing AI facilities at their door step through mobile Vet. Clinic (two wheeler)	1065 (Cattle+ Buffalo)	Bijapur	Bijapur	Kumate	AH&VS BIjapur	Asst.Director Vet. Hospital Bableshwar	Local SHG group	Two wheeler vehicle, fuel /maintenance mobile cryocan 3 ltr.	Gok-CGIAR	Semen of all breeds and LN2 supplied by dept.
Animal health camps	Conducting health checkup, treatment mass de-worming dose, supply of minerals & vaccination	2184 (Total animal population)	Do	Do	Do	Do	Do	Do	Medicines, mineral supplements	Do	All vaccines/ biologicals to undertake vaccine program to create immun belt will be provided by dept.
Backyard poultry	Supply of desi birds (giriraja/ chabra)	17 families	Do	Do	Do	Do	Do	Do	Desi birds	Do	Vaccines/ medicines supplied by dept.
Sheep/goat rearing	Induction of proven superior germplasm of sheep/goat in the existing blocks	45 families	Do	Do	Do	Do	Do	Do	Ram/buck supply	Do	to SHG active members

Identified interventions	Details of interventions	Targetted area	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Fodder development	Supply of quality fodder seeds/root slips of napier & bajra	100	Do	Do	Do	Do	Do	Do	Seeds & root slips	Do	
Awareness program	Creating awareness program regarding dairying, sheep goat rearing etc. 3 times in a year	-	Do	Do	Do	Do	Do	Do	Trainees	Do	-
Exposure visit	Exposure visit to CBO to study livestock-based livelihood activities	10 members	Do	Do	Do	Do	Do	Do	Transport & accommodation	Do	

Department of Animal Husbandry

Bijapur Taluk, Nidani village

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Artificial Insemination for breed improvement	Providing AI facilities at their door step through mobile Vet. clinic (two wheeler)	1865 (cattle+ buffalo)	Bijapur	Bijapur	Nidoni	AH&VS BIjapur	Asst.Director Vet. Hospital Bableshwar	Local SHG group	Two wheelervehicle, fuel/maintenance mobile cryocan 3ltr.	Gok-CGIAR	Semen of all breeds and LN2 supplied by dept.
Animal health camps	Conducting health checkup, treatment mass de-worming dose, supply of minerals & vaccination	Animal population 4575	Do	Do	Do	Do	Do	Do	Medicines, mineral supplments	Do	All vaccines/ biologicals to undertake vaccine prg. to create immun belt will be provided by dept.
Backyard poultry	Supply of desi birds (giriraja/ chabra)	Families 40	Do	Do	Do	Do	Do	Do	Desi birds	Do	Vaccines/ medicines supplied by dept.
Sheep/goat rearing	Induction of proven superior germplasm of sheep/goats in the existing flocks	Families 268	Do	Do	Do	Do	Do	Do	Ram/buck supply	Do	to SHG active members

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Fodder development	Supply of quality fodder seeds/ root slips of napier & bajra	Families 250	Do	Do	Do	Do	Do	Do	Seeds&root slips	Do	
Awareness program	Creating awareness program regarding dairying, sheep goat rearing etc. 3 times in a year	-	Do	Do	Do	Do	Do	Do	Trainees	Do	-
Exposure visit	Exposure visit to CBO to study live stock based livelihood activities	Trainees 10	Do	Do	Do	Do	Do	Do	Transport & accommodation	Do	

Department of Animal Husbandry

Sindagi Taluk, Mulasavalagi village

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Artificial Insemination for breed improvement	Providing AI facilities At their door step through mobile Vet. clinic (two Wheeler)	901 (Cattle+ Buffalo)	Bijapur	Sindagi	Mulasa-valagi	AH&VS Bijapur	Asst.Director Vety. Hospital Devara . Hipparagi	Local SHG group	Two wheeler vehicle, fuel/mainte-nance mobile cryocan 3ltr.	Gok-CGIAR	Semen of all breeds and LN2 supplied by dept.
Animal health camps	Conducting health check up, treatment mass de-worming dose, supply of minerals & vaccination	2083 (Total animal population)	Do	Do	Do	Do	Do	Do	Medicines, mineral suppliments	Do	All vaccines/biologicals to under take vaccine program to create immun belt will be provided by dept.
Backyard poultry	Supply of desi birds (giriraja/ chabra)	42 families	Do	Do	Do	Do	Do	Do	Desi birds	Do	Vaccines/ medicines supplied by dept.
Sheep/goat rearing	Induction of proven superior germplasm of sheep/goats in the existing blocks	40 families	Do	Do	Do	Do	Do	Do	Ram/buck supply	Do	to SHG active members

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Fodder development	Supply of quality fodder seeds / root slips of napier & bajra	211	Do	Do	Do	Do	Do	Do	Seeds&root slips	Do	
Awareness program	Creating awareness program regarding dairying, sheep goat rearing etc.3 times in a year	-	Do	Do	Do	Do	Do	Do	Trainees	Do	-
Exposure visit	Exposure visit to CBO to study livestock-based livelihood activities	10 members	Do	Do	Do	Do	Do	Do	Transport & accommoda -tion	Do	

Department of Animal Husbandry

Sindagi Taluk, Nivalakheda village

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Artificial Insemination for breed improvement	Providing AI facilities At their door step through mobile Vet. clinic (two Wheeler)	337 (Cattle+ buffalo)	Bijapur	Sindagi	Nivala-kheda	AH&VS BIjapur	Asst.Director Vet. Hospital Devara . Hipparagi	Local SHG group	Two wheeler vehicle, fuel/ maintenanc e mobile cryocan 3ltr.	Gok-CGIAR	Semen of all breeds and LN2 supplyed by dept.
Animal health camps	Conducting health checkup, treatment mass de-worming dose, supply of minerals & vaccination	511 (Total animal population)	Do	Do	Do	Do	Do	Do	Medicines, minral suppliments	Do	All Vaccines/biolo gicals to under take vaccine program to create immun belt will be provided by dept.
Backyard poultry	Supply of desi birds (giriraja/ chabra)	17 families	Do	Do	Do	Do	Do	Do	Desi birds	Do	Vaccines/ medicines supplied by dept.
Sheep/goat rearing	Induction of proven superior germplasm of Sheep/goat in the existing blocks	2 families	Do	Do	Do	Do	Do	Do	Ram/buck supply	Do	to SHG active members

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
Fodder development	Supply of quality fodder seeds/root slips of napier & bajra	85	Do	Do	Do	Do	Do	Do	Seeds&root slips	Do	
Awareness program	Creating awareness program regarding dairying, sheep goat rearing etc.3 times in a year	-	Do	Do	Do	Do	Do	Do	Trainees	Do	-
Exposure visit	Exposure visit to CBO to study livestock-based livelihood activities	10 members	Do	Do	Do	Do	Do	Do	Transport & Accommodation	do	

Watershed Development Department

Bijapur Taluk

S.No	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Dept. responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Rainwater harvesting structures (Nalabund, checkdam, farm pond)	2.00	Bijapur	Bijapur	Kumate Nidoni	Watershed Depart ment	DWDO Bijapur	DWDO & ICRISAT	6.00	IWMP	Rs.26.00 Lakh from IWMP and Rs1.20 Lakh from RADP Scheme (CONVERGEN CE)
2	Soil conservation on Farms i.e field bunding	202.00			Nidoni				18.20	IWMP	
3	INM (vermicomposting)	6			Kumate				0.300	RADP	
	RADP	18			Nidoni				0.900		
4	Training of farmers	2			Kumate				0.100	IWMP	
		2			Nidoni				0.100		
5	Demonstration	2			Kumate				0.200	IWMP	
		3			Nidoni				0.300		
6	Exposure visits	2			Kumate				0.500	IWMP	
					Nidoni						
7	Training to SHGs	1000			Nidoni				0.600	IWMP	
					Kumate						
	Total								**27.200**		

Watershed Development Department

Sindagi Taluk

S.No	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Rainwater harvesting structures (nalabund, check dam, farm pond)	2	Bijapur	Sindagi	Mulsavalagi Nivalked	Watershed Department	DWDO Bijapur	DWDO & ICRISAT	6.000	IWMP	Rs. 29.55 lakh from IWMP and Rs 0.75 lakh from RADP scheme (convergence)
2	Soil conservation on - farms i.e field bunding	165			Mulsavalagi				14.800	IWMP	
		80			Nivalked				7.200		
3	INM vermicomposting	10			Mulsavalagi				0.500	RADP	
	RADP	5			Nivalked				0.250		
4	Training of farmers	2			Mulsavalagi				0.100	IWMP	
		1			Nivalked				0.050		
5	Demonstration	2			Mulsavalagi				0.200	IWMP	
		1			Nivalked				0.100		
6	Exposure visits	2			Mulsavalagi Nivalked				0.500	IWMP	
7	Training to SHG	1000			Mulsavalagi Nivalked				0.600	IWMP	
			Total						**30.300**		

S.No	Details of interventions	Targeted area (ha)	District	Taluk	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of convergence
1	Rainwater harvesting structures (nala bund, check dam, farm pond)	2757.26	Bijapur	Bijapur	Watershed Department	DWDO Bijapur	DWDO & ICRISAT	27.200	IWMP- Rs.26.00 Lakh RADP- Rs. 01.20 Lakh
		2350.85		Sindagi				30.300	IWMP- Rs.29.55 Lakh RADP- Rs.0.75 Lakh
Total		**5108.11**						**57.500**	**Total - 57.500 Lakh**

Watershed Development Department

Bijapur District

S. No	Targeted area (ha)	District	Department responsible	Resources required (Rs in lakhs)	Sources of convergence	Remarks & timeline for activity
1	5108.11	Bijapur	Watershed Department	57.5	IWMP -55.55 Lakh RADP - 1.95 Lakh	1. Rain water harvesting June July-2013 Structure NB CD Feb 2. Demonstration June July-2013 3.Training of farmers July Aug-2013 4. Exposure visit Oct 2013
					Total - 57.50 Lakh	

Department of Minor Irrigation

Bijapur and Sindagi Taluks

Identified interventions	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in Lakhs)	Sources of funding	Comments
Irrigation-Thirteenth Finance Commission	Irrigation-Nidoni Tank rehabilitation	35.00	Bijapur	Bijapur	Nidoni	MI	AEE MI Bijapur	Irrigators	25.00	State Govt.	Work will be taken up during 2013-14
Irrigation	Irrigation through LIS using borewell to sy.no.82/2/4/2b, 89/2/4/2b,89/2b/2	12.31	Bijapur	Sindagi	Nivalkhed	MI	AEE MI Indi	Irrigators	20.00	State Govt.	Work will be taken up during 2013-14
Irrigation-SCP	Irrigation through LIS using borewell to sy.no.592/4,5,6,7a	17.3	Bijapur	Sindagi	Mulsavalagi	MI	AEE MI Indi	Irrigators	15.00	State Govt.	Work will be taken up during 2013-14
Irrigation-Thirteenth Finance Commission	Irrigation-Mulsavalagi Tank rehabilitation	45	Bijapur	Sindagi	Mulsavalagi	MI	AEE MI Indi	Irrigators	20.00	State Govt.	Work will be taken up during 2013-14
Irrigation-NABARD-Scheme	Irrigation-construction of bridge-cum-barrage	52	Bijapur	Sindagi	Mulsavalagi	MI	AEE MI Indi	Irrigators	98.00	State Govt.	Work will be completed during 2013-14

Chikmagalur District

Annexure 2

Department of Agriculture

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	Conducting seed treatment campaigns (Rs. 15000/-)		Incentive for' certified seed production (Rs 1000/- qtl for growers)		Certified seed distribution 50% Subsidy		Large-scale demonstrations @ Rs. 4000/ha		Crop diversification demonstrations @ 4000/ha	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kurichikkanahalli	0	0.000	0	0.000	7	0.084	1	0.040	0	0.000
2	Kengenahalli	0	0.000	0	0.000	5	0.060	0	0.000	0	0.000
3	Karisiddanahalli	0	0.000	0	0.000	6	0.072	1	0.040	1	0.040
4	Karehalli	0	0.000	0	0.000	2	0.024	0	0.000	0	0.000
5	Uddeboranahalli	0	0.000	0	0.000	8	0.096	0	0.000	0	0.000
6	Kunnalu	0	0.000	0	0.000	8	0.096	1	0.040	0	0.000
7	Lakkamanahalli	1	0.150	0	0.000	8	0.096	1	0.040	1	0.040
8	Sirabadige	0	0.000	0	0.000	6	0.072	0	0.000	0	0.000
	Total	**1**	**0.150**	**0**	**0.000**	**50**	**0.600**	**4**	**0.160**	**2**	**0.080**

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	FFS -IPM practices Rs 10000/ FFS		Distribution of gypsum/ lime as soil amendment @ 50% subsidy (max. Rs 750/- ha)		Distribution of micronutrients @ 50% Subsidy (max. Rs 750/- ha)		Distribution of biofertilizers @ 50% Subsidy (max. Rs 100/- ha)		Distribution of biopesticides @ 50% Subsidy (max. Rs 100/- ha)		Distribution of Karnataka Agrigold @ 50% Subsidy (max. Rs 4000/- Tn)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kurichikkanahalli	1	0.100	5	0.038	5	0.025	20	0.020	20	0.020	1	0.040
2	Kengenahalli	0	0.000	5	0.038	5	0.025	20	0.020	20	0.020	0	0.000
3	Karisiddanahalli	0	0.000	10	0.075	10	0.050	40	0.040	40	0.040	1	0.040
4	Karehalli	0	0.000	10	0.075	10	0.050	40	0.040	40	0.040	0	0.000
5	Uddeboranahalli	0	0.000	10	0.075	10	0.050	40	0.040	40	0.040	1	0.040
6	Kunnalu	1	0.100	20	0.150	20	0.100	80	0.080	80	0.080	0	0.000
7	Lakkamanahalli	1	0.100	20	0.150	20	0.100	80	0.080	80	0.080	1	0.040
8	Sirabadige	0	0.000	20	0.150	20	0.100	80	0.080	80	0.080	1	0.040
	Total	**3**	**0.300**	**100**	**0.750**	**100**	**0.500**	**400**	**0.400**	**400**	**0.400**	**5**	**0.200**

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	Distribution of plant protection Equipments @ 50% Subsidy (max. Rs 2500/- Tn)		Distribution of plant protection chemicals @ 50% subsidy (max. Rs 500/- ha)		Distribution of vermicompost @ 50% subsidy (Max Rs. 2200/ ha)		Distribution of green manure seeds @ 50% subsidy max Rs. 2000/ha		Distribution of Hi-tech implements @ 50% max Rs 15000 /-Unit	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kurichikkanahalli	3	0.075	5	0.025	0.5	0.011	0.5	0.010	5	0.750
2	Kengenahalli	2	0.050	5	0.025	0.5	0.011	0.5	0.010	2	0.300
3	Karisiddanahalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	3	0.450
4	Karehalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	2	0.300
5	Uddeboranahalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	5	0.750
6	Kunnalu	10	0.250	20	0.100	0.5	0.011	0.5	0.010	8	1.200
7	Lakkamanahalli	10	0.250	20	0.100	0.5	0.011	0.5	0.010	8	1.200
8	Sirabadige	10	0.250	20	0.100	0.5	0.011	0.5	0.010	7	1.050
	Total	**50**	**1.250**	**100**	**0.500**	**4**	**0.088**	**4**	**0.080**	**40**	**6.000**

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	RSG formation and revolving fund @ 10000/- per group		Assistance for Agro-processing units @ 50% subsidy max Rs 25000/-		Distribution of power tillers @ 50% Max Rs 56500/ Unit		Distribution of micro-irrigation systems @ 75% subsidy max per 15000 ha		Distribution of PVC pipes @ 50% subsidy max per 15000/farmer		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kurichikkanahalli	1	0.100	1	0.250	0	0.000	10	1.500	3	0.450	89	3.538
2	Kengenahalli	0	0.000	1	0.250	0	0.000	5	0.750	2	0.300	73	1.859
3	Karisiddanahalli	0	0.000	1	0.250	0	0.000	10	1.500	2	0.300	141	3.093
4	Karehalli	0	0.000	1	0.250	0	0.000	5	0.750	2	0.300	128	2.025
5	Uddeboranahalli	0	0.000	1	0.250	0	0.000	15	2.250	2	0.300	148	4.087
6	Kunnalu	0	0.000	2	0.500	1	0.565	20	3.000	3	0.450	275	6.732
7	Lakkamanahalli	1	0.100	2	0.500	1	0.565	20	3.000	3	0.450	279	7.062
8	Sirabadige	0	0.000	1	0.250	0	0.000	15	2.250	3	0.450	264	4.893
	Total	**2**	**0.200**	**10**	**2.500**	**2**	**1.130**	**100**	**15.000**	**20**	**3.000**	**1397**	**33.288**

Department of Agriculture

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	Conducting seed treatment campaigns (Rs. 15000/-)		Incentive for certified seed production (Rs 1000/- qtl for growers)		Certified seed distribution (50% subsidy)		Large scale demonstrations (@ Rs. 4000/ha)		Crop diversification demonstrations (@ 4000/ha)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	1	0.150	25	0.250	100	1.200	4	0.160	0	0.000
2	Shakunipura	0	0.000	5	0.050	10	0.120	1	0.040	0	0.000
3	Chikkagangla	0	0.000	5	0.050	10	0.120	1	0.040	0	0.000
4	Haralaghatta	0	0.000	2	0.020	10	0.120	1	0.040	0	0.000
5	Howthanahalli	0	0.000	2	0.020	10	0.120	1	0.040	0	0.000
6	Karithimmanahalli	0	0.000	2	0.020	10	0.120	1	0.040	0	0.000
7	Gollarahalli	0	0.000	2	0.020	10	0.120	1	0.040	0	0.000
8	Kannenahalli	0	0.000	5	0.050	40	0.480	1	0.040	0	0.000
9	Govindpura	0	0.000	2	0.020	50	0.600	1	0.040	0	0.000
	Total	**1**	**0.150**	**50**	**0.500**	**250**	**3.000**	**12**	**0.480**	**0**	**0.000**

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	FFS -IPM practices Rs 10000/ FFS		Distribution of gypsum/lime as soil amendment @ 50% subsidy (max. Rs 750/- ha)		Distribution of micronutrients @ 50% subsidy (max. Rs 750/- ha)		Distribution of biofertilizers @ 50% subsidy (max. Rs 100/- ha)		Distribution of biopesticides @ 50% subsidy (max. Rs 100/- ha)		Distribution of Karnataka Agrigold @ 50% subsidy (max. Rs 4000/- Tn)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	2	0.200	100	0.750	50	0.250	200	0.200	200	0.200	10	0.400
2	Shakunipura	0	0.000	5	0.038	10	0.050	40	0.040	40	0.040	1	0.040
3	Chikkagangla	1	0.100	10	0.075	20	0.100	70	0.070	70	0.070	2	0.080
4	Haralaghatta	0	0.000	5	0.038	10	0.050	40	0.040	40	0.040	1	0.040
5	Howthanahalli	0	0.000	5	0.038	10	0.050	40	0.040	40	0.040	1	0.040
6	Karithimmanahalli	0	0.000	5	0.038	10	0.050	80	0.080	80	0.080	1	0.040
7	Gollarahalli	0	0.000	5	0.038	10	0.050	40	0.040	40	0.040	1	0.040
8	Kannenahalli	1	0.100	10	0.075	20	0.100	50	0.050	50	0.050	5	0.200
9	Govindpura	0	0.000	5	0.038	10	0.050	40	0.040	40	0.040	3	0.120
	Total	**4**	**0.400**	**150**	**1.125**	**150**	**0.750**	**600**	**0.600**	**600**	**0.600**	**25**	**1.000**

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	Distribution of plant protection equipments @ 50% subsidy (max. Rs 2500/- Tn)		Distribution of plant protection chemicals @ 50% subsidy (max. Rs 500/- ha)		Distribution of vermicompost @ 50% subsidy (Max Rs. 2200/ ha)		Distribution of green manure seeds @ 50% subsidy (max Rs. 2000/ ha)		Distribution of hi-tech implements @ 50% max (Rs 15000 /-unit)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	50	1.250	80	0.400	2.0	0.044	1.5	0.030	20	3.000
2	Shakunipura	5	0.125	10	0.050	0.5	0.011	0.5	0.010	3	0.450
3	Chikkagangla	10	0.250	30	0.150	0.5	0.011	0.5	0.010	6	0.900
4	Haralaghatta	5	0.125	10	0.050	0.5	0.011	0.5	0.010	3	0.450
5	Howthanahalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	5	0.750
6	Karithimmanahalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	3	0.450
7	Gollarahalli	5	0.125	10	0.050	0.5	0.011	0.5	0.010	5	0.750
8	Kannenahalli	10	0.250	30	0.150	0.5	0.011	1.0	0.020	10	1.500
9	Govindpura	5	0.125	10	0.050	0.5	0.011	0.5	0.010	5	0.750
	Total	**100**	**2.500**	**200**	**1.000**	**6**	**0.132**	**6**	**0.120**	**60**	**9.000**

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	RSG formation and revolving fund @ 10000/- per group		Assistance for agro-processing units @ 50% subsidy max Rs 25000/-		Distribution of power tillers @ 50% max Rs 56500/ unit		Distribution of micro-irrigation systems@ 75% subsidy max per 15000 ha		Distribution of PVC pipes @ 50% subsidy max per 15000/farmer		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	1	0.100	8	2.000	0	0.000	100	15.000	10	1.500	965	27.084
2	Shakunipura	0	0.000	2	0.500	0	0.000	5	0.750	2	0.300	140	2.614
3	Chikkagangla	1	0.100	3	0.750	0	0.000	25	3.750	5	0.750	270	7.376
4	Haralaghatta	0	0.000	1	0.250	0	0.000	5	0.750	1	0.150	135	2.184
5	Howthanahalli	0	0.000	1	0.250	0	0.000	10	1.500	2	0.300	143	3.384
6	Karithimmanahalli	0	0.000	2	0.500	1	0.565	10	1.500	2	0.300	223	3.979
7	Gollarahalli	0	0.000	2	0.500	1	0.565	10	1.500	2	0.300	145	4.199
8	Kannenahalli	0	0.000	3	0.750	0	0.000	25	3.750	5	0.750	267	8.326
9	Govindpura	0	0.000	3	0.750	0	0.000	10	1.500	1	0.150	186	4.294
	Total	**2**	**0.200**	**25**	**6.250**	**2**	**1.130**	**200**	**30.000**	**30**	**4.500**	**2473**	**63.437**

Department of Agriculture

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	Conducting seed treatment campaigns (Rs. 15000/-)		Incentive for' certified seed production Rs 1000/- Qtl for growers		Certified seed distribution 50% subsidy		Large-scale demonstrations (@ Rs. 4000/ha)		Crop diversification demonstrations (@ 4000/ha)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	1	0.150	5	0.050	30	0.360	1	0.040	0	0.000
2	Sowthanahalli	0	0.000	10	0.100	40	0.480	1	0.040	1	0.040
3	Sollapura	0	0.000	5	0.050	20	0.240	0	0.000	1	0.040
4	Begaru	0	0.000	5	0.050	20	0.240	1	0.040	1	0.040
5	Thammatadahalli	0	0.000	5	0.050	20	0.240	1	0.040	0	0.000
6	Mugali	0	0.000	5	0.050	20	0.240	0	0.000	0	0.000
7	Katiganere	0	0.000	5	0.050	40	0.480	1	0.040	0	0.000
8	Gowrapura	0	0.000	10	0.100	60	0.720	1	0.040	1	0.040
	Total	**1**	**0.150**	**50**	**0.500**	**250**	**3.000**	**6**	**0.240**	**4**	**0.160**

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	FFS -IPM practices Rs 10000/ FFS		Distribution of gypsum/lime as soil amendment @ 50% subsidy (max. Rs 750/- ha)		Distribution of micronutrients @ 50% subsidy (max. Rs 750/- ha)		Distribution of biofertilizers @ 50% subsidy (max. Rs 100/- ha)		Distribution of biopesticides @ 50% subsidy (max. Rs 100/- ha)		Distribution of Karnataka Agrigold @ 50% subsidy (max. Rs 4000/- Tn)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	0	0.000	15	0.113	15	0.075	75	0.075	75	0.075	4	0.160
2	Sowthanahalli	1	0.100	20	0.150	20	0.100	75	0.075	75	0.075	4	0.160
3	Sollapura	0	0.000	15	0.113	15	0.075	75	0.075	75	0.075	4	0.160
4	Begaru	1	0.100	20	0.150	20	0.100	75	0.075	75	0.075	2	0.080
5	Thammatadahalli	0	0.000	20	0.150	20	0.100	75	0.075	75	0.075	2	0.080
6	Mugali	0	0.000	20	0.150	20	0.100	75	0.075	75	0.075	2	0.080
7	Katiganere	1	0.100	20	0.150	20	0.100	75	0.075	75	0.075	1	0.040
8	Gowrapura	1	0.100	20	0.150	20	0.100	75	0.075	75	0.075	1	0.040
	Total	**4**	**0.400**	**150**	**1.125**	**150**	**0.750**	**600**	**0.600**	**600**	**0.600**	**20**	**0.800**

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	Distribution of plant protection equipments @ 50% subsidy (max. Rs 2500/- Tn)		Distribution of plant protection chemicals @ 50% subsidy (max. Rs 500/- ha)		Distribution of vermicompost @ 50% subsidy (max Rs. 2200/ ha)		Distribution of green manure seeds @ 50% subsidy max Rs. 2000/ ha		Distribution of Hi-tech implements @ 50% max Rs 15000 /- unit	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	14	0.350	25	0.125	1	0.022	1	0.020	8	1.200
2	Sowthanahalli	14	0.350	25	0.125	1	0.022	1	0.020	6	0.900
3	Sollapura	12	0.300	25	0.125	0	0.000	0	0.000	8	1.200
4	Begaru	12	0.300	25	0.125	1	0.022	1	0.020	8	1.200
5	Thammatadahalli	12	0.300	25	0.125	1	0.022	1	0.020	6	0.900
6	Mugali	12	0.300	25	0.125	0	0.000	0	0.000	6	0.900
7	Katiganere	12	0.300	25	0.125	1	0.022	1	0.020	8	1.200
8	Gowrapura	12	0.300	25	0.125	1	0.022	1	0.020	10	1.500
	Total	**100**	**2.500**	**200**	**1.000**	**6**	**0.132**	**6**	**0.120**	**60**	**9.000**

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	RSG Formation and revolving fund @ 10000/- per group		Assistance for agro-processing units @ 50% subsidy max Rs 25000/-		Distribution of power tillers @ 50% max Rs 56500/ unit		Distribution of micro- irrigation systems@ 75% subsidy max per 15000 ha		Distribution of PVC pipes @ 50% subsidy max per 15000/farmer		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	0	0.000	3	0.750	0	0.000	25	3.750	4	0.600	302	7.915
2	Sowthanahalli	1	0.100	3	0.750	1	0.565	25	3.750	4	0.600	328	8.502
3	Sollapura	0	0.000	2	0.500	0	0.000	25	3.750	4	0.600	286	7.303
4	Begaru	0	0.000	3	0.750	0	0.000	25	3.750	3	0.450	298	7.567
5	Thammatadahalli	0	0.000	2	0.500	0	0.000	25	3.750	3	0.450	293	6.877
6	Mugali	0	0.000	2	0.500	0	0.000	25	3.750	4	0.600	291	6.945
7	Katiganere	1	0.100	2	0.500	0	0.000	25	3.750	4	0.600	317	7.727
8	Gowrapura	0	0.000	3	0.750	1	0.565	25	3.750	4	0.600	346	9.072
	Total	**2**	**0.200**	**20**	**5.000**	**2**	**1.130**	**200**	**30.000**	**30**	**4.500**	**2461**	**61.907**

Department of Agriculture

Bhoochetana Plus Village-wise Action Plan

Koppa Taluk

S.No.	Villages	Conducting seed treatment campaigns (Rs 15000/-)		Incentive for certified seed production (Rs 1000/- qtl for growers)		Certified seed distribution (50% subsidy)		Large-scale demonstrations (@ Rs. 4000/ha)		Crop diversification demonstrations (@ 4000/ha)		FFS -IPM practices (Rs 10000/FFS)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	1	0.150	0	0.000	102	1.224	2	0.080	1	0.040	1	0.100
2	Harandur	0	0.000	0	0.000	83	0.996	2	0.080	1	0.040	0	0.000
	Total	**1**	**0.150**	**0**	**0.000**	**185**	**2.220**	**4**	**0.160**	**2**	**0.080**	**1**	**0.100**

S.No.	Villages	Distribution of gypsum/lime as soil amendment (@ 50% subsidy (max. Rs 750/- ha)		Distribution of micronutrients (@ 50% subsidy (max. Rs 750/- ha)		Distribution of biofertilizers (@ 50% subsidy (max. Rs 100/- ha)		Distribution of biopesticides (@ 50% subsidy (max. Rs 100/- ha)		Distribution of Karnataka Agrigold (@ 50% subsidy (max. Rs 4000/- Tn)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	28	0.210	30	0.150	225	0.225	225	0.225	3	0.120
2	Harandur	22	0.165	20	0.100	175	0.175	175	0.175	2	0.080
	Total	**50**	**0.375**	**50**	**0.250**	**400**	**0.400**	**400**	**0.400**	**5**	**0.200**

Bhoochetana Plus Village-wise Action Plan

Koppa Taluk

S.No.	Villages	Distribution of plant protection equipments (@ 50% subsidy (max. Rs 2500/- Tn)		Distribution of plant protection chemicals (@ 50% subsidy (max. Rs 500/- ha)		Distribution of vermicompost (@ 50% subsidy (Max Rs. 200/ha)		Distribution of green manure seeds (@ 50% subsidy Max Rs. 2000/ ha)		Distribution of hi-tech implements (@ 50% Max Rs 15000 /-Unit)		RSG formation and revolving fund (@ 10000/- per group)	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	13	0.325	25	0.125	1	0.022	1	0.020	12	1.800	1	0.100
2	Harandur	12	0.300	25	0.125	1	0.022	1	0.020	8	1.200	0	0.000
	Total	**25**	**0.625**	**50**	**0.250**	**2**	**0.044**	**2**	**0.040**	**20**	**3.000**	**1**	**0.100**

S.No.	Villages	Assistance for agro-processing units (@ 50% subsidy max Rs 25000/-)		Distribution of power tillers (@ 50% max Rs 56500/ unit)		Distribution of micro-irrigation systems (@75% subsidy max Per 15000 ha)		Distribution of PVC pipes (@ 50% subsidy max per 15000/farmer)		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	4	1.000	6	3.390	0	0.000	12	1.800	**693**	**11.106**
2	Harandur	2	0.500	2	1.130	0	0.000	8	1.200	**539**	**6.308**
	Total	**6**	**1.500**	**8**	**4.520**	**0**	**0.000**	**20**	**3.000**	**1232**	**17.414**

Department of Agriculture

Summary of Activities and Budget Requirement for Bhoochetana Plus 2013-14

S. No	Component	Unit	Chikmagalur		Kadur		Tarikere		Koppa		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Conducting seed treatment campaigns	No	1	0.150	1	0.150	1	0.150	1	0.150	4	0.600
2	Incentive for certified seed production Rs 1000/- Qtl for growers	Qtls	0	0.000	50	0.500	50	0.500	0	0.000	100	1.000
3	Certified seed distribution 50% subsidy	Qtls	50	0.600	250	3.000	250	3.000	185	2.220	735	8.820
4	Large-scale demonstrations @ Rs. 4000/has	Ha	4	0.160	12	0.480	6	0.240	4	0.160	26	1.040
5	Crop diversification demonstrations @ 4000/ha	Ha	2	0.080	0	0.000	4	0.160	2	0.080	8	0.320
6	FFS -IPM practices Rs 10000/ FFS	Ha	3	0.300	4	0.400	4	0.400	1	0.100	12	1.200
7	Distribution of gypsum/lime as soil amendment @ 50% subsidy (max. Rs 750/- ha)	Ha	100	0.750	150	1.125	150	1.125	50	0.375	450	3.375
8	Distribution of Micronutrients @ 50% subsidy (max. Rs 750/- ha)	Ha	100	0.500	150	0.750	150	0.750	50	0.250	450	2.250
9	Distribution of Biofertilizers @ 50% subsidy (max. Rs 100/- ha)	Ha	400	0.400	600	0.600	600	0.600	400	0.400	2000	2.000
10	Distribution of biopesticides @ 50% subsidy (max. Rs 100/- ha)	Ha	400	0.400	600	0.600	600	0.600	400	0.400	2000	2.000
11	Distribution of Karnataka Agrigold @ 50% Subsidy (max. Rs 4000/- Tn)	Tn	5	0.200	25	1.000	20	0.800	5	0.200	55	2.200
12	Distribution of plant protection equipments @ 50% subsidy (max. Rs 2500/- Tn)	No	50	1.250	100	2.500	100	2.500	25	0.625	275	6.875
13	Distribution of plant protection chemicals @ 50% Subsidy (max. Rs 500/- ha)	ha	100	0.500	200	1.000	200	1.000	50	0.250	550	2.750
14	Distribution of vermicompost @ 50% subsidy (Max Rs. 2200/hs)	ha	4	0.088	6	0.132	6	0.132	2	0.044	18	0.396
15	Distribution of green manure seeds @ 50% subsidy Max Rs. 2000/ha	ha	4	0.080	6	0.120	6	0.120	2	0.040	18	0.360
16	Distribution of Hi-tech implements @ 50% Max Rs 15000 /-unit	No	40	6.000	60	9.000	60	9.000	20	3.000	180	27.000

S. No	Component	Unit	Chikmagalur		Kadur		Tarikere		Koppa		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
17	RSG formation and revolving fund @ 10000/- per group	No	2	0.200	2	0.200	2	0.200	1	0.100	7	0.700
18	Assistance for Agro-processing units @ 50% subsidy max Rs 25000/-	No	10	2.500	25	6.250	20	5.000	6	1.500	61	15.250
19	Distribution of power tillers @ 50% Max Rs 56500/ unit	No	2	1.130	2	1.130	2	1.130	8	4.520	14	7.910
20	Distribution of micro-irrigation systems @75% subsidy max per 15000 ha	ha	100	15.000	200	30.000	200	30.000	0	0.000	500	75.000
21	Distribution of PVC pipes @ 50% Subsidy max Per 15000/farmer	No	20	3.000	30	4.500	30	4.500	20	3.000	100	15.000
Total			**1397**	**33.29**	**2473**	**63.44**	**2461**	**61.91**	**1232**	**17.41**	**7563**	**176.05**

Watershed Development Department

Bhoochetana Plus Village-wise Action Plan
Chikmagalur Taluk

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Field bund	0.00	Chikmagalur	Chikmagalur	Lakkummanahalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.00	CGIAR	Presently not in the watershed area
		0.00			Kunnalu				0.00		
		110.00			Shirabadige				13.20		
		0.00			U.B. Halli				0.00		
		0.00			Kurichikkanahalli				0.00		
		0.00			Kengenahalli				0.00		
		0.00			Karisiddanahalli				0.00		
		0.00			Karehalli				0.00		
2	Check dam	3			Lakkummanahalli				11.25	CGIAR	Lack of funds under IWMP
		4			Kunnalu				15.00		
		2			Shirabadige				7.50		
		2			U.B. Halli				7.50		
		4			Kurichikkanahalli				15.00		
		3			Kengenahalli				11.25		
		3			Karisiddanahalli				11.25		
		3			Karehalli				11.25		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
3	Farm pond	4			Lakkummanahalli				1.40	CGIAR	Lack of funds under IWMP
		0			Kunnalu				0.00		
		0			Shirabadige				0.00		
		2			U.B. Halli				0.70		
		2			Kurichikkanahalli				0.70		
		0			Kengenahalli				0.00		
		0			Karisiddanahalli				0.00		
		0			Karehalli				0.00		
4	Nalabund	0	Chikmagalur	Chikmagalur	Lakkummanahalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.00	CGIAR	Lack of funds under IWMP
		0			Kunnalu				0.00		
		0			Shirabadige				0.00		
		0			U.B. Halli				0.00		
		0			Kurichikkanahalli				0.00		
		0			Kengenahalli				0.00		
		1			Karisiddanahalli				4.25		
		0			Karehalli				0.00		
5	Recharge pit	10			Lakkummanahalli				2.90	CGIAR	Lack of funds under IWMP
		10			Kunnalu				2.90		
		20			Shirabadige				5.80		
		5			U.B. Halli				1.45		
		10			Kurichikkanahalli				2.90		
		5			Kengenahalli				1.45		
		10			Karisiddanahalli				2.90		
		5			Karehalli				1.45		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
6	Gokatte	2			Lakkummanahalli				4.10	CGIAR	Lack of funds under IWMP
		1			Kunnalu				2.00		
		1			Shirabadige				2.10		
		0			U.B. Halli				0.00		
		0			Kurichikkanahalli				0.00		
		1			Kengenahalli				2.35		
		0			Karisiddanahalli				0.00		
		0			Karehalli				0.00		
7	Dryland horticulture	5	Chikmagalur	Chikmagalur	Lakkummanahalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.54	CGIAR	Lack of funds under IWMP
		5			Kunnalu				0.54		
		5			Shirabadige				0.54		
		5			U.B. Halli				0.54		
		5			Kurichikkanahalli				0.54		
		5			Kengenahalli				0.54		
		5			Karisiddanahalli				0.54		
		5			Karehalli				0.54		
	Total								**146.83**	_	_

Watershed Development Department

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Field bund	100	Chikmagalur	Tarikere	Chennapura	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	12.00	CGIAR	Presently not in the watershed area
		200			Southanahalli				24.00		
		250			Sollapura				30.00		
		300			Beguru				36.00		
		120			Thammadadahalli				14.40		
		350			Muguli				42.00		
		300			Katiganere				36.00		
		250			Gowrapura				30.00		
2	Check dam	2			Chennapura				7.50	CGIAR	Presently not in the watershed area
		1			Southanahalli				3.75		
		1			Sollapura				3.75		
		1			Beguru				3.75		
		0			Thammadadahalli				0.00		
		1			Muguli				3.75		
		1			Katiganere				3.75		
		0			Gowrapura				0.00		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
3	Farm pond	5			Chennapura				1.75	CGIAR	Presently not in the watershed area
		8			Southanahalli				2.80		
		10			Sollapura				3.50		
		12			Beguru				4.20		
		10			Thammadadahalli				3.50		
		10			Muguli				3.50		
		12			Katiganere				4.20		
		10			Gowrapura				3.50		
4	Nalabund	0	Chikmagalur	Tarikere	Chennapura	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.00	CGIAR	Presently not in the watershed area
		0			Southanahalli				0.00		
		0			Sollapura				0.00		
		1			Beguru				4.50		
		0			Thammadadahalli				0.00		
		0			Muguli				0.00		
		0			Katiganere				0.00		
		0			Gowrapura				0.00		
5	Recharge pit	10			Chennapura				2.90	CGIAR	Presently not in the watershed area
		8			Southanahalli				2.32		
		10			Sollapura				2.90		
		15			Beguru				4.35		
		15			Thammadadahalli				4.35		
		10			Muguli				2.90		
		15			Katiganere				4.35		
		12			Gowrapura				3.48		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
6	Agroforestry	0			Chennapura				0.00	CGIAR	Presently not in the watershed area
		200			Southanahalli				12.20		
		200			Sollapura				12.20		
		300			Beguru				18.30		
		200			Thammadadahalli				12.20		
		0			Muguli				0.00		
		500			Katiganere				30.50		
		0			Gowrapura				0.00		
7	Dryland horticulture	5			Chennapura				0.54	CGIAR	Presently not in the watershed area
		5			Southanahalli				0.54		
		10			Sollapura				1.07		
		10			Beguru				1.07		
		5			Thammadadahalli				0.54		
		10			Muguli				1.07		
		10			Katiganere				0.30		
		10			Gowrapura				0.30		
8	Vegetable minikits	120	Chikmagalur	Tarikere	Chennapura	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.36	CGIAR	Presently not in the watershed area
		50			Southanahalli				0.15		
		100			Sollapura				0.30		
		80			Beguru				0.24		
		90			Thammadadahalli				0.27		
		100			Muguli				0.30		
		100			Katiganere				0.30		
		100			Gowrapura				0.30		
	Total								**402.69**	_	_

Watershed Development Department

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Field bund	479.00	Chikmagalur	Kadur	Chikkangala	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	57.48	CGIAR	Presently no watersheds program in these villages
		70.00			Haralaghatta				8.40		
		110.00			Othanahalli				13.20		
		50.00			Karitimmanahalli				6.00		
		130.00			Gollarahalli				15.60		
		104.00			Kannenahalli				12.48		
		1080.00			Emmedoddi				129.60		
		25.00			Shakunipura				3.00		
2	Checkdam	1			Chikkangala				4.50	CGIAR	Presently no watersheds program in these villages
		0			Haralaghatta				0.00		
		0			Othanahalli				0.00		
		0			Karitimmanahalli				0.00		
		1			Gollarahalli				3.80		
		1			Kannenahalli				3.90		
		2			Emmedoddi				8.40		
		0			Shakunipura				0.00		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
3	Farm pond	18			Chikkangala				6.30	CGIAR	Presently no watersheds program in these villages
		10			Haralaghatta				3.50		
		6			Othanahalli				2.10		
		4			Karitimmanahalli				1.40		
		15			Gollarahalli				5.25		
		12			Kannenahalli				4.20		
		24			Emmedoddi				8.40		
		4			Shakunipura				1.40		
4	Nalabund	1	Chikmagalur	Kadur	Chikkangala	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	4.80	CGIAR	Presently no watersheds program in these villages
		0			Haralaghatta				0.00		
		0			Othanahalli				0.00		
		0			Karitimmanahalli				0.00		
		1			Gollarahalli				3.50		
		0			Kannenahalli				0.00		
		2			Emmedoddi				8.00		
		0			Shakunipura				0.00		
5	Recharge pit	22			Chikkangala				6.38	CGIAR	Presently no watersheds program in these villages
		4			Haralaghatta				1.16		
		3			Othanahalli				0.87		
		0			Karitimmanahalli				0.00		
		18			Gollarahalli				5.22		
		10			Kannenahalli				2.90		
		20			Emmedoddi				5.80		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
6	Vegetable mini kits	0			Shakunipura				0.00	CGIAR	Presently no watersheds program in these villages
		80			Chikkangala				0.24		
		100			Haralaghatta				0.30		
		80			Othanahalli				0.24		
		75			Karitimmanahalli				0.23		
		80			Gollarahalli				0.24		
		75			Kannenahalli				0.23		
		100			Emmedoddi				0.30		
		80			Shakunipura				0.24		
9	Agroforestry	0			Chikkangala				0.45	CGIAR	Presently no watersheds program in these villages
		0			Haralaghatta				0.62		
		100			Othanahalli				0.44		
		0			Karitimmanahalli				0.35		
		100			Gollarahalli				0.88		
		100			Kannenahalli				0.42		
		0			Emmedoddi				0.00		
		30			Shakunipura				0.00		
10	Dryland horticulture	10	Chikmagalur	Kadur	Chikkangala	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.45	CGIAR	Presently no watersheds program in these villages
		10			Haralaghatta				0.62		
		10			Othanahalli				0.44		
		10			Karitimmanahalli				0.35		
		10			Gollarahalli				0.88		
		10			Kannenahalli				0.42		
		10			Emmedoddi				0.00		
		10			Shakunipura				0.00		
	Total								**345.87**	**–**	–

Watershed Development Department

Bhoochetana Plus Village-wise Action Plan

Koppa Taluk

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
1	Checkdam	1	Chikmagalur	Koppa	Bintravalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	3.50	CGIAR	Activity proposed for non-watershed areas
		0			Thalamakki				0.00		
		0			Kesave				0.00		
		0			Kelakuli				0.00		
		0			Nuggi				0.00		
		0			Aranduru				0.00		
		0			Gunavanthe				0.00		
		0			Koppa Rural				0.00		
		4			Addadha				14.00		
		1			Kagga				3.50		
		1			Bomlapura				3.50		
		2			Bolapura				7.00		
		0			Hirekodige				0.00		
		0			Narasipur				0.00		
		0			Kunchuru				0.00		
		0			Marithatlu				0.00		
		1			Somalapura				3.50		
		0			Thanudi				0.00		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
2	Farm pond	18	Chikmagalur	Koppa	Bintravalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	6.30	CGIAR	Activity proposed for non-watershed areas
		4			Thalamakki				1.40		
		43			Kesave				15.05		
		4			Kelakuli				1.40		
		4			Nuggi				1.40		
		16			Aranduru				5.60		
		18			Gunavanthe				6.30		
		6			Koppa Rural				2.10		
		5			Addadha				1.75		
		3			Kagga				1.05		
		7			Bomlapura				2.45		
		3			Bolapura				1.05		
		0			Hirekodige				0.00		
		0			Narasipur				0.00		
		0			Kunchuru				0.00		
		2			Marithatlu				0.70		
		15			Somalapura				5.25		
		6			Thanudi				2.10		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
3	Agroforestry	0.00	Chikmagalur	Koppa	Bintravalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.00	CGIAR	Activity proposed for non-watershed areas
		500.00			Thalamakki				30.50		
		0.00			Kesave				0.00		
		0.00			Kelakuli				0.00		
		0.00			Nuggi				0.00		
		0.00			Aranduru				0.00		
		200.00			Gunavanthe				12.20		
		0.00			Koppa Rural				0.00		
		0.00			Addadha				0.00		
		0.00			Kagga				0.00		
		0.00			Bomlapura				0.00		
		0.00			Bolapura				0.00		
		0.00			Hirekodige				0.00		
		0.00			Narasipur				0.00		
		0.00			Kunchuru				0.00		
		0.00			Marithatlu				0.00		
		0.00			Somalapura				0.00		
		0.00			Thanudi				0.00		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
4	Dryland horticulture	5.00	Chikmagalur	Koppa	Bintravalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.54	CGIAR	Activity proposed for non-watershed areas
		5.00			Thalamakki				0.54		
		5.00			Kesave				0.54		
		5.00			Kelakuli				0.54		
		5.00			Nuggi				0.54		
		5.00			Aranduru				0.54		
		5.00			Gunavanthe				0.54		
		5.00			Koppa Rural				0.54		
		5.00			Addadha				0.54		
		5.00			Kagga				0.54		
		5.00			Bomlapura				0.54		
		5.00			Bolapura				0.54		
		5.00			Hirekodige				0.54		
		5.00			Narasipur				0.54		
		5.00			Kunchuru				0.54		
		5.00			Marithatlu				0.54		
		5.00			Somalapura				0.54		
		5.00			Thanudi				0.54		

S. No.	Details of interventions	Targetted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of funding	Comments
5	Vegetable minikit	30	Chikmagalur	Koppa	Bintravalli	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	0.09	CGIAR	Activity proposed for non-watershed areas
		35			Thalamakki				0.11		
		40			Kesave				0.12		
		30			Kelakuli				0.09		
		40			Nuggi				0.12		
		30			Aranduru				0.09		
		35			Gunavanthe				0.11		
		40			Koppa Rural				0.12		
		35			Addadha				0.11		
		40			Kagga				0.12		
		35			Bomlapura				0.11		
		45			Bolapura				0.14		
		50			Hirekodige				0.15		
		30			Narasipur				0.09		
		25			Kunchuru				0.08		
		30			Marithatlu				0.09		
		35			Somalapura				0.11		
		30			Thanudi				0.09		
	Total								**143.14**	_	_

Watershed Development Department

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Details of interventions	Targetted area (ha)	District	Taluk	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of convergence	Comments
1	Rainwater harvesting structures, field bunding, dryland horticulture, agro forestry, vegetable minikit, etc.,	2000	Chikmagalur	Kadur	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	345.87	CGIAR	Some of the villages are outside the identified watersheds, hence, amount required to take up livelihood and other activities
2		2000		Koppa				143.14	CGIAR	
3		3000		Chikmagalur				146.83	CGIAR	
4		3000		Tarikere				402.69	CGIAR	
Total		**10000**						**1038.53**	**CGIAR**	

Watershed Development Department, Chikmagalur District

S.No.	Targetted area (ha)	District	Department responsible	Resources required (Rs in lakhs)	Sources of convergence	Remarks & Timeline for activity
1	10000	Chikmagalur	Watershed Development Department	1038.53	CGIAR	1. Rain water harvesting July - Aug -2013 2. Dry Land Horticulture June - Aug 2013 3. Agro Forestry July - Aug-2013 4. Vegitable Minikit Oct 2013

Bhoochetana Plus Taluk-wise Action Plan

Chikmagalur District

S.No.	Details of interventions	Targetted area (ha)	District	Taluk	Department responsible	Official responsible	Partners involved	Resources required (Rs in lakhs)	Sources of convergence	Comments
1	Rainwater harvesting structures, field bunding, dryland horticulture, agro forestry, vegetable minikit, etc.	2000	Chikmagalur	Kadur	Watershed Development Department	District Watershed Development Officer, Chikmagalur	District Watershed Development Officer, Chikmagalur & ICRISAT	345.87	CGIAR	Some of the villages are outside the identified watersheds, hence, amount required to take up livelihood and other activities
2		2000		Koppa				143.14	CGIAR	
3		3000		Chikmagalur				146.83	CGIAR	
4		3000		Tarikere				402.69	CGIAR	
Total		**10000**						**1038.53**	**CGIAR**	

Department of Horticulture

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	Promotion of nursery		Cultivation of high yielding varieties of vegetables		Cultivation of Banana (G9)		Protected cultivation		Farm machinery	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kunnalu	1	4.000	30	13.500	4	1.340	1	2.000	5	10.500
2	Kurichikkanahalli	1	4.000	20	9.000	5	1.680	0	0.000	5	1.000
3	Kengenhalli	1	4.000	10	2.500	5	1.680	0	0.000	5	1.000
4	Uddeboranahalli	1	4.000	25	6.250	5	1.680	1	2.000	10	2.000
5	Lakkammanahalli	1	4.000	10	2.500	5	1.680	0	0.000	10	2.000
6	Sirabadige	0	0.000	15	3.750	4	1.340	0	0.000	5	1.000
7	Karehalli	0	0.000	10	2.500	3	1.000	0	0.000	5	1.000
8	Karisiddanahalli	0	0.000	15	3.750	3	1.000	0	0.000	5	1.000
	Total	**5**	**20.000**	**135**	**43.750**	**34**	**11.400**	**2**	**4.000**	**50**	**19.500**

Bhoochetana Plus Village-wise Action Plan

Chikmagalur Taluk

S.No.	Villages	Micro irrigation system		INM and IPM		Processing		Market (Procurement outlets)		Extension services		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Kunnalu	10	2.500	20	0.200	0	0.000	0	0.000	1	0.500	**72**	**34.540**
2	Kurichikkanahalli	10	2.500	20	0.200	0	0.000	0	0.000	1	0.500	**62**	**18.880**
3	Kengenhalli	10	2.500	20	0.200	0	0.000	0	0.000	1	0.500	**52**	**12.380**
4	Uddeboranahalli	20	5.000	20	0.200	0	0.000	1	5.000	1	0.500	**84**	**26.630**
5	Lakkammanahalli	20	5.000	20	0.200	0	0.000	0	0.000	1	0.500	**67**	**15.880**
6	Sirabadige	15	3.750	20	0.200	0	0.000	0	0.000	1	0.500	**60**	**10.540**
7	Karehalli	5	1.250	20	0.200	0	0.000	0	0.000	1	0.500	**44**	**6.450**
8	Karisiddanahalli	5	1.250	20	0.200	0	0.000	0	0.000	0	0.000	**48**	**7.200**
	Total	**95**	**23.750**	**160**	**1.600**	**0**	**0.000**	**1**	**5.000**	**7**	**3.500**	**489**	**132.500**

Department of Horticulture

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	Promotion of nursery		Cultivation of high yielding varieties of vegetables		Cultivation of banana (Yelakki)		Protected cultivation		Farm machinery	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	0	0.000	10	2.500	50	4.500	0	0.000	6	5.000
2	Shakunipura	0	0.000	5	1.250	10	2.250	0	0.000	2	1.000
3	Chikkagangala	0	0.000	5	1.250	10	2.250	0	0.000	2	1.000
4	Haralaghatta	0	0.000	5	1.250	10	2.250	0	0.000	1	0.500
5	Howthanahalli	0	0.000	5	1.250	10	2.250	0	0.000	1	0.500
6	Gollarahalli	0	0.000	5	1.250	5	1.125	0	0.000	1	0.500
7	Karithimmanahalli	0	0.000	5	1.250	5	1.125	0	0.000	2	1.000
8	Kannenahalli	0	0.000	5	1.250	5	1.125	0	0.000	1	0.500
9	Govindapura	0	0.000	5	1.250	5	1.125	0	0.000	1	0.500
	Total	**0**	**0.000**	**50**	**12.500**	**110**	**18.000**	**0**	**0.000**	**17**	**10.500**

Bhoochetana Plus Village-wise Action Plan

Kadur Taluk

S.No.	Villages	Micro-irrigation system		CHD potato		Processing		Market (Procurement outlets)		Extension services		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Emmedoddi	15	3.750	50	1.750	1	0.000	0	0.000	2	0.200	134	17.700
2	Shakunipura	5	1.250	25	0.870	0	0.000	0	0.000	1	0.100	48	6.720
3	Chikkagangala	5	1.250	20	0.700	0	0.000	0	0.000	1	0.100	43	6.550
4	Haralaghatta	5	1.250	20	0.700	0	0.000	0	0.000	1	0.100	42	6.050
5	Howthanahalli	5	1.250	15	0.520	0	0.000	0	0.000	1	0.100	37	5.870
6	Gollarahalli	5	1.250	15	0.520	0	0.000	0	0.000	1	0.100	32	4.745
7	Karithimmanahalli	5	1.250	5	0.170	0	0.000	0	0.000	1	0.100	23	4.895
8	Kannenahalli	5	1.250	10	0.350	0	0.000	0	0.000	1	0.100	27	4.575
9	Govindapura	5	1.250	10	0.350	0	0.000	0	0.000	1	0.100	27	4.575
	Total	**55**	**13.750**	**170**	**5.930**	**1**	**0.000**	**0**	**0.000**	**10**	**1.000**	**413**	**61.680**

Department of Horticulture

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	Promotion of nursery		Cultivation of high yielding varieties of vegetables		Cultivation of banana (Suckers)		Protected cultivation		Farm machinery	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	0	0.000	20	9.000	30	5.100	0	0.000	4	3.000
2	Sowthanahalli	0	0.000	20	9.000	30	5.100	0	0.000	4	3.000
3	Sollapura	0	0.000	20	9.000	30	5.100	0	0.000	4	3.000
4	Thamatadahalli	0	0.000	10	2.500	30	5.100	0	0.000	4	3.000
5	Beguru	0	0.000	10	2.500	30	5.100	0	0.000	4	3.000
6	Katinagere	0	0.000	10	2.500	30	5.100	1	2.000	4	3.000
7	Gowrapura	0	0.000	10	4.500	30	5.100	0	0.000	4	3.000
8	Mugali	0	0.000	5	2.250	30	5.100	0	0.000	4	3.000
	Total	**0**	**0.000**	**105**	**41.250**	**240**	**40.800**	**1**	**2.000**	**32**	**24.000**

Bhoochetana Plus Village-wise Action Plan

Tarikere Taluk

S.No.	Villages	Micro-irrigation system		INM and IPM		Processing		Market (Procurement outlets)		Extension services		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Chinnapura	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	96	20.300
2	Sowthanahalli	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	96	20.300
3	Sollapura	20	2.000	20	0.200	1	0.500	1	5.000	1	0.500	97	25.300
4	Thamatadahalli	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	86	13.800
5	Beguru	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	86	13.800
6	Katinagere	20	2.000	20	0.200	1	0.500	1	5.000	1	0.500	88	20.800
7	Gowrapura	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	86	15.800
8	Mugali	20	2.000	20	0.200	1	0.500	0	0.000	1	0.500	81	13.550
	Total	**160**	**16.000**	**160**	**1.600**	**8**	**4.000**	**2**	**10.000**	**8**	**4.000**	**716**	**143.650**

Department of Horticulture

Bhoochetana Plus Village-wise Action Plan

Koppa Taluk

S.No.	Villages	Promotion of nursery		Cultivation of high yielding varieties of vegetables		Cultivation of banana (G9)		Protected cultivation		Farm machinery	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	0	0.000	20	1.000	1	0.374	0	0.000	10	3.000
2	Harandur	0	0.000	20	1.000	1	0.374	0	0.000	10	3.000
	Total	**0**	**0.000**	**40**	**2.000**	**2**	**0.748**	**0**	**0.000**	**20**	**6.000**

S.No.	Villages	Micro-irrigation system		INM and IPM		Processing		Market (Procurement outlets)		Extension services		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Gunavanthe	100	1.000	0	0.000	0	0.000	0	0.000	50	0.200	**181**	**5.574**
2	Harandur	0	0.000	100	1.000	0	0.000	0	0.000	50	0.200	**181**	**5.574**
	Total	**100**	**1.000**	**100**	**1.000**	**0**	**0.000**	**0**	**0.000**	**100**	**0.400**	**362**	**11.148**

Department of Horticulture

Summary of Activities and Budget Requirement for Bhoochetana plus 2013-14

S.No	Component	Chikmagalur		Kadur		Tarikere		Koppa		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Promotion of nursery	5	20.000	0	0.000	0	0.000	0	0.000	5	20.000
2	Cultivation of high-yielding varieties of vegetables	135	43.750	50	12.500	105	41.250	40	2.000	330	99.500
3	Cultivation of banana (G9)	34	11.400	110	18.000	240	40.800	2	0.748	386	70.948
4	Protected cultivation	2	4.000	0	0.000	1	2.000	0	0.000	3	6.000
5	Farm machinery	50	19.500	17	10.500	32	24.000	20	6.000	119	60.000
6	Micro-irrigation system	95	23.750	55	13.750	160	16.000	100	1.000	410	54.500
7	INM and IPM	160	1.600	0	0.000	160	1.600	100	1.000	420	4.200
8	CHD potato	0	0.000	170	5.930	0	0.000	0	0.000	170	5.930
9	Processing	0	0.000	1	0.000	8	4.000	0	0.000	9	4.000
10	Market (Procurement outlets)	1	5.000	0	0.000	2	10.000	0	0.000	3	15.000
11	Extension services	7	3.500	10	1.000	8	4.000	100	0.400	125	8.900
	Total	**489**	**132.500**	**413**	**61.680**	**716**	**143.650**	**362**	**11.148**	**1980**	**348.978**
Grants available in Department		**38.72**		**18.93**		**37.8**		**1.74**		**97.19**	
Grants required under CGIAR		**93.780**		**42.750**		**105.850**		**9.408**		**251.788**	

Department of Sericulture

Bhoochetana Plus Village-wise Action Plan 2013-14

Chikmagalur District

S.No.	Taluk	Villages	Physical		Financial (Rs.)				Fin
			No. of beneficiary	Area (Ac)	Assistance to mulberry cultivation	Subsidy for micro irrigation	Distribution of plant growth promoters	Disinfectants distribution	
1	Chikmagalur	Kurichikkanahalli	3	3	20250	45000	3000	1500	69750
2		Kengenahalli	1	1	6750	15000	1000	500	23250
3		Lakkammanahalli	2	4	27000	60000	4000	2000	93000
4		Karisiddanahalli	1	1	0	15000	500	500	16000
5	Kadur	Chikkangla	7	7	47250	105000	3500	3500	159250
6		Emmedoddi	2	2	13500	30000	1000	1000	45500
7	Tarikere	Begaru	1	1	0	15000	500	500	16000
		Total	**17**	**19**	**114750**	**285000**	**13500**	**9500**	**422750**

Department of Animal Husbandry and Veterinary Services

Bhoochetana Plus Action Plan 2013-14

Chikmagalur District

S. No.	Identified interventions	Details of intervention	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
I.	Livestock-based and livelihood activities											
a)	Artificial Insemination for breed improvement	Artificial Insemination with frozen semen technology	2000 Ha	Chikmagalur	Chikmagalur (Lakya Hobli)	Kunnalu, Kurichikkanahally, Kengenahally, Uddeboranahally,Lakumanahally, Sirabadagi, Kaarehally, Karisiddanahally	Department Of Animal Husbandry And Veterinary Services, Chikmagalur	1)Assistant Director, Veterinary Hospital, Chikmagalur 2)Veterinary Officer, Veterinary Dispensary, Hiregowja 3)Senior VLI, PVC, Uddeboranahally	Milk Produces Co-Operative Society, Hassan Milk Unit	LN2, frozen semen equipments	Department Of AH & VS, Zilla Panchayat, Chikmagalur	-
b)	Animal health camps	Treatment, dosing, vaccination etc							-	Drugs & chemicals, nutritionals	Department of AH & VS, Agriculture Dept	-
c)	Backyard poultry	Subsidized unit (10+1) to be distributed							-	Giriraja Birds Units	Department of AH & VS	-
d)	Sheep/goat rearing	Subsidized unit (10+1) to be distributed							-	Sheep/Goat units	Department of AH & VS, SSMDB, NABARD, banks	Loan from banks, subsidy from NABARD/ AH&VS Dept
II.	Capacity-building								-	-	-	-
a)	Farmers group	Training							KVK Mudigere, Lead Bank, Department of AH & VS, NABARD, COSBETI	Extension materials	Department of AH & VS, RKVY, NABARD	-
b)	Officials											
III.	Livestock insurances	Insurance for milch animals							GoI insurance companies	Financial resources	50% GoI 50% farmers share	Insurance for milch animals

Livestock-based and livelihood activities

a)	Artificial insemination for breed improvement	Artificial insemination with frozen semen technology	3000 Ha	Chikmagalur	Tarikere (Ajjampura Hobli)	Chinnapura, Sowthanahally, Sollapura, TamatadaHally, Beguru, Kaatinagere, Gowrapura, Muguli	Department Of Animal Husbandry And Veterinary Services, Chikmagalur	1)AD, VH, Tarikere 2)AD, VH, Ajjampura 3)VO, VD, Sollapura 4)VO, VD, Gadihally 5)SRVLI, PVC, Kaatinagere 6)SRVLI, AIC, Beguru	Milk Produces Co-Operative Society, Hassan Milk Unit	LN2, frozen semen equipments	Department of AH & VS, Zilla Panchayat, Chikmagalur	-
b)	Animal health camps	Treatment, dosing, vaccination etc							-	Drugs & Chemicals, Nutritionals	Department of AH & VS, Agriculture Dept	-
c)	Backyard poultry	Subsidized unit (10+1) to be distributed							-	Giriraja Birds Units	Department of AH & VS	-
d)	Sheep/goat rearing	Subsidized unit (10+1) to be distributed							-	Sheep/Goat units	Department of AH & VS, SSMDB, NABARD, Banks	Loan from Banks, subsidy from NABARD/AH&VS Dept
II.	Capacity-building								-	-		
a)	Farmers group	Training							KVK Mudigere, Lead Bank, Department Of AH & VS, NABARD, COSBETI	Extension materials	Department of AH & VS, RKVY, NABARD	-
b)	Officials											
III.	Livestock insurances	Insurance for milch animals							GoI insurance companies	Financial resources	50% GoI 50% farmers share	Insurance for milch animals

Livestock-bBased and livelihood activities

a)	Artificial insemination for breed improvement	Artificial insemination with frozen semen technology	3000 ha	Chikmagalur	Kadur (Birur Hobli)	Emmedoddi, Shakunipura, Chikkangala, Haralaghatta, Howthanahally, Gollarahally, Karithimmanahally, Kannenahally, Govindapura	Department Of Animal Husbandry And Veterinary Services, Chikmagalur	1)AD, VH, Kadur 2)VO, VD, Emmedoddi	Milk producers Co-operative Society, Hassan Milk Unit	LN2, frozen semen equipments	Department of AH & VS, Zilla Panchayat, Chikmagalur	-
b)	Animal health camps	Treatment, dosing, vaccination etc							-	Drugs & chemicals, nutritionals	Department of AH & VS, Agriculture Dept	-
c)	Backyard poultry	Subsidized unit (10+1) to be distributed							-	Giriraja Birds Units	Department of AH & VS	-
d)	Sheep/goat rearing	Subsidized unit (10+1) to be distributed							-	Sheep/Goat units	Department of AH & VS, SSMDB, NABARD, Banks	Loan from banks, subsidy from NABARD /AH&VS Dept
II.	Capacity-building											
a)	Farmers group	Training							KVK Mudigere, Lead Bank, Department oOf AH & VS, NABARD, COSBETI	Extension materials	Department of AH & VS, RKVY, NABARD	-
b)	Officials											
III.	Livestock insurances	Insurance for milch animals							GoI insurance companies	Financial resources	50% GoI 50% farmers share	Insurance for milch animals

Livestock-based and livelihood activities

a)	Artificial insemination For breed improvement	Artificial insemination with frozen semen technology	2000 Ha	Chikmagalur	Koppa (Kasaba Hobli)	Gunavanthe, Haranduru	Department Of Animal Husbandry And Veterinary Services, Chikmagalur	1)AD, VH, Koppa	Milk Producers Co-Operative Society, Hassan Milk Unit	LN2, frozen semen equipments	Department of AH & VS, Zilla Panchayat, Chikmagalur	-
b)	Animal health camps	Treatment, dosing, caccination etc							-	Drugs & Chemicals, Nutritionals	Department of AH & VS, Agriculture Dept	-
c)	Backyard poultry	Subsidized unit (10+1) to be distributed							-	Giriraja Birds Units	Department of AH & VS	-
d)	Sheep/goat rearing	Subsidized unit (10+1) to be distributed							-	Sheep/Goat units	Department of AH & VS, SSMDB, NABARD, Banks	Loan from Banks, subsidy from NABARD /AH&VS Dept
II.	Capacity-building								-	-	-	-
a)	Farmers group	Training							KVK Mudigere, Lead Bank, Department of AH & VS, NABARD, COSBETI	Extension materials	Department of AH & VS, RKVY, NABARD	-
b)	Officials											
III.	Livestock Insurances	Insurance for milch animals							GoI insurance companies	Financial resources	50% oOI 50% farmers share	Insurance for milch animals

Department of Animal Husbandry and Veterinary Services
Summary of Activities and Budget Requirement for Bhoochetana Plus 2013-14

(Rupees in lakhs)

S.No	Particulars	Kadur		Tarikere		Chikmagalur		Koppa		Total		Remarks
I.	**Livestock-based and livelihood activities**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	
1)	Animal health programs	30000	3.000	30000	3.000	25000	2.500	15000	1.500	100000	10.000	Funding by Department of AH & VS
2)	Artificial Insemination program	3000	0.750	3000	0.750	1500	0.370	500	0.130	8000	2.000	
3)	Supply of sheep units (10+1)	35	5.250	35	5.250	20	3.000	10	1.500	100	15.000	NABARD Assistance
4)	Assistance to farmers to set up poultry units (backyard poultry)	150	1.000	150	1.000	100	0.250	100	0.250	500	2.500	RKVY Assistance
II.	**Capacity-building**											
a)	Training to farmers	100	1.000	100	1.000	50	0.500	50	0.500	300	3.000	RKVY Assistance
b)	Training to officials	30	0.300	30	0.300	30	0.300	10	0.100	100	1.000	
III	**Livestock insurance (milch cows)**	500	4.500	500	4.500	500	4.500	100	0.900	1600	14.400	GoI Assistance
Total		**33815**	**15.800**	**33815**	**15.800**	**27200**	**11.420**	**15770**	**4.880**	**110600**	**47.900**	

Chikmagalur District

Department-wise Budget Requirement for Bhoochetana Plus

(Rupees in lakhs)

S.No.	Department	Area (ha.)	Total grants requred	Grants available from existing schemes	Additional grants required	Remarks
1	Agriculture	10000	176.046	176.046	0.000	Funds available under Bhoochetana, Seed distribution, RKVY, Mechanization, Agro processing, ISOPAM, NFSM
2	Horticulture		348.978	97.190	251.788	Funds available under NHM and RKVY
3	Watershed		954.000	359.110	594.890	Funds available under IWMP, RADP and SUJALA
4	Animal husbandry		47.150	12.000	35.150	-
5	Sericulture		4.227	4.227	0.000	-
6	Fisheries		7.408	7.408	0.000	-
	Total		**1537.809**	**655.981**	**881.828**	

Annexure 3

Raichur District

Department of Agriculture

Bhoochetana Plus Village-wise Action Plan

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of funding
Productivity enhancement								
a) Integrated Nutrient Management (INM)								
Soil test-based balanced nutrition	1. Application of zinc sulphate 2. Application of boron 3. Application of gypsum	10075	Raichur	Raichur	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7.Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK
Vermicompost/ *Gliricidia*/Biomass/ other organics application	1. Construction of vermicompost pits 2. Construction of Bio-digesters 3. Application of organic manure (FYM, vermi-compost, agrigold) 4. Cultivation of green manure crops & *in situ* incorporation	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7. Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK
Bio-fertilizer application	1. Use of biofertilizer (*Rhizobium,* PSB, Azospirillum & Azotobacter)	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda	KSDA	ADA Raichur and Manvi	GoK

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of funding
					7Kurukunda 8. Vadavatti 9.Patakamdoddi			
b) **Improved cultivars**								
New crop variety	Redgram (Tur)-TS 3R	4760	Raichur	Raichur	1.Idapanuru 2.Puchaladinni 3.Midagaladinni	KSDA	ADA Raichur	GoK
New crop variety	Sunflower, Bajra- Hybrids	3165	Raichur	Manvi	1.Kurukunda 2. Vadavatti 3.Patakamdoddi	KSDA	ADA Manvi	GoK
New crop variety	BPT 5204	2150	Raichur	Manvi	1.Harvi 2.Govinadoddi 3.Karadigudda	KSDA	ADA Manvi	GoK
c) Contingency crop preparedness	Micro irrigation - Drip & sprinkler systems installation	7925	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK
d) Integrated Nutrient Management (IPM)								
IPM activity	1. Seed treatment with Trichoderma 2. Use of Pheramone traps 3. Neem oil, Profenophos, NPV and chemical sprays	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7Kurukunda 8. Vadavatti	KSDA	ADA Raichur and Manvi	GoK

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of funding
					9.Patakamdoddi			
IPM activity	Conducting - Demos, FFS and community spraying	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7.Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK
Trainings	Training to farmers regarding soil sampling methods, seed treatment, soil and water conservation measures and IFS model by inclusion of all allied departments	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7.Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of funding
Mechanization	Use of combind harvesters, threshers, seed-cum-fertlizer drill, Rotovators, MB plough, cultivators, etc.,	10075	Raichur	Raichur and Manvi	1.Idapanuru 2.Puchaladinni 3.Midagaladinni 4.Harvi 5.Govinadoddi 6.Karadigudda 7.Kurukunda 8. Vadavatti 9.Patakamdoddi	KSDA	ADA Raichur and Manvi	GoK

Department of Agriculture

Summary of activities and budget for Bhoochetana Plus 2013-14

Action Plan for the year 2013-14 **Agriculture Department**

S.No.	Component	Units	Physical	Financial (Rs in Lakhs)
1	Distribution of seeds @ 50% subsidy	Qtls	129	4.43
2	Distribution of zinc sulphate @ 50% subsidy	Tons	9	2.00
3	Distribution of boron @ 50% subsidy	Tons	2.25	0.60
4	Distribution of gypsum @ 50% subsidy	Tons	90	14.4
5	Distribution of organic manure @ 50% subsidy	Tons	30	4.80
6	Distribution of pesticides @ 50% subsidy	Ltrs	4500	22.50
8	Distribution of hitech equipment @ 50% subsidy	No's	30	13.2
9	Distribution of micro-irrigation @ 50% subsidy	ha	30	7.5
10	Construction of vermicompost pits 50% max Rs.4000/unit	No's	90	3.6
12	Construction of biodigester @ 50% max 30000/- unit and threshing yards	No's	27 & 27	8.1+13.5
13	Trainings (Rs. 15000/- trg)	No's	18	2.7
14	Wall writing (Rs. 2000/- Each)	No's	45	0.9
16	Farmers field school (Rs. 10000/- Each)	No's	18	1.8
17	Demonstrations	No's	45	4.50
18	Distribution of biofertilizer @ 50% subsidy	Qtls	90.00	1.38
19	Distribution of green manure seeds @ 50% subsidy	Qtls	24.0	0.67
	TOTAL		**5204**	**106.58**
	Grants available from present schemes			106.58

Watershed Development Department

Bhoochetana Plus village-wise action plan

Raichur Taluk

Identified Interventions	Details of Interventions	Targeted area (ha)		District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
		Phy	Fin									
1. Watershed development		-	-	Raichur	Raichur		Watershed Development Department	DWDO	-	-	SDP	-
Low-cost rainwater harvesting structures	F.P	3	1.90			2		"	-	-	"	-
	C.D	3	8.00			1		"	-	-	"	-
	M.P.T	-	-			-		"	-	-	"	-
Recharging of wells / borewells	-	-	-			-		"	-	-	"	-
Soil conservations on-farms	F.B	50 (Ha)	2.90			1		"	-	-	"	-
	Total	**-**	**12.80**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Watershed Development Department

Bhoochetana Plus village-wise action plan

Manvi Taluk

Identified interventions	Details of interventions	Targeted area (ha)		District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	Comments
		Phy	Fin									
1. Watershed development		-	-	Raichur	Manvi		Watershed Development Department	DWDO	-	-	SDP	-
Low-cost rainwater harvesting structures	F.P	2	2.00			2		"	-	-	"	-
	C.D	2	4.00			1		"	-	-	"	-
	M.P.T	2	4.00			-		"	-	-	"	-
Recharging of the wells / borewells	Total	-	10.00			-		"	-	-	"	-
Soil conservations on-farms	-	-	-			1		"	-	-	"	-

Watershed Development Department

Bhoochetana Plus village-wise action plan

Taluk-wise budget allocation

Raichur Taluka				
S.No.	**Village**	**Works**	**Target**	
			Physical	**Financial (Rs in Lakhs)**
1	Idapnur	F.P	1	0.60
2	Puchaladinni	F.P	2	1.30
3	Idapnur	C.D	3	8.00
4	Idapnur	F.B	50 (ha)	2.90
	Total			**12.80**
Manvi Taluka				
1	Kurkunda	C.D	2	4.0
2	Kurkunda	M.P.T	1	2.0
3	Kurkunda	F.P	1	1.0
4	Vadavatti	M.P.T	1	2.0
5	Vadavatti	F.P	1	1.0
	Total			**10.0**
			Grand Total	**22.80**

Department of Horticulture

Bhoochetana Plus Taluk-wise action plan

Raichur district

Cluster Name	Hobli Name	Village	Components of Nutrition Garden	Unit Cost For Production/Garden(In Rs)	Area earmarked for nutritional garden (No. of families)	Total cost/ha (Rs in lakhs)
Raichur	Gilesugur	Idapanur	Sapota/Mango-10 plants, Lime/Mousambi-10 plants, Papaya/Banana-10 plants, Vegetable seeds mini kit, Inputs Fertilizers/Bio fertilizers, Labor cost	6000	200	12.00
		Total				
	Yaragera	Pucchaldinni				
		Midagaladinni				
		Total			**200**	**12.00**
Manvi	Mallat	Kurukunda			150	9.00
		Vadavatti				
		Patakamdoddi				
		Total			**150**	**9.00**
	Manvi	Haravi			150	9.00
		Govindoddi				
		Kardigudda				
		Total			**150**	**9.00**
		Grand Total			**500**	**30.00**

Department of Horticulture

Bhoochetana Plus Taluk-wise action plan

Raichur district

Cluster Name	Hobli Name	Village	Fruits	Area earmarked for fruits (ha)	Unit cost for production/ha (Rs in Lakhs)	Total cost required for production (Rs in lakhs)	Unit cost for drip irrigation/ ha (Rs in Lakhs)	Total cost required for drip irrigation (Rs in lakhs)	Grand Total
Raichur	Gilesugur	Idapanur	Mango (8*8m)	5.00	0.343	1.715	0.211	1.055	2.77
		Total		**5.00**		**1.715**		**1.055**	
	Yaragera	Pucchaldinni	Sapota (8*8m)	10.00	0.343	3.43	0.211	2.11	5.54
		Midagaladinni							
		Total		**10.00**		**3.43**		**2.11**	
	Mallat	Kurukunda	Citrus Groups (6*6m)	10	0.333	3.33	2.55	2.55	5.88
		Vadavatti	Pomegranate (5*5m)	0	0	0	0	0	
		Patakamdoddi							
Manvi		**Total**		**0**	**0**	**3.33**	**0**	**2.55**	
	Kallur	Haravi	Banana (1.8*1.8m)	10	0.832	8.32	0.61	6.10	14.42
		Govindoddi	Papaya (2*2m)						
		Kardigudda							
		Total		**20**		**8.32**		**6.10**	
		Grand Total		**35**		**16.80**		**11.815**	**28.61**

Department of Horticulture

Bhoochetana Plus Taluk-wise action plan

Raichur district

Cluster Name	Hobli Name	Village	Area earmarked for vegetables	Area under vegetables	Area earmarked for flowers	Area under flowers	Total area	Unit cost of vegetables production/ha	Total cost required for prodn.	Unit cost of flowers production/ ha	Total cost required for production of flowers	Grand Total
Raichur	Gilesugur	Idapanur	I Sol. + leafy vegetables 0.8 ha	0	Crossandra 0.2 ha	0	0	0	0	0	0	0
			Onion 0.8 ha	0	Jasmine 0.2 ha	0	0	0	0	0	0	0
			Chilli 0.8 ha	0	Marigold 0.2 ha	0	0	0	0	0	0	0
		Total		0		0	0		0		0	0
	Yaragera	Pucchaldinni	Sol. vegetables crops area expansion in cluster	10	Marigold 0.2 ha	0	0	0.36	3.60	0.375	3.75	
		Midagaladinni		10	Jasmine 0.2 ha	0	0	0.36	3.60	0.375	3.75	
		Total		20		0	0		7.20		7.50	14.70
Manvi	Mallat	Kurukunda	I Sol + leafy Veg.0.8 ha	0	Crossandra 0.2 ha	0	0	0	0	0	0	0
		Vadavatti	II Cucurbits + Leafy Veg. 0.8 ha	0	Marigold 0.2 ha	0	0	0	0	0	0	0
		Patakamdoddi	III Beans 0.8 ha	0	Jasmine 0.2 ha	0	0	0	0	0	0	0
		Total		0		0	0		0		0	0
	Manvi	Haravi	I Sol.+ Leafy Veg 0.8 ha	0	Gaillardia 0.2ha	0	0	0	0	0	0	0
		Govindoddi	II Cucurbits + leafy veg. 0.8 ha	0	Crossandra 0.2 ha	0	0	0	0	0	0	0
		Kardigudda	IV Chilli	0	Crossandra 0.2 ha	0	0	0	0	0	0	0
		Total		0		0	0		0		0	0
		Grand Total		**20**		**0**	**0**		**7.20**		**7.50**	**14.70**

Department of Horticulture

Bhoochetana Plus Taluk-wise action plan

Raichur district

S.No	Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of funding
1	**Solanaceous vegetable crops area expansion in cluster**	-	10	Raichur	Raichur	Puchhaladinni	Horticulture	SADH Raichur	Horticulture Department
			10	Raichur	Raichur	Midgaladinni	Horticulture	SADH Raichur	Horticulture Department
2	**Area expansion of mango, sapota & banana in clusters**								
	Mango		5	Raichur	Raichur	Idapanur	Horticulture	SADH Raichur	Horticulture Department
	Sapota		10	Raichur	Raichur	Puchhaladinni, Midgaladinni	Horticulture	SADH Raichur	Horticulture Department
	Citrus		10	Raichur	Manvi	Kurkunda	Horticulture	SADH Manvi	Horticulture Department
	Banana		10	Raichur	Manvi	Harvi	Horticulture	SADH Manvi	Horticulture Department
3	**Seed kit distribution for the families (Nutritional garden) in CGIAR village**		200	Raichur	Raichur	Idapanur, Puchhaladinni, Midgaladinni	Horticulture	SADH Raichur	-
			150	Raichur	Manvi	Kurkunda, Vadavatti, Patkamdoddi	Horticulture	SADH Manvi	-
			150	Raichur	Manvi	Haravi, Govindoddi, Karadigudda	Horticulture	SADH Manvi	-

Department of Forestry

Bhoochetana Plus Taluk-wise Action Plan

Raichur district

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Resources required (Rs lakh)
Agro-forestry activities	a) Tree plantation on farm bunds	10.00	Raichur	Raichur	Midagaladinni	Social Forest	2.29
	- Do -	10.00	Raichur	Raichur	Puchaladinni	Social Forest	2.29
	- Do -	10.00	Raichur	Raichur	Idapanur	Social Forest	2.29
	Total (Raichur)	30.00					6.87
	a) Tree plantation on farm bunds	10.00	Raichur	Manvi	Haravi	Social Forest	2.29
	- Do -	10.00	Raichur	Manvi	Govindadoddi	Social Forest	2.29
	- Do -	10.00	Raichur	Manvi	Karadigudda	Social Forest	2.29
	- Do -	10.00	Raichur	Manvi	Kurkunda	Social Forest	2.29
	- Do -	10.00	Raichur	Manvi	Patakamdoddi	Social Forest	2.29
	- Do -	10.00	Raichur	Manvi	Wadawatti	Social Forest	2.29
	Total (Manvi)	60.00					13.74
	Grand Total	**90.00**					**20.61**

Department of Sericulture

Bhoochetana Plus Taluk-wise Action Plan

Raichur district

Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Partners involved	Resources required	Sources of funding	
								Unit cost	Famer share amount	Department subsidy amount
Training & exposure visits	3 Nos.	Raichur	Raichur	Idapanur	Sericulture Department	Ramachari S.S.O	-	5000	-	15000
	3 Nos.	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	5000	-	15000
	3 Nos.	Raichur	Raichur	Midagaladinni	-do-	-do-	-	5000	-	15000
							-	Total	-	45000
Incentive for establishment of new mulberry garden	1.00	Raichur	Raichur	Idapanur	-do-	-do-	-	5000	2190	10313
	1.00	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	5000	2190	10313
	1.00	Raichur	Raichur	Midagaladinni	-do-	-do-	-	5000	2190	10313
								Total	**6570**	**30939**
Drip irrigation	1.00	Raichur	Raichur	Idapanur	-do-	-do-	-	50000	12500	37500
	1.00	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	50000	12500	37500
	1.00	Raichur	Raichur	Midagaladinni	-do-	-do-	-	50000	12500	37500
								Total	**37500**	**112500**
Trenching & mulching	1.00	Raichur	Raichur	Idapanur	-do-	-do-	-	45000	30000	15000
	1.00	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	45000	30000	15000
	1.00	Raichur	Raichur	Midagaladinni	-do-	-do-	-	45000	30000	15000
								Total	90000	45000
Subsidy for rearing equipment	1	Raichur	Raichur	Idapanur	-do-	-do-	-	40000	10000	30000
	1	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	40000	10000	30000
	1	Raichur	Raichur	Midagaladinni	-do-	-do-	-	40000	10000	30000
								Total	**30000**	**90000**
Construction of rearing house	1	Raichur	Raichur	Idapanur	-do-	-do-	-	180000	105000	75000
	1	Raichur	Raichur	Puchchaladinni	-do-	-do-	-	180000	105000	75000
	1	Raichur	Raichur	Midagaladinni	-do-	-do-	-	180000	105000	75000
								Total	**315000**	**225000**
								Grand Total	**479070**	**548439**

Department of Sericulture

Bhoochetana Plus Taluk-wise action plan

Raichur District

Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Resources required	Sources of funding	
							Unit cost	Famer share amount	Department subsidy amount
Training & exposure visits	3 Nos.	Raichur	Manvi	Harvi	Sericulture Department	Hanumantappa S.S.O	5000	-	15000
	3 Nos.	Raichur	Manvi	Govinadoddi	- Do -	- Do -	5000	-	15000
	3 Nos.	Raichur	Manvi	Kardigudda	- Do -	- Do -	5000	-	15000
	3 Nos.	Raichur	Manvi	Kurukunda	- Do -	Bannappa S.I	5000	-	15000
	3 Nos.	Raichur	Manvi	Vadavatti	- Do -	- Do -	5000	-	15000
	3 Nos.	Raichur	Manvi	Patkamadoddi	- Do -	- Do -	5000	-	15000
							Total	**-**	**90000**
Incentive for establishment of new mulberry garden	1.00	Raichur	Manvi	Harvi	- Do -	Hanumantappa S.S.O	5000	2190	10313
	1.00	Raichur	Manvi	Govinadoddi	- Do -	- Do -	5000	2190	10313
	1.00	Raichur	Manvi	Kardigudda	- Do -	- Do -	5000	2190	10313
	1.00	Raichur	Manvi	Kurukunda	- Do -	BannappaS.I	5000	2190	10313
	1.00	Raichur	Manvi	Vadavatti	- Do -	- Do -	5000	2190	10313
	1.00	Raichur	Manvi	Patkamadoddi	- Do -	- Do -	5000	2190	10313
							Total	**13140**	**61878**
Drip irrigation	1.00	Raichur	Manvi	Harvi	- Do -	Hanumantappa S.S.O	50000	12500	37500
	1.00	Raichur	Manvi	Govinadoddi	- Do -	- Do -	50000	12500	37500
	1.00	Raichur	Manvi	Kardigudda	- Do -	- Do -	50000	12500	37500
	1.00	Raichur	Manvi	Kurukunda	- Do -	BannappaS.I	50000	12500	37500
	1.00	Raichur	Manvi	Vadavatti	- Do -	- Do -	50000	12500	37500
	1.00	Raichur	Manvi	Patkamadoddi	-do-	-do-	50000	12500	37500
							Total	**75000**	**225000**

Department of Sericulture

Bhoochetana Plus Taluk-wise action plan

Raichur district

Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Resources required	Sources of funding	
								Farmer share amt.	Department subsidy amt.
	1.00	Raichur	Manvi	Harvi	Sericulture	Hanumantappa S.S.O	45000	30000	15000
	1.00	Raichur	Manvi	Govinadoddi	- Do -	- Do -	45000	30000	15000
	1.00	Raichur	Manvi	Kardigudda	- Do -	- Do -	45000	30000	15000
	1.00	Raichur	Manvi	Kurukunda	- Do -	Bannappa S.I	45000	30000	15000
	1.00	Raichur	Manvi	Vadavatti	- Do -	- Do -	45000	30000	15000
	1.00	Raichur	Manvi	Patkamadoddi	- Do -	- Do -	45000	30000	15000
							Total	**180000**	**90000**
Subsidy for rearing equipments	-	Raichur	Manvi	Harvi	- Do -	Hanumantappa S.S.O	40000	10000	30000
	-	Raichur	Manvi	Govinadoddi	- Do -	- Do -	40000	10000	30000
	-	Raichur	Manvi	Kardigudda	- Do -	- Do -	40000	10000	30000
	-	Raichur	Manvi	Kurukunda	- Do -	Bannappa S.I	40000	10000	30000
	-	Raichur	Manvi	Vadavatti	- Do -	- Do -	40000	10000	30000
	-	Raichur	Manvi	Patkamadoddi	- Do -	- Do -	40000	10000	30000
							Total	**60000**	**180000**
Construction of rearing house	1	Raichur	Manvi	Harvi	- Do -	Hanumantappa S.S.O	180000	105000	75000
	1	Raichur	Manvi	Govinadoddi	- Do -	- Do -	180000	105000	75000
	1	Raichur	Manvi	Kardigudda	- Do -	- Do -	180000	105000	75000
	1	Raichur	Manvi	Kurukunda	- Do -	Bannappa S.I	180000	105000	75000
	1	Raichur	Manvi	Vadavatti	- Do -	- Do -	180000	105000	75000
	1	Raichur	Manvi	Patkamadoddi	-do-	-do-	180000	105000	75000
						Total		**630000**	**450000**
						Grand Total		**958140**	**1096878**
						District Total		**1437210**	**1645317**

Department of Fisheries

Bhoochetana Plus Taluk-wise action plan

Raichur district

S.No	Details of interventions	Village	Target		Remarks
			Physical	Financial (Rs in Lakhs)	
1.	Assistance for construction of fish pond in waterlogged and saline lands (Min 1.00 acre area)	Haravi	02	0.60	Assistance will be provided for those farmers who take up fish culture in waterlogged and saline lands @ Rs 30000/- per acre. No separate budget is required
		Govinadoddi	02	0.60	
		Karadigudda	02	0.60	
		Kurakunda	01	0.30	
2.	Fishery requisite kits	Idapanur	04	0.20	Assistance will be provided for those fishermen who are involved in capturing fisheries activities in the form of Fishery requisite kits @ Rs 5000/- per fisherman. Assistance will be provided for those farmers
		Puchaladinni	02	0.10	
		Midagaladinni	02	0.10	
Total			**2.50**	**15**	

Department of Fisheries

Bhoochetana Plus Taluk-wise action plan

Raichur district

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	official responsible	Resources required	Sources of funding	Comments
Fish culture	Assistance for construction of fish pond in water logged and saline lands (Min 1.00 acre area)	2.50	Raichur	Manvi	Haravi Govinadoddi Karadigudda Kurakunda	Fisheries	Assistant Director of Fisheries	Saline/ Water logged land and water	ZP/ Dept. of Fisheries	No additional budget required

Department of Animal Husbandry and Veterinary services

Bhoochetana Plus Taluk-wise action plan

Raichur district

S. No.	Details of interventions	Physical	Financial (Rupees in Lakhs)
1	Conducting health check up, to give suitable treatment mainly mass anthelmentic worm dosing,supply of mineral supplements etc. for 6991 cattle/buffalo & 9968 sheep/goat population in nine villages @ Rs.1.0 lakh per health camp twice in a year	18	18.00
2	Upgradation of sheep/goat population in the village Distribution of 498 ram/buck for each flock 20 sheep/goat at the rate of Rs, 10000 per unit (Total sheep/goat population 9968 in nine villages)	498	49.80
3	Green fodder development There are 570 families having irrigation facilities to grow quality fodder in nine villages which helps deficits of green fodder two folds Supply of quality fodder seeds and root slips like napier, guinea, & fodder minikits like African Talmaize, sorghum multicuts @ Rs. 1000 per family	570	5.70
4	Introduction of 25 dual purpose poultry birds (meat & egg) like Giriraja, Vanaraja, Swarna Dhara, Chabro etc. for 275 families who are involved in backyard poultry rearing in nine villages @ Rs 1500 per unit/family	275	4.12
5	Creating awareness program regarding rearing of cross breed cows, management of dairy, upgradation of local cattle & buffaloes, Sheep/goat rearing and their benefits, green fodder development & dairying etc. three times in a year per village @ Rs.2000/-	27	0.54
6	Conducting mass vaccination against contagious disease of animals like FMD, HS, PPR, ET, sheep POX seasonally twice in a year in all nine villages. Population 6991 cattle/buffaloe, 9968 Sheep/goat (vaccines will be supplied freely by Dept of AH&VS)	18	-
7	Establishment of mobile Veterinary clinic through two wheeler vehicle Providing AI facilities for animals of the farmers at their door steps and treatment on emergency situation requires Rs,65000/- for one (two wheeler) vehicle Rs, 90000/- for one (two wheeler) vehicle fuel/ maintenance Rs, 55000/- for procuring of cryocan 55 lits. Rs, 9000/- for LN2 procurement in a year. **Total Rs, 219000/-**	3	6.57
	Total	**1409**	**84.73**

Department of Animal Husbandry and Veterinary services

Bhoochetana Plus Taluk-wise Action Plan

Raichur district

Identified interventions	Details of interventions	Targeted area (ha)	District	Taluk	Villages	Department responsible	Official responsible	Sources of finding
a) Artificial insemination for breed improvement	HF, KHILLARI, JR, MR, SR	10,000	Raichur	Raichur & Manvi	9	AH & VS	DD, AH&VS	GoK
b) Animal health camps	Deworming &Vitamins, mineral supplements	10,000	Raichur	Raichur & Manvi	9	AH & VS	DD, AH&VS	GoK
c) Backyard poultry	Introduction of dual purpose Giriraja birds	10,000	Raichur	Raichur & Manvi	9	AH & VS	DD, AH&VS	GoK
d) Sheep/goat rearing	Introduction of meat purpose ram or buck	10,000	Raichur	Raichur & Manvi	9	AH & VS	DD, AH&VS	GoK

Raichur District

Department-wise Budget Requirement for Bhoochetana Plus 2013-14

S. No.	Departments	Physical (No/ha)	Total financial (Rs in Lakhs)	Grants available from present schemes (Rs in Lakhs)	Additional grants required (Rs in Lakhs)
1	Agriculture	5204	106.58	106.58	0.00
2	Watershed	59	22.80	22.80	0.00
3	Horticulture	555	73.31	43.31	30.00
4	Forestry	90	20.61	20.61	0.00
5	Sericulture	36	16.45	16.45	0.00
6	Fisheries	15	2.50	2.50	0.00
7	Animal husbandry	1409	84.73	84.73	0.00
	Total	**7368.0**	**326.98**	**296.98**	**30.00**

Annexure 4

Tumkur District

Department of Agriculture

Tiptur Taluk

S.No.	Activity	CGIAR		On-going schemes		Total		Remarks
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	
1	Baseline survey	0	0	3500	0.5	3500	0.5	Bhoochetana
2	Training and awareness program	50	2.5	15	0.75	65	3.25	GOK-CGIAR, RKVY, NFSM
3	Productivity improvement program							
3a	Improved seeds	0	0	1000	3	1000	3	RKVY,NFSM, Soil fertility enrichment scheme
3b	Micronutrient - Zinc sulphate 5 hg/aa @ Rs 19500/ ton	0	0	3500	3.4	3500	3.4	Bhoochetana, NFSM, OPP
3c	Micronutrient -Borax 2.5 kg/ha @ Rs 28000/ton	0	0	3500	2.45	3500	2.45	Bhoochetana, NFSM, OPP
3d	Gypsum 100 kg/ha @ Rs 1800/ton	0	0	3500	6.3	3500	6.3	Bhoochetana, NFSM, OPP
3e	Plant protection chemicals	0	0	700	1.5	700	1.5	Bhoochetana, NFSM, OPP
4	Soil fertility improvement							
4a	Biodigester	10	1	10	1	20	2	Soil fertility enrichment scheme
4b	Vermicompost units	250	10	50	2	300	12	GoK-CGIAR, Soil fertility enrichment scheme
4c	Green leaf manure	140	4.2	10	0.3	150	4.5	GoK-CGIAR, Soil fertility enrichment scheme
5	Mechanization program (cultivators/blade harrow)	90	10.8	10	1.2	100	12	RKVY
6	Custom hiring centers @ 3 Units	3	15	0	0	3	15	GoK- CGIAR
7	Post harvest facilities					0		
7a	Processing units @ Rs 50000	25	6.25	5	1.25	30	7.5	RKVY
7b	Threshing yards @ Rs 50000	20	5	10	2.5	30	7.5	RKVY

7c	Tarpaulins	0	0	250	3	250	3	RKVY
8	Wall writing	100	2	10	0.2	110	2.2	Bhoochetana
9	Micro irrigation (sprinkler/drip)	90	11.47	10	1.2745	100	12.75	NMMI
10	Large-scale demonstration @500 ha	20	0.1	80	0.4	100	0.5	NFSM
11	Revolving fund for SHG/RSG	8	0.8	2	0.2	10	1	ATMA, RKVY
12	Biofertilizer application	20	0.04	80	0.16	100	0.2	Soil fertility, OPP, Bhoochetana
13	Improved cultivars crop 1 + 2	90	3.6	10	0.4	100	4	ATMA, RKVY
14	IPM	90	3.6	11	0.44	101	4.04	NFSM, ATMA
Total		**1006**	**76.361**	**16263**	**32.225**	**17269**	**108.585**	

Department of Agriculture

Tumkur Taluk

S.No	Activity	CGIAR		On-going schemes		Total	
		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
1	Baseline survey	16	0.1	0	0	16	0.1
2	Training & awareness program	4	0.8	3	0.5	7	1.3
3	Productivity improvement program	0	0	0	0	0	0
3a	Improved seeds	0	0	0	0	0	0
3b	Micronutrient - zinc sulphate 5 kg/ha @ 19500 Rs per ton	0	0	3200	3.85	3200	3.85
3c	Micronutrient - Borax 2.5 kg/ha @ 28000 Rs per ton	0	0	3200	2.36	3200	2.36
3d	Gypsum 100 kg/ha @ 1800 Rs per ton	0	0	3200	5.56	3200	5.56
3e	Plant protection chemicals	0	0	0	0	0	0
4	Soil fertility improvement	3	0.9	0	0	3	0.9
4a	Biodigester						
4b	Vermicompost units	40	1.6	40	1.6	80	3.2
4c	Green leaf manure	500	0.75	500	0.75	1000	1.5
5	Mechanization program (cultivators/blade harrow)	5	0.73	0	0	5	0.73
6	Custom hiring centers @ 3 units	1	10	1	10	2	20
7	Post-harvest facilities	0	0	0	0	0	0
7a	Processing Units @ Rs 50000	1	0.5	1	0.5	2	1
7b	Threshing Yards @ Rs 50000	1	0.5	1	0.5	2	1
7c	Tarpaulins	25	0.3	25	0.3	50	0.6
8	Wall writings	16	0.32	16	0.32	32	0.64
9	Micro irrigation (sprinkler/drip)	18	0.98	12	0.65	30	1.63

S.No	Activity	CGIAR		On-going schemes		Total	
		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
10	Large-scale demonstration @500 ha	10	2	10	2	20	4
11	Revolving fund for SHG/RSG	23	11.5	0	0	23	11.5
12	Biofertilizer application	0	0	3200	0.165	3200	0.17
13	Improved cultivars crop 1 + 2	700	42	100	6	800	48
14	IPM	100	3	100	3	200	6
Total		**1463**	**75.98**	**13609**	**38.055**	**15072**	**114.04**

Department of Agriculture

Madhugiri Taluk

S.No	Activity	CGIAR		On-going schemes		Total	
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)
1	Baseline survey						
2	Training and awareness program		4.52		2	0	6.52
3	Productivity improvement program						
3a	Improved seeds			1700	28	1700	28
3b	Micronutrient - Zinc sulphate 5 kg/ha @ 19500 Rs per ton			1500	1.65	1500	1.65
3c	Micronutrient - Borax 2.5 kg/ha @ 28000 Rs per ton			1500	1.01	1500	1.01
3d	Gypsum 100 kg/ha @ 1800 Rs per ton			1500	2.4	1500	2.4
3e	Plant protection chemicals						
4	Soil fertility improvement						
4a	Biodigester	3	0.9			3	0.9
4b	Vermicompost units	72	3.2			72	3.2
4c	Green leaf manure	1110	2.78			1110	2.78
5	Mechanization program (cultivators/blade harrow/ Tillers)	50	10	50	10	100	20
6	Custom hiring centers @ 3 units	1	10	1	10	2	20
7	Post-harvest facilities					0	0
7a	Processing units @ Rs 50000	3	1.5	3	1.5	6	3
7b	Threshing yards @ Rs 50000	7	3.5	8	4	15	7.5
7c	Tarpaulins	150	1.8	150	1.8	300	3.6
8	Wall writings	30	0.6			30	0.6
9	Micro-irrigation (sprinkler/drip)	100	9	100	9	200	18
10	Large-scale demonstration @500 ha	40	1.6	40	1.6	80	3.2

S.No	Activity	CGIAR		On-going schemes		Total	
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)
11	Revolving fund for SHG/RSG	5	2.5	5	2.5	10	5
12	Biofertilizer application			1110	2.78	1110	2.78
13	Improved cultivars crop 1 + 2						
14	IPM			1000	30	1000	30
Total		**-**	**51.9**		**108.24**	**10238**	**160.14**

Department of Horticulture

Tiptur Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
I	**Soil and water conservation measures**						
a)	Improved irrigations methods (Drip)			200	33	200	33
II	**Productivity enhancement**						
a)	INM			100	1	100	1
b)	Demonstration plots in coconut	250	24.15	-	19.6	250	43.75
c)	Vermicompost / biodigester units			20	6	20	6
d)	Stem bleeding/Anabe roga			100	5.25	100	5.25
e)	**Improved cultivars (new crops)**					0	0
	a) Mango			20	6.04	20	6.04
	b) Banana (Suckers)	20	3.57			20	3.57
	c) Tender coconut variety introduction	10	1.38			10	1.38
	b) Pomegranate	10	1.8			10	1.8
f)	**Diversification and intercropping in existing horticulture crops**					0	0
	a) Lime			5	0.75	5	0.75
	b) Coco			25	3	25	3
	c) Pepper			5	1	5	1
	d) Kitchen gardens	100 units	1				1
	e) Mechanization			50	5	50	5
III	**Capacity-building**					0	0
a)	Wall writings	10	0.5			10	0.5
b)	Exposure visit to farmers (Rs. 300 per day for 3 days)			50	0.45	50	0.45
c)	Farmer facilatator (Rs. 10000 per month)	1	1.2			1	1.2
Total		**301**	**33.6**	**575**	**81.09**	**876**	**114.69**

Department of Horticulture

Tumkur Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
I	**Watershed development**						
a)	Dryland horticulture in waste / fallow lands			80	12.59	80	12.59
II	**Soil and water conservation measures**						
a)	Improved irrigations methods (Drip)			100	16	100	16
III	**Productivity enhancement**						
a)	INM			40	0.4	40	0.4
c)	Vermicompost / biodigester units			10	3	10	3
d)	IPM			25	0.25	25	0.25
f)	**Improved cultivars (new crops)**						
	b) Banana (suckers)	5	0.85			5	0.85
g)	**Diversification and intercropping in existing horticulture crops**						
	a) Lime	50	7.5			50	7.5
	b) Apiculture			200 units	6	200	6
i)	c) Kitchen gardens	200 units	2				2
IV)	**Capacity-building**					0	0
a)	Wall writing	10	0.5			10	0.5
b)	Exposure visit to farmers (Rs. 300 per day for 3 days)			50	0.45	50	0.45
c)	Farmer facilatator (Rs. 10000 per month)	1	1.2			1	1.2
Total		**66**	**12.05**	**305**	**38.69**	**371**	**50.74**

Department of Horticulture

Madhugiri Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
I	**Watershed development**						
a)	Dryland horticulture in waste / fallow lands			180	28.33	180	28.33
II	**Soil and water conservation measures**						
a)	Improved irrigations methods (Drip)			163	40.75	163	40.75
III	**Productivity enhancement**						
a)	INM			320	3.2	320	3.2
c)	Vermicompost / Biodigester units			30	9	30	9
d)	IPM			110	1.1	110	1.1
f)	**Improved cultivars (new crops)**						
	a) Mango	30	4.6332			30	4.63
	b) Banana (Suckers)	37	6.24			37	6.24
	c) Banana (Suckers-Hi density)			34	53.08	34	53.08
	d) Loose flower	10	1.2			10	1.2
g)	**Diversification and intercropping in existing horticulture crops**						
	a) Lime			34	5.1	34	5.1
i)	Kitchen gardens	100	1			100	1
IV)	**Capacity-building**						
a)	Wall writing	10	0.5			10	0.5
b)	Exposure visit to farmers (Rs. 300 per day for 3 days)			50	0.45	50	0.45
c)	Farmer facilitator (Rs. 10000 per month)	1	1.2			1	1.2
Total		**188**	**14.77**	**921**	**141.01**	**1109**	**155.78**

Department of Sericulture

Tiptur Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)
	Productivity enhancement of mulberry leaf						
	(a) INM						
	Soil test-based balanced nutrition.						
	Vermicompost/*Gliricidia*			2.5	1.3	2.5	1.3
	Biomass/Other organic matter applications.						
1	Biofertilizer application						
2	Livestock-based & livelihood activities			2.5	1.3	2.5	1.3
	Capacity-building						
	1) Field days						
	2) Training & exposure visits	30 Nos	1.7			30	1.7
3	3) Awareness programs						
TOTAL		**30 Nos**	**1.7**	**5**	**2.6**		**4.3**

Department of Sericulture

Tumkur Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)
	Productivity enhancement of mulberry leaf						
	(a) INM						
	Soil test-based balanced nutrition						
	Vermicompost/*Gliricidia*			10	5.35	10	5.35
	Biomass/Other organic matter applications						
1	Biofertilizer application						
2	Livestock-based & livelihood activities			10	10.45	10	10.45
	Capacity-building						
	1) Field days						
	2) Training & exposure visits	40	2.3			40	2.3
3	3) Awareness programs						
Total		**40**	**2.3**	**20**	**15.8**	**60**	**18.1**

Department of Sericulture

Madhugiri Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)	Phy (ha)	Fin (Lakhs)
	Productivity enhancement of mulberry leaf						
	(a) INM						
	Soil test-based balanced nutrition						
	Vermicompost/*Gliricidia*			38	20.25	38	20.25
	Biomass/Other organic matter applications						
1	Biofertilizer application						
2	Livestock-based & livelihood activities			10	12.13	10	12.13
	Capacity-building						
	1) Field days						
	2) Training & exposure visits	40	2.3			40	2.3
3	3) Awareness programs						
Total		**40**	**2.3**	**48**	**32.38**	**88**	**34.68**

Department of Animal Husbandry and Veterinary Services

Tiptur Taluk

S.No	Activities	Units	Unit cost	Number of units required	CGIAR		On-going schemes		Total	
			(Rs in lakhs)		Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
1	Establishment of dairy units	2 animals unit/ 5 units per village	0.7	35	35	24.5	0	0	35	24.5
2	Establishment of sheep/goat stall fed units	5 unit in a village	0.5	35	35	17.5	0	0	35	17.5
3	Backyard poultry units	25 birds / each beneficiary	0.015	140	140	2.1	0	0	140	2.1
4	Fodder development	Two minikits (5kgs) per farmer	0.005	790	790	3.95	0	0	790	3.95
5	Animal health camps		0.25	23	23	5.75	0	0	23	5.75
Total			**1.47**	**1023**	**1023**	**53.8**	**0**	**0**	**1023**	**53.8**

Department of Animal Husbandry and Veterinary Services

Tumkur Taluk

S. No	Activities	Units	Unit cost (Rs. in lakhs)	No. of units required	CGIAR		On-going schemes		Total	
					Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
1	Establishment of dairy units	2 Animals unit/ 5 units per village	0.7	35	35	24.5	0	0	35	24.5
2	Establishment of sheep/goat stall fed units	5 unit in a village	0.5	35	35	17.5	0	0	35	17.5
3	Backyard poultry units	25 birds / each beneficiary	0.015	140	140	2.1	0	0	140	2.1
4	Fodder develpoment	2 minikits (5 kgs) per farmer	0.005	790	790	3.95	0	0	790	3.95
5	Animal health camps		0.25	23	23	5.75	0	0	23	5.75
Total			**1.47**	**1023**	**1023**	**53.8**	**0**	**0**	**1023**	**53.8**

Department of Animal Husbandry and Veterinary Services

Madhugiri Taluk

S. No	Activities	Number of units required	CGIAR		On-going schemes		Total	
			Phy	Fin (Lakhs)	Phy	Fin (Lakhs)	Phy	Fin (Lakhs)
1	Establishment of dairy units	100	25	17.5	-	-	25	17.5
2	Establishment of sheep/goat stall fed units	60	20	10	-	-	20	10
3	Backyard poultry units	40	20	3	-	-	20	3
4	Fodder develpoment	-	58	1.45	-	-	58	1.45
5	Animal health camps	-	1500	4.125	-	-	1500	4.13
	Total	**200**	**1623**	**36.075**	**0**	**0**	**1623**	**36.075**

Department of Forestry

Tiptur Taluk

S.No	Activity	CGIAR		On-Going schemes		Total	
		Target (ha)	Total cost (Rs in Lakhs)	Target (ha)	Total cost (Rs in Lakhs)	Physical (ha)	Financial (Rs in Lakhs)
1	Agroforestry activities (planting of seedling)	50	15	125	37.5	175	52.5
2	Tree plantation on farm bunds (Trench mound)	25	8	50	16	75	24
Total		**75**	**23**	**175**	**53.5**	**250**	**76.5**

Department of Forestry

Tumkur Taluk

S.No	Activity	CGIAR		On-going schemes		Total	
		Target (ha)	Total cost (in Lakhs)	Target (ha)	Total cost (in Lakhs)	Physical (ha)	Financial (In Lakh)
1	Agroforestry activities (planting of seedling)	**50**	**15**	150	45	200	**60**
2	Tree plantation on farm bunds (Trench mound)	25	8	50	16	75	24
	Total	**75**	**23**	**200**	**61**	**275**	**84**

Department of Forestry

Madhugiri Taluk

S.No.	On-going schemes	CGIAR		On-going schemes		Total	
		Target (ha)	Total cost (in Lakhs)	Target (ha)	Total cost (in Lakhs)	Physical (ha)	Financial (in Lakh)
1	Agroforestry activities (planting of seedling)	80	24	150	45	230	69
2	Tree plantation on farm bunds (Trench mound)	35	11.2	50	16	85	27.2
	Total	**115**	**35.2**	**200**	**61**	**315**	**96.2**

Department of Fisheries

Tiptur Taluk

S.No	Activities	CGIAR		On-going schemes		Total	
		Target (ha)	Total cost (Rs in Lakhs)	Target (ha)	Total cost Rs Lakhs)	Phy (ha)	Fin (Lakhs)
1	Fish culture		15.5		0	0	15.5
2	Fishing equipments		1.25		1.25	0	2.5
3	Training		0.25		0.25	0	0.5
4	Exposure visits		0.625		0.625	0	1.25
Total		**0**	**17.625**	**0**	**2.125**	**0**	**19.75**

Departmnet of Fisheries

Tumkur District

S.No	Activities	CGIAR		On-going schemes		Total	
		Target	Total cost (Rs in Lakhs)	Target	Total cost (Rs in Lakhs)	Phy	Fin (Lakhs)
1	Fish culture		18.6		0		18.6
2	Fishing equipments		1.5		1.5		3
3	Training		0.3		0.3		0.6
4	Exposure visits		0.75		0.75		1.5
Total			**21.15**		**2.55**		**23.7**

Departmnet of Fisheries

Madhugiri Taluk

S.No	Activities	CGIAR		On going schemes		Total	
		Target (ha)	Total cost (Rs in Lakhs)	Target (ha)	Total cost (Rs in Lakhs)	Phy (ha)	Fin (Lakhs)
1	Fish culture		15.5		0		15.5
2	Fishing equipments		1.25		1.25		2.5
3	Training		0.25		0.25		0.5
4	Exposure visits		0.625		0.625		1.25
Total			**17.625**		**2.125**		**19.75**

Watershed Development Department

Tiptur Taluk

S.No	Watershed activity	CGIAR		On-going schemes		Total	
		Target	Total cost (Rs in Lakhs)	Target	Total cost (Rs in Lakhs)	Phy	Fin (Lakhs)
1	Nala bund/Borewell recharge pit/ TCB	100	41.9	720	301.68	820	343.58

Watershed Development Department

Tumkur Taluk

S.No	Watershed activity	CGIAR		On-going schemes		Total	
		Target	Total cost (Rs in Lakhs)	Target (ha)	Total cost (Rs in Lakhs)	Phy (ha)	Fin (Lakhs)
1	Low-cost rainwater harvesting structures (check dams, nala bunds, farm ponds etc)	46	8.42	68	12.63	114	21.05
2	Recharging of the wells	65	21.676	97	32.514	162.57	54.19
3	Aquifer recharging	80	7.12	120	10.68	200.1	17.8
	Total	**191**	**37.216**	**285**	**55.824**	**476.67**	**93.04**

Watershed Development Department

Madhugiri Taluk

S.No	Activity	CGIAR		On-going schemes		Total	
		Target	Total cost (Rs in Lakhs)	Target (ha)	Total cost (Rs in Lakhs)	Phy (ha)	Fin (Lakhs)
1	Low-cost rainwater harvesting structures (Checkdams, Nalabunds, Farm ponds etc)	5	6.25	77.5	60.375	82.5	66.625
2	Recharging of the wells	0	0	80	2	80	2
3	Aquifer recharging	0	0	200	20	200	20
4	Other interventions (rockfill dams, rubble check, nala revetment, gokatte)	200	10	545	32.25	745	42.25
5	Soil and water cosnervation measures						
5a	Land form treatment (BBF and conservation furrow)	25000 Rmt	12.5	75000 Rmt	20	100000 Rmt	50
5b	Improved irrigation methods (micro irrigation) and scheduling	25 Mts	2.5	75 Mts	4	100 Mts	10
Total			**31.25**		**138.625**		**190.875**

Tumkur District

Department-wise Budget Requirement for Bhoochetana Plus for the year 2013-14

S. No	Departments/Details	Taluk	Agriculture	Horticulture	Sericulture	Animal Husbandry	Fisheries	Watershed	Forestry	Admin cost @10%	Total
1	Total budget proposed for implementation	Tiptur	108.585	114.69	4.3	53.8	19.75	343.58	76.5		721.205
		Tumkur	114.04	50.74	18.1	53.8	23.7	93.04	84		437.42
		Madhugiri	160.14	155.78	34.68	36.075	19.75	190.875	96.2		693.5
		Total	**382.765**	**321.21**	**57.08**	**143.675**	**63.2**	**627.495**	**256.7**	**0**	**1852.125**
2	Budget met by dovetailing the provisions under the ongoing schemes	Tiptur	32.225	81.09	2.6	0	2.125	301.68	53.5		473.22
		Tumkur	38.055	38.69	15.8	0	2.55	55.82	61		211.919
		Madhugiri	108.24	141.01	32.38	0	2.13	138.625	61		483.38
		Total	**178.52**	**260.79**	**50.78**	**0**	**6.8**	**496.129**	**175.5**	**0**	**1168.519**
3	Budget requirement for implementing the project	Tiptur	76.361	33.6	1.7	53.8	17.625	41.9	23	24.4	272.386
		Tumkur	75.98	12.05	2.3	53.8	21.15	37.22	23	28.13	253.626
		Madhugiri	51.9	14.77	2.3	36.075	17.63	31.25	35.2	22.85	211.97
		Total	**204.241**	**60.42**	**6.3**	**143.675**	**56.4**	**110.366**	**81.2**	**75.38**	**737.982**

Annexure 5

BHOOCHETANA PLUS INITIATIVE ON "IMPROVING RURAL LIVELIHOODS IN KARNATAKA"
BASELINE SURVEY FORMAT FOR HOUSEHOLD SURVEY

[0] descriptive identification of sample household	
1. district:	4. village:
2. taluk:	5. name of head of household:
3. hobli:	6. name of informant:

[1] household characteristics			
1. household size		4. do you have a ration card? **(1: Yes; 2: No)**	
2. religion:		5. type of ration card **(code):**	
3. caste:		6. is any member of your household holder of an account in a bank or a post-office? **(1: Yes; 2: No; 9: don't know)**	

Codes for block 1:

5. Type of ration card: 1: APL(blue); 2: BPL (red); 3: Antyodaya (yellow)

[2]. Well Being Question

Imagine the best possible life. Think of a ladder with 10 steps, with the best possible life as step 10 and the worst life on step 1. Where would you place your life today?

1[ ] 2[ ] 3[ ] 4[ ] 5[ ] 6[ ] 7[ ] 8[ ] 9[ ] 10 [ ] (Don't Know/No Ans) [ ]

[2]. Details of plots owned or operated in agricultural year 2012-13

Plot no.	Area (local units)	Operational status (code)	Soil type (code)	Is the plot irrigated? 1: yes; 2: no	If yes, source of irrigation? (code)	Terms of lease for this plot (in Rabi season)	Market price of land for this kind of plot	Crops grown in the plot in year 2012-13		
								Kharif 2012	Rabi 2012-13	Summer 2013
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Codes for block 2:

Column (3): Operational status: 1: own land; 2: leased-in land; 3: leased out land

Column (4): Soil type: 1:

Column (6): Source of irrigation: *1: canal; 2: tank; 3: own groundwater source; 4: other farmer's groundwater source*

[3.1]. Inputs used in the 3 most important crops grown by the household in Summer 2013

	Crop1	Crop2	Crop3
Name of the crop(s) in the plot			
Total area of land cultivated with this crop, and number of plots			
Date of Sowing (Month-week) e.g. April 1 means first week of April			
Date Harvested (Month-week)			
Seed			
Source of Seed (1: saved from last season; 2: borrowed from another farmer; 3: purchased; 4: from government)			
Total Quantity of seed (in kg/packet)			
Total cost of the seed (Rs.)			
Fertilizers			
Did you use urea (1: Yes; 2: No)			
Quantity of urea used (kg)			
Did you use DAP (1: Yes; 2: No)			
Qty. of DAP used (kg)			
Did you use Potash (1: Yes; 2: No)			
Qty. of Potash used (kg)			
Did you use any complex fertilizers? (1: Yes; 2: No)			
If yes, quantity used			
Did you use any micro-nutrients in the plot? If yes, name them			
Did you use any farmyard manure (1: Yes; 2: No)			
If yes, quantity used			
Total cost of hired labor for this crop (in Rupees)			
Irrigation			
Was the plot irrigated? (1: yes; 2: no)			
Method of Irrigation (flood/drip/sprinkler/furrow/other)			

Number of waterings to the crop in the entire season			
Total hours of irrigation per watering			
	Crop1	**Crop2**	**Crop3**
Crop Production and Disposal			
Total production of main product (quintals)			
Quantity sold			
Selling price			
Potential Production (for entire land cultivated, not per bigha)			
What is the production you would get in a year with ideal weather? (quintals)			
What is the best production you think you could get in this plot under ideal conditions with no constraints whatsoever? (quintals)			
What is the main preventing factor from realizing the best possible production level? (see code*)			
How would your production change from your current production if you applied fertilizer according to the following [take from recommendations for that crop in that Taluka]			
How would your production change if you had applied one more irrigation than you currently do?			
How would your production change if you had applied one less irrigation than you currently do?			

Code: 1. Insufficient Irrigation 2. Lack of Knowledge or Skill 3. Lack of better seeds 4. Lack of better or more fertilizers 5. Pests 6. Cost of Inputs 7. Profitabilty / Market Access 8. Other

[3.2]. Inputs used in the 3 most important crops operated by the household in Rabi 2012-13

	Crop1	Crop2	Crop3
Name of the crop(s) in the plot			
Total amount of land cultivated with this crop			
Week of Sowing (specify as name of month + 1/2/3/4)			
Month Harvested (specify as name of month + 1/2/3/4)			
Seed			
Source of Seed (1: saved from last season; 2: borrowed from another farmer; 3: purchased; 4: from government)			
Total Quantity of seed (in kg/packet)			
Total cost of the seed (Rs.)			
Fertilizers			
Did you use urea (1: Yes; 2: No)			
Quantity of urea used (kg)			
Did you use DAP (1: Yes; 2: No)			
Qty. of DAP used (kg)			
Did you use Potash (1: Yes; 2: No)			
Qty. of Potash used (kg)			
Did you use any complex fertilizers? (1: Yes; 2: No)			
If yes, quantity used			
Did you use any micro-nutrients in the plot? If yes, name them			
Did you use any farmyard manure (1: Yes; 2: No)			
If yes, quantity used			
Total cost of hired labor for this crop			
Irrigation			
Was the plot irrigated? (1: yes; 2: no)			
Method of Irrigation (flood/drip/sprinkler/furrow/other)			

Number of waterings to the crop in the entire season			
Total hours of irrigation per watering			
	Crop1	**Crop2**	**Crop3**
Crop Production and Disposal			
Total production of main product (quintals)			
Quantity sold			
Selling price			
Who did you sell this crop to? **(codes)**			
Potential Production (for entire land cultivated, not per bigha)			
What is the production you would get in a year with ideal weather? (quintals)			
What is the best production you think you could get in this plot under ideal conditions with no constraints whatsoever? (quintals)			
What is the main preventing factor from realizing the best possible production level? (see code*)			
How would your production change from your current production if you applied fertilizer according to the following [take from recommendations for that crop in that Taluka]			
How would your production change if you had applied one more irrigation than you currently do?			
How would your production change if you had applied one less irrigation than you currently do?			

Code: 1. Insufficient Irrigation 2. Lack of Knowledge or Skill 3. Lack of better seeds 4. Lack of better or more fertilizers 5. Pests 6. Cost of Inputs 7.Profitabilty / Market Access 8. Other

[3.3]. Inputs used in the 3 most important crops operated by the household in Kharif 2012

	Crop1	Crop2	Crop3
Name of the crop(s) in the plot			
Total amount of land cultivated with this crop			
Week of Sowing (specify as name of month + 1/2/3/4)			
Month Harvested (specify as name of month + 1/2/3/4)			
Seed			
Source of Seed (1: saved from last season; 2: borrowed from another farmer; 3: purchased; 4: from government)			
Total Quantity of seed (in kg/packet)			
Total cost of the seed (Rs.)			
Fertilizers			
Did you use urea (1: Yes; 2: No)			
Quantity of urea used (kg)			
Did you use DAP (1: Yes; 2: No)			
Qty. of DAP used (kg)			
Did you use Potash (1: Yes; 2: No)			
Qty. of Potash used (kg)			
Did you use any complex fertilizers? (1: Yes; 2: No)			
If yes, quantity used			
Did you use any micro-nutrients in the plot? If yes, name them			
Did you use any farmyard manure (1: Yes; 2: No)			
If yes, quantity used			
Total cost of hired labor for this crop			
Irrigation			
Was the plot irrigated? (1: yes; 2: no)			
Method of Irrigation (flood/drip/sprinkler/furrow/other)			
Number of waterings to the crop in the entire season			

Total hours of irrigation per watering			
	Crop1	**Crop2**	**Crop3**
Crop Production and Disposal			
Total production of main product (quintals)			
Quantity sold			
Selling price			
Who did you sell this crop to? **(codes)**			
Potential Production (for entire land cultivated, not per bigha)			
What is the production you would get in a year with ideal weather? (quintals)			
What is the best production you think you could get in this plot under ideal conditions with no constraints whatsoever? (quintals)			
What is the main preventing factor from realizing the best possible production level? (see code*)			
How would your production change from your current production if you applied fertilizer according to the following [take from recommendations for that crop in that Taluka]			
How would your production change if you had applied one more irrigation than you currently do?			
How would your production change if you had applied one less irrigation than you currently do?			

Code: 1. Insufficient Irrigation 2. Lack of Knowledge or Skill 3. Lack of better seeds 4. Lack of better or more fertilizers 5. Pests 6. Cost of Inputs 7.Profitabilty / Market Access 8. Other

[4]. Details of wells and tubewells owned by the household

	Open well	Dug-cum-borewell	Tubewell
Do you own a _____ (1: Ys; 2: No)			
If no, skip to 16			
Depth of the main well (feet)			
Depth to water table (feet)			
Type of pump (1: electric; 2: diesel)			
Size of the pump (in HP)			
Hours of electricity you get/day for electrified wells			
Area irrigated by the well in Kharif			
Area irrigated by the well in Rabi			
Area irrigated by the well in summer			
Do other farmers irrigate land from your pump? (1: yes; 2: no)			
If yes, how much area of other farmers is irrigated (in total)?			
What is the water price they pay for irrigation from your well? (per hour or per crop season)			
Is the water discharge adequate throughout the year? (1: Yes; 2: No)			
No. of hours the well can operate continuously			
Hours it takes to irrigate 1 acre of land in rabi (choose a standard crop here)			
Do you purcahse water to irrigated your land? (y/N)			
If yes, from how many wells (in each cateogry)?			

What price do you pay for it? (per hour/per crop season?)			
	Open well	Dug-cum-borewell	Tubewell
How much area do you irrigate with the purchased water in Kharif (acre)?			
How much area do you irrigate with the purchased water in Rabi (acre)?			
How much area do you irrigate with the purchased water in summer (acre)?			

Did any of your wells fail in last 10 years? Yes ◯ No ◯
If yes, how many times your wells have failed in last 10 years:
Have you deepened any of your wells in last 10 years? Yes ◯ No ◯
If yes, how many times have you deepened your wells in last 10 years?

[5.1]. Number of bovines owned on the date of survey

S. No.	Type of bovine	Adult males (over 28 months or 3 years)*	Adult males (over 28 months or 3 years)*			Young stock (upto 28 months or 3 years)*		Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Not calved once	In-milk	Dry	Male	female	
1	Cattle cross-breed							
2	Cattle: non-descript							
3	Buffalo							

* 28 months for cross-bred cows and 3 years for others

[5.2] Milk produced yesterday	Litres	Price (Rs./liter)
1. Total milk produced from all cows yesterday		
2. Total milk produced from all buffaloes yesterday		
2. Litres of milk sold to dairy cooperative		
3. Litres of milk sold to local milkman		
4. Litres of milk kept for home consumption		

[6]. Source of Information and Agricultural Extension

6.1. What is your main source of information for crop prices in the market (mandi)?
a. other farm ers ◯ b. newspaper/radio ◯ c. cell-phone enquiries from local traders ◯ d. personal visits to market/mandis ◯ e. a paid cellphone-based-service I subscribe to ◯ f. a free sms from government ◯
g. others (specify) ◯_____

6.2. What is your main source of information for weather predictions?
a. newspaper ◯ b. Radio ◯ c. T V ◯ d. a paid cellphone-based-service I subscribe to ◯ e. a free sms from government t ◯ f. others (specify) ◯_____

6.3. In the **past 12 months** did you receive any advice/training from any service provider (agricultural extension services)?
Yes ◯ No ◯

6.4. If no, why did you not use any? _____
1. No need; 2. Unable to find them at the right time; 3. They were too expensive; 4. Did not find the required quality; 5 Too far, not close by, 6.Other

6.5. If no, when was the last time you received advice/training? _____month_____year

[6.6]. If yes, please fill out the table below for contact with an agricultural extension person

	Who provided the agricultural extension?	Reasons for the choice of extension agent	Did you have to pay for extension?	For what crop were consultations made?	What type of information was given?	Were you satisfied with the quality/ usefulness of extension?
	1. PACB service provider (Agriclinic) 2. Independent Agriclinic 3. KVK 4. State extension officer 6. University 7. NGO 8. Farmer group association 9. Other farmers 10. mobile phone services 12 Donor project (e.g. DASP from World Bank) 13. Atma 14. Extension agents fertilizer company 15. Extension agent Plant Protection Unit 16. Private company that promote own products 17. Rural Business Hub 18. Extension agent private processing companies 19. Other:_____specify	1. close-by 2. offers lowest price 3. quality is assured 4. timely availability 5. only available option 6. Others (specify)	1. Yes 2. No		1. Use of fertilizer 2. Irrigation 3. New seed varieties 4. Diseases problem 5. Soil problems 6. Weather problems 7. Marketing advice 8. Help getting credit 9. General advice 10. Other	1. Very good 2. Good 3. Fair 4.Poor 5. Very poor

[7]. Soil Perception and Soil Testing

[7.1] Please tell us about the quality of soil in your land (if it depends on the plot, refer to the largest plot you cultivate)

Nutrient	**Level** (*1: low; 2: medium; 3: high; 99: do not know*)
Organic matter	
Nitrogen	
Phosphorus	
Potassium	
Zinc	
Boron	
Magnesium	

7.2. If soil testing was done on your soil, please fill out the table below for who and when conducted the test

	Who provided the soil testing service? (you may indicates several options)	Indicate Yes / No	Year testing was done	Major reasons for the choice of soil tester	Did you have to pay for soil-test?	For what crop did you get your soil tested?	Were you satisfied with the soil-testing?	Purpose for soil testing
	0. Bhoochetana *1. PACB Agriclinic* *2. Independent Agriclinic* *3. KVK* *4. State extension officer* *5. University* *6. NGO* *7. ATMA* *8. Fertilizer company* *9. Other:_____*			*0. they approcahed me* *1. close by* *2. gives the lowest price* *3. Quality is assured* *4. Timely availability* *5. Other*	*1. Yes* *2. No*	Crop code (if general, code=88)	*1. Yes* *2. No*	*1= find out about micro-nutrients;* *2.find out about pesticides residue;* *3.find out what the soil is good for* *4. other:_____*

7.3. If your soil was not tested, why did you not test your soil? _____

1. No need for such information; 2. Soil testing was done in other plots of my village and I used that information; 3. It is too expensive; 4. Testing facility is not accessible, 5. Soil test results are not reliable; 6.My field was not selected by free service 7. Others (please specify): _____

7.4. If yes, why did you test your soil?_____
1=Member demanded, 2=PACB suggested, 3. Bank enforced, 4. Profitable, 5.Other (specify)_____

7.5 If your field was not tested, do you know any farmers whose soil was tested in your village : Yes ◯ No ◯

Farmer name	How well do you know him (code)	Did you discuss the testing finding with him?

Code: 1. He is a close relative; 2. He is a neighbor; 3. He is an acquaintance, but I do not know him well; 4. I do not know him at all.

7.6 How well do you know the following farmers? [THIS SECTION ONLY IN VILLAGES THAT HAD TESTING]

Farmer name	How well do you know him (code)	Do you know if he got a soil testing or not? (Y/N/DN)	Did you discuss the testing finding with him?
THE NAMES OF THE FARMERS THAT WERE TESTED IN THIS PARTICULAR VILLAGE SHOULD BE MENTIONED HERE			

Code: 1. He is a close relative; 2. He is a neighbor; 3. He is an acquaintance, but I do not know him well; 4. I do not know him at all.

7.7 Are you aware of any information on soil nutrients painted on the wall in the village center? Yes ◯ No ◯

7.8 If you received any information on soil from any source, including other farmers, did this information lead you to change your fertilizer use?

a. In the plot that was tested : Yes ◯ No ◯

b. In other plots: Yes ◯ No ◯

c. If yes in any plot, how did your fertilizer use change after soil testing?

S. No.	Fertilizer	Started using it when I did not use it earlier	No Change	Increased its use	Decreased its use
1	Zinc				
2	Boron				
3	Magnesium				
4	Urea				
5	DAP				
6	Potash				

d. If your fertilizer use did not change after soil testing, what was the reason for not changing it?

a. Information is unreliable/not trustworthy ◯
b. I don't know where to get these inputs ◯
c. It will not be profitable for me to use this information since inputs costs are too high. ◯
d. It will not be profitable since yield will not increase much. ◯
E. Other (specify): _____

e. Did you register into the Bhoochetna subsidized input program?

Yes ◯ No ◯ I have not heard of the program ◯

f. If No, why? (skip to next section)
a. No interest
b. Even with subsidy, inputs are too costly to be profitable

c. Other (please specify): _____

If Yes, answer the following questions:

g. The year you registered for Bhoochetana first: _____

h. How much area did you register under the program the first time: _____

i. How much micro-nutrients did you purchase through the program in that year?

a. Zinc: _____(kg) b. Boron: _____ (kg) c. Magnesium: _____(kg)

j. Did using micro-nutrients improve the yield on the plot you applied it? Yes ◯ No ◯

k. Have you registered under Bhoochetana this year? Yes ◯ No ◯

l. If yes, how much area have you registered under the program? _____

8. Use of crop insurance

1. **Do you use crop insurance to insure any of your crops? Yes ◯ No ◯**

a. If yes, what crops do you insure?

b. How much crop area do you insure?

c. What insurance agency do you use for crop insurance?

2. If no, why do you not use crop insurance?

a. I have not heard of crop insurance ◯ I do not want it; it is not profitable ◯ I want to, but I do not have access to an insurance service ◯ I do not understand how crop insurance works ◯

Other reasons (please specify): _____

9. Household demographics and migration

S. No.	Name of member	Relation to head **(code)**	Sex (1: male; 2: female)	Age (years)	Married (1: Yes 2: No)	Is currently attending school/college (1: yes; 2: no)	Highest level of education completed? **(code)**	Primary place of residence **(code)**	Primary Occupation **(code)**	Primary Place of work **(code)**	If not primarily residing in the village, reason for migration **(code)**	If sent remittances during last 365 days **(1: Yes; 2: No)**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Codes for Block 11:

***Column(3)**: **Relationship to the head of the household:** 1= Household head; 2=Spouse; 3= Son/ Daughter; 4= Grandchildren; 5=Parent; 6= Brother/Sister; 7= Son/ Daughter/Brother-in-law; 8=Father/ Mother- in- law; 9=Grandparents; 10- Other relatives _____*

***Column(8)**: **Highest level of education completed:** 1=not literate; 2=literate without formal schooling; 3=literate but below primary (less than 1); 4=primary (1-5); 5=middle (6-8); 6=secondary (8-10); 7=higher secondary (11-12); 8=diploma/certificate course; 9=graduate; 10=postgraduate or above.*

Column (9)**: **Primary Place of Residence: 0: this village; 1: another village in the same district; 2: another village in a different district; 3: a town or city within the same district; 4: a town or city in a different district; 5: rural area in a different state; 6: urban area in a different state; 7: another country

Column (10): Primary Occupation**:** 1-cultivation; 2- agricultural labor; 3-cattle-rearing; 4-non-farming work; 5-education

Column (11): Primary Place of Work: 0: this village; 1: another village in the same district; 2: another village in a different district; 3: a town or city within the same district; 4: a town or city in a different district; 5: rural area in a different state; 6: urban area in a different state; 7: another country

Column (12): Reason for Migration: 0: NA (resides in village); 1: water scarcity; 2: land scarcity; 3. employment opportunity outisde; 4. education; 5. marriage; 6. other

[10]. Indebtedness of the household as on the date of survey				
Srl. no. of loan	nature of loan (code)	source (code)	purpose (code)	amount outstanding including interest as on the date of survey (Rs)
(1)	(2)	(3)	(4)	(5)
total				

Codes for Block 10

col. (2): **nature of loan**: hereditary loan -1, loan contracted in cash -2, loan contracted in kind -3, loan contracted partly in cash and partly in kind -4.

col. (3): **source**: government -1, co-operative society -2, bank -3, employer/ landlord -4, agricultural/ professional money lender -5, shopkeeper/ trader -6, relatives/ friends -7, others -9.

col. (4): **purpose**: household consumption: medical expenses -1, educational expenses -2, legal expenses -3, marriage and other ceremonial expenses-4, other household consumption expenses -5; purchase of land/ construction of building -6, other productive purpose -7, repayment of debt -8, others -9.

[11]. Assets Ownership

A. Type of dwelling			
	Outside wall	**Roof**	**Floor**
Construction material			

Codes: *1=Bricks – burnt; 2=Stones; 3=Stones+Lime; 4=Stones+RCC; 5=Concrete / Cement Concrete; 6=GI tin /metal sheets; 7=Asbestos Cement; 8=Tiles; 9=Bamboo; 10=Leaf / Branch / Grass Reeds; 11=Wood / Timber; 12=Thatch / Mud; 13=Plastic / Canvas; 14=Others:_____*

How many rooms does your household occupy? _____

A. Basic Services		
1	Do you have a toilet	1: Yes; 2:No
2	Source of Drinking Water (code)	
3	Main Source of Energy for lighting (code)	
4	Main Source of Energy for cooking (code)	
B. Ownership of Assets and Agricultural Equipment		
S. No.	**Assets**	**How many do you own (0 for none)**
1	LPG cylinder with stove	
2	Pressure cooker	
3	Electric fan	
4	Television	
5	Refrigerator	
6	Bicycle	
7	Motor-bike/scooter	
8	Car	
9	Mobile phone	
10	Tractor	
11	Power tiller	
12	Sprayer	
13	Bullock cart	
14	Thresher	

A2. Source of drinking water: 1: private household connection; 2: public stand post; 3: hand pumps; 4: open well; 5: pond/river/stream; 6: irrigation tubewell; 7: tanker supply; 99: others (please specify)
A3. Main source of energy for lighting: 1: electricity; 2: kerosene; 3: Others (please specify):
A4. Main source of energy for cooking: 1: firewood 2: crop residue; 3: dung-cakes; 4: LPG; 5: kerosene; 6: biogas; 7: others