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P r e f a c e

The KBK districts exhibit some special feature not only in Orissa but in the whole country in terms its tribal dominance, extreme poverty, socio-economic backwardness, prone to natural disasters and above all, owing to frequent press coverage of loss of human lives due to food scarcity. Simultaneously, it possesses vast natural resources which are either over exploited or at a nascent stage of proper harnessing of those resources The backwardness of the KBK region is multi-faceted in terms of tribal backwardness, hill area backwardness, and backwardness due to severe natural calamities.

In order to tackle these problems, the Government of India as well as the Government of Orissa has had introduced many special programmes in this region including ITDP, CSP, CP and RLTAP. Moreover, to promote irrigation in the region for draught- proofing and for higher agriculture productivity, the Government of India has liberally supported many special schemes like ACA, SCA, and AIBP under RLTAP. Further, in order to give a boost to extension of irrigation network and to strengthen Pani Panchayat in the state, an innovative scheme, known as BKVY, was launched by the Government of Orissa in 2001-02 and it was included under RLTAP. Under the scheme, stress was laid on attracting people's participation in planning and implementation of small irrigation projects by revival of derelict irrigation systems as well as construction of new projects. Since, projects under RLTAP grants were in operation in the State since 1996-97 and its continuance was being questioned at different levels, the Government of Orissa, Planning and Co-ordination Department proposed to undertake a post evaluation studies of different projects and it approached various research institutions to undertake the studies. In view of the expertise of project evaluation available at IIT Kanpur, we submitted a proposal to the Government of Orissa in February 2006 and after completion of all formalities associated with commencement of the study, the letter of award was issued to IIT Kanpur in June 2006. As per the terms of reference of the study, some of the broad objectives are:

- To gauge the direct and indirect impacts of BKVY programme in the KBK region,
- To evaluate the extent to which the objectives of the BKVY Programme and associated PP schemes have been achieved so far,
- To investigate the formation and structure of PP as well as the modus operandi of implementation BKVY in the region,
- To identify the problems faced in constitution of various committees under PP,
- To investigate the impact of PP on drought proofing, on poverty alleviation and the extent of ensuring improved quality of life for the people in the KBK region,
- To identify the constraints that the implementing agency responsible for implementation of the programmes faces and to the extent these constraints impacted the achievement,
- To identify the constraints faced by the beneficiaries, the nature of the constraints and the extent to which they impacted on benefit accrual,
- To ascertain special efforts, if any, made by the implementing agencies to avoid failures and or to promote success of the programme,
- To provide innovative suggestions for appropriate reforms and correctives measures for improving programme design and implementation of strategies, and
- To suggest/recommend specific measures needed to achieve the objectives of programme.

In tune with the proposal submitted by us along with the TOR and to achieve the above objectives, we have adhered to a standard post evaluation method of project cycle that involved

developing a study design, identification of the sources of appropriate data, design of questionnaire, setting evaluation questions, identification of stakeholders, to develop method of evaluating the technical efficiency of the projects, selection of appropriate evaluation design, and proper analysis of both the secondary and primary data. Accordingly we had set our work plan schedule in the month of July,2006 and made arrangements for field data collection during August 2006 to November, 2006. But owing to natural calamities that struck the KBK region, i.e., unprecedented flooding in Balangir, Kalahandi, Sonepur, Nuapada, Rayagada, Nabarangpur and Malakangiri during the monsoon of 2006, we could not follow the proposed schedule and the primary data collection was carried between October-December 2006. Some additional data were also collected in January-February, 2007.

Relevant data regarding the BKVY projects were collected secondary data from the head offices of MI, OLIC, and OAIC as well as from their respective field organizations at the district levels. Besides, we collected the relevant data of the projects from the offices of the district magistrates of the KBK districts. After analysis of the secondary data and with a view to select the representative sample projects, we have divided the blocks into three categories, viz., underdeveloped, moderately developed and relatively developed on the basis of people living below poverty line. With the help of these indicators and by taking into account the geographical location, number and variety of projects in execution in each block and above all, on the advices of field official and district administration, we have selected a minimum of three development blocks in every district for primary data collection. However, with a view to cover all forms of BKVY projects, we have covered six blocks of Bolangir district. In this process we have covered 27 blocks in the KBK region and 133 projects of BKVY and their associated PPs. In tune with our objectives, we designed two sets of schedules (one to be canvassed among the functionaries / officials and other among the beneficiaries who are members of the Pani Panchayat formed in BKVY project command area) and they were canvassed in the field by our staff. In selecting the stakeholders to be interviewed we had adopted a purposive sampling method, of course, with special attention on SC/ST households below poverty line. In the process, we have been able to cover 133 functionaries and 251 PP members by purposive random sampling method.

As mentioned above after completion of the secondary and primary data collection and its analysis, we submitted the draft report in February 2007. However, the presentation of the draft report could take place in May 2007, which was attended by all the concerned functionaries of the Government of Orissa including the Chief Secretary and the Development Commissioner. Since some valuable comments and suggestions were rendered during the draft report presentation, we undertook a second round of data collection from different offices during June-July, 2007. This final report has incorporated most of the valuable comments and suggestions of the officials as well as included some of the concrete suggestions to improve the performance of BKVY projects and to make the PPs viable for sustainable flow of benefits in the KBK region.

After providing the genesis of BKVY projects and Pani Panchayat in Chapter I, we have discussed the strategies and status of BKVY and PP under RLTAP in the State in Chapter II. The methodology adopted and coverage of the study is contained in Chapter III. The major findings of the study as well as the strength and weaknesses of the BKVY and its associated PPs are elaborated in Chapter IV along with graphs and tables. Some of the best practices are also given in this chapter. The last chapter contains the policy implications and our suggestion to restructure and strengthen the various components of both BKVY projects and Pani Panchayat for generating sustainable benefits to the people of KBK region. Further to demonstrate the benefits flowing from BKVY projects and to show some of the problems, we have provided the Photographs after Chapter V. Lastly, the Annexure contains all the master tables (1-13) containing all particulars regarding BKVY Project and their PPs.

ACKNOWLEDGEMENT

Any field-oriented study like this would not have been possible without the active help and co-operations of the officials of Government of Orissa, the district level officials, the PRIs and above all without support of the beneficiaries and stakeholders who furnished us with valuable data and information. Though it may not be possible to mention all their names, I will be failing in my duties without mentioning the names of a few of them.

To start with, I take this opportunity to express my gratitude to Sri Ajit K. Tripathy, Chief Secretary, Government of Orissa, Dr R.N Bohidar, Development Commissioner, Sri Aurobindo Behera, Principal Secretary, Water Resources Department, Dr R.V Singh, Special Secretary, Planning & Co-ordination for their support at each stage of the study and also for valuable comments on the draft report of the study. Also my thanks are due to all the District Magistrates of KBK districts and their staff for the active cooperation and help rendered by them to our field staff during the course of our field survey. My thanks are also due to the Managing Directors of OLIC and OAIC as well as the Chief Engineer, MI and SE, MI at Bhawanipatna for their active help and suggestions at different stages of the study.

Let me also record my sincere thanks and gratitude to all the Executive Engineers of MI at Bolangir, Bhawanipatna, Joypore, and Rayagada; the Executive Engineers of OLIC at Koraput, Gunupur, Bhawaniptna and Bolangir and the District Managers of OAIC in the KBK districts for their ungrudging support to us during the entire period of survey. Many of them accompanied to the project sites to throw light on the problems and prospects of the BKVY projects and the respective PPs. My special thanks are also due to all the field staff who ungrudgingly supported our primary data collection work and also provided us all logistic supports.

I also convey my heartfelt gratitude to all the functionaries and members of Pani Panchayat and members of the Gram Panchayat of the sample villages for their cooperation in conducting the survey in the villages. Above all, the study could not have been completed without the assistance and commitment provided by our research staff and the students for undertaking the painstaking data collection, compilation and computer works. I record my appreciation for their adequate and timely efforts

Last but not the least, I am extremely grateful to my wife, Sanjubala Rath, who not only tolerated my frequent field visits but also she has adjusted with me to work in the office at odd hours in preparing the draft as well as the final report. All my love and affections are due to her for her patience and tolerance.

However, it is needless to say that none of the persons whose help and encouragement I have acknowledged above are responsible for the errors and omissions, if any, that remain in the study.

November, 2007
I. I. T. Kanpur

Binayak Rath
Chief Project Co-ordinator

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Abbreviations used

ACA:	Accelerated Central Assistance
AIBP:	Accelerated Irrigation Benefit Programme
BKVY:	Biju Krushak Vikas Yojana
BM:	Branch Manager
CADA:	Command Area Development Authority
CASAD:	Centre for Applied System Analysis in Development
CSP:	Central Sponsored Plan
DAO:	District Agricultural Office
DoWR:	Department of Water Resources
DRDA:	District Rural Development Agency
DRF:	Development and Reforms Facility
DWO:	District Welfare Officer
EE:	Executive Engineer
ITDA:	Integrated Tribal Development Agency
JRY:	Jawahar Rojgar Yojana
KBK:	Koraput Blangir Kalahandi
MI:	Minor Irrigation
MoWR :	Ministry of Water Resources, Government of India
NABARD:	National Bank for Agriculture & Rural Development
OAIC:	Orissa Agro Industries Corporation
OLIC:	Orissa Lift Irrigation Corporation
OSFDC:	Orissa State Schedule Caste & Schedule Tribe Finance Development Corporation
PA:	Project Administrator
PD:	Project Director
PMRY:	Prime Minister Rojgar Yojana
PP:	Pani Panchayat
PRI:	Pachayat Raj Institution
RLTAP:	Revised Long Term Action Plan
SCA:	Special Central Assistance
SCP:	Special Component Programme
SE:	Superintending Engineer
SJGRY:	Swarna Jayanti Gramin Rojgar Yojana
SLSC :	State Level Screening Committee
WODC:	Western Orissa Development Council
WUA:	Water Users Association

Executive Summary of the Study

I Introduction:

The KBK districts exhibit some special feature not only in Orissa but in the whole country in terms its tribal dominance, extreme poverty, socio-economic backwardness, prone to natural disasters and above all, owing to frequent press coverage of loss of human lives due to food scarcity. The backwardness of the KBK region is multi-faceted in terms of tribal backwardness, hill area backwardness, and backwardness due to severe natural calamities. Coupled with low irrigation opportunities, the practice of shifting cultivation leads to high soil erosion and land degradation (more than 50 % of the forest area in these district are degraded) the area is often prone to drought.

In order to tackle these problems, the Government of India as well as the Government of Orissa has had introduced many special programmes in this region. Particularly, to promote irrigation in the region for draught- proofing and for higher agriculture productivity, the Government of India has liberally supported many special schemes like ACA, SCA, and AIBP. Further, to give a boost to extension of irrigation network and to strengthen Pani Panchayat in the state, an innovative scheme, known as BKVY, was launched by the Government of Orissa in 2001-02. Under the scheme, stress has been laid on attracting people's participation in planning and implementation of small irrigation projects by revival of derelict irrigation systems as well as construction of new projects The present study is an attempt to evaluate the impact of BKVY and PPs in the KBK region.

II Methodology & Coverage of the study

To achieve these above objectives, we have adhered to a standard post evaluation method of project cycle that involved developing a study design, identification of the sources of appropriate data, design of questionnaire, setting evaluation questions, identification of stakeholders, to develop method of evaluating the technical efficiency of the projects, selection of appropriate evaluation design, and proper analysis of both the secondary and primary data. However, with a view to cover all forms of BKVY projects, we have covered 27 blocks in the KBK region and 133 projects of BKVY and their associated PPs. In order to elicit the primary data and information in a structured manner, we canvassed the schedules among 133 functionaries and 251 PP members by purposive random sampling method. In addition, to elicit some general feedback from the members as well as from the community, PRA and focus group interviews were conducted by the coordinators during their visits to the project sites in different time periods. In addition to these primary data, we had gathered some information from government officials, local leaders, and few NGOs, who are involved in promotion of different development activities in the area.

III Impact of BKVY Projects & PPs in the KBK region

In terms of the impact of BKVY and PP in the KBK region our study has revealed the following direct and indirect impacts:

- The crop productivity has significantly increased in the command areas of the BKVY projects owing to intensive cultivation as well as changes in cropping patterns. The additional productivity varies in the range of 25-100 % in different sample blocks during Kharif and more than 100% during Rabi seasons.

- There has been rapid transformation in productivity owing to availability of water. There are many instances where the unproductive barren land is transformed into a very productive land after introduction of BKVY projects in the KBK region.
- Many farmers of PP have adopted commercial cultivation like vegetables, such as, banana, cabbages, ginger, sugarcane, cauliflower, groundnut, brinjal, sweet potato to increase the productivity of land. A typical project of palm oil cultivation has been introduced in Rayagada to augment more than 100 % rise in yield rate of land.
- The income and consumption in terms of expenditure particulars of the households of farmers participating in PP after BKVY project indicate that almost all the households have gained in income generation, specially gains in income from agriculture. On an average the additional income generated from agriculture has been around 90%.
- As a result of this rise in overall income of the households, there has been rise in expenditure level of the households, which establishes that the standard of living of the household has gone up after introduction of BKVY/PP in the KBK region.
- In addition to the rise in production and productivity of land as well as income levels, we have noted that employment levels in the BKVY project area have gone up after introduction of the scheme in the KBK region. That most of the households have gained in terms of additional employment opportunities for them. While 39% of the households have gained more than 25 % additional employment for their family members, around one-third of the households have been benefited to the extent of 16-25% range.
- In addition to this direct employment opportunities, there has been indirect rise in the employment opportunities in the KBK region after introduction of BKVY scheme due to rise in allied to agriculture activities as well as rise in agro-based industries in some parts of the study area. Owing to rise in crop productivity, a number of ancillary activities have come up in the study area to add income levels of both the beneficiaries and non-beneficiaries of BKVY projects. There is a growth of number rice mills in the corridor between Sonepur and Bolangir because of a significant rise in rice production in the area due to intensive rice cultivation.
- In addition to rice mills, a number of Gur and Khandasari making units in the Nabarangpur, Rayagada and Koraput area have gone up owing to extensive sugarcane cultivation in river plains of Indravati, Uppar Kolab and Nagabali rivers. More sugar mills and palm oil processing plants are in offing in the region to create more employment opportunities for the people.
- There has been a rise in total animal wealth of the households after introduction of BKVY/PP in the KBK region. However, as expected, there has been a significant rise in possession of bullock, i.e., a rise of 113.7% and cow by 108%.
- The rise in income levels due to rise in agricultural production is likely to provide a boost for the beneficiary households to acquire more and more of material assets.
- Through this process of acceleration of income, consumption, and employment, it has helped to reduce the regional income inequalities in the state.
- As the intra district variations within the state have gone down after introduction of BKVY, it has helped to remove regional imbalances in terms of irrigation coverage within the State.

IV Extent to which the Objectives of BKVY fulfilled

- ✓ Our study has established that the objectives of BKVY are partially fulfilled in the study area. Particularly, in most of the lift points of both OLIC and OAIC, the farmers

have realized that unless they maintain the pump set and its associated accessories, and pay the electricity charges, they will be deprived of the benefits. So awareness to take care of the project for their well-being has spread through the PP. It is noted by us that the BKVY projects and their associated PPs have definitely stimulated the mobilization of farmers and to make them self- reliant.

- ✓ In view of the benefits, the cultivators of the command area of projects have come forward to form the PP and gradually the awareness spreads to discuss the various issues and problems in the PP meeting and try to find out possible solutions.
- ✓ The BKVY has, no doubt, strengthen and expanded the irrigation infrastructures in the KBK region that has helped in accelerating the rate of growth of income, output and employment in this backward region.
- ✓ BKVY has also promoted the growth decentralized irrigation system that has become an instrument to remove regional imbalances in irrigation coverage in the KBK region,
- ✓ Though applications for new projects are made in the name of the local people, the leadership in initiating and commencing of the projects still lies with the field organizations like OLIC, OAIC and MI.
- ✓ However, in respect of the first goal of BKVY, i.e., to encourage water users to take initiative and participate in construction and management of new and derelict lift and flow irrigation projects, we have noted that beneficiaries have been induced and to some extent forced to take the responsibility of maintaining the project. and
- ✓ Last but not the least, BKVY and PPs have impacted the physical and socio economic environment that would assist drought proofing, poverty alleviation and to a large extent ensure improved quality of life for the people in the KBK region,

V Process of Project Formulation, Screening, Approval and Implementation

⇒ With regard to project planning starting with identification, timely feasibility study, screening and implementation of BKVY projects, we have noted that there is a considerable lag between the initial project proposal submitted by the people (notionally only) and the execution of the projects. In fact, we have noted that the preparation of feasibility report part in very weak. With respect to project formulation, we have noted that though identification of any new project depends on proper investigation through a reconnaissance survey, as the line organizations do not have adequate technical hands, the identification of potential sites are delayed.

⇒ On the other hand, though projects are to be screened and approved by the SLSC, which is supposed to clear the proposal within a month time on the basis of feasibility report, we have noted that there are many weaknesses involved in the present system. In view of infrequent meeting of the SLSC, the approval process is delayed and the same breeds inefficiency. We have come across projects which have taken more than one year for clearance by the SLSC.

⇒ Even if the projects are approved, there is inordinate delay in completion of the projects.

⇒ The benefit cost analysis that forms the corner stone for the feasibility reports suffers from a number of weaknesses. The method adopted is very crude and is not capable of capturing the externalities flowing from the BKVY projects. The BCR calculations do not reflect the flow of benefits and costs for the entire life span of the projects, nor there is discounting of benefits and costs. Moreover, the benefit and costs estimates are not converted into social benefits and social costs respectively.

⇒ Thus, we would like to say that the modus operandi of screening and approval of the BKVY projects suffers from many deficiencies.

VI Deficiencies and Shortcomings Associated with the BKVY projects and PPs

Notwithstanding these achievements, we have noted many deficiencies and shortcomings associated with BKVY projects and its associated PP. In case preventive measures are undertaken to remove these deficiencies, there will be higher efficiency of these projects and the PPs will be sustainable. Those deficiencies identified by us are:

- ♠ In spite of high benefit potential of BKVY projects to augment benefits to the water users, with regard to the extent to which it has encouraged the water users to take initiative in management of new and derelict lift and flow irrigation projects, we have noted no significant change in the attitude of the people nor there is attitudinal change in the mindset of the officials of MI and OLIC. This is due to lack of proper sharing of information among the beneficiaries as well due to proper training among the beneficiaries as well as the field officials.
- ♠ The formation and structure of PP shows that the PP formation is considered as a formality and nobody takes it seriously. No attempt is made to disseminate the advantages of PP in the rural areas.
- ♠ Peoples' participate in construction of new projects and renovation of old projects is minimal, i.e., they only contribute some labour and few cases surrender their land for construction of field channels.
- ♠ The farmers in the command areas of BKVY projects are rarely stimulated to mobilize themselves to make themselves self-reliant.
- ♠ At many places (especially the sites by OLIC), there is no pump house and in the absence of the pump house, the pumps are exposed to vagaries of weather which results in decreased efficiency.
- ♠ A general observation is that most sites of OLIC are poorly maintained. This refers to maintenance of pumps.
- ♠ It is also noted that even the awareness among the field staff working to promote BKVY projects is minimal and also there is no inducement on their part to learn about various provisions of PP act.
- ♠ It is observed that as the formation of PP is in a nascent state, it needs to be nurtured by the BKVY project implementing agencies. But as there is no provision of funding in subsequent years, these agencies loose interest in providing any help to PPs during operation and maintenance stage of projects.
- ♠ No modern method of water utilization like drip irrigation is attempted in these projects. Nor there is any attempt to have conjunctive use of water. Further it is noted that rain water is not properly tapped to enhance efficiency of the projects.
- ♠ At many places, the channels used for irrigation are not properly designed and are subjected to severe water loss due to evaporation, seepage, breaking of levees
- ♠ The major cause attributed to the weakness is the bureaucratic structure and attitude of the department officials toward BKVY projects. In fact, they are not doing their homework seriously. The OLIC under the present circumstances is forced to participate in BKVY, but they are as inefficient as the MI. On the other hand, OAIC, the new entrant in participating in this programme has taken it up as a challenge and performing better than the other two. They have redefined their conventional role

and accordingly have adopted a commercial approach. Hence, the other two organizations involved in execution of BKVY projects have to learn lessons from OAIC.

♠ Above all, there are not many active NGOs in the region to promote PP, who could bring visible changes among the beneficiaries.

VII Constraints faced in Implementation of BKVY projects

With a view to identify the constraints that the implementing agencies are facing in executing the projects, we had a round of discussions with the officials of all the implementing agencies starting from the Heads of the department to the levels of EE/ AE of MI and OLIC and Branch Managers of OAIC as well as the mechanics and mates, who work with the people at the project sites. The common constraints those affect their efficiency levels and significantly impact the achievements are:

- There is a lack of co-ordination between land, water and the common man (i.e., a mismatch between *Jami, Jal and Jana*),
- Probably, the weakest link of the BKVY projecs is that it does not have a component for operation and maintenance, which results in a higher probability of failures and not to deliver sustainable output,
- Capital cost escalations take place due to a considerable gap between project proposal, project approval and its implementation,
- Lack of proper coordination among other line organization like agriculture, animal & husbandry, fisheries, forestry, soil conservation department and electricity supply company (i.e., WESCO),
- There is no inducement mechanism on the part of the staff to motivate formation of PP and getting the people to be mobilized in making PP a success
- Recovery of 10% of the capital cost from the water users is, in fact, managed in the field. It is adjusted in some pretext or the other. The contribution part is not taken up seriously by the stakeholders. Indeed it is used notionally to complete the formalities of project formulation, and
- Although the BKVY Guidelines have focused on proper monitoring, there is no proper post monitoring mechanism of these projects. The monitoring mechanism is hardly operational in the field,
- There is considerable delay involved in undertaking the survey for energisation of the pump sets, spread of line and finally getting the line charged for electricity distribution / energisation,
- Demoralisation of the staff due to non payment of their salaries regularly nor do they have funds for travel to the site to supervise the work and to educate the people in making PPs effective and functional,
- On the other hand, the MI faces many typical constraints in initiation and execution of projects like getting forest clearance for reservoir as well as canals, shortage of field staff for investigation, getting peoples' participation in the form of application.
- Besides the above constraints faced by the implementing organizations, ***the beneficiaries of the BKVY projects also face some constraints*** which invariably affect the benefit accrual as well as efficiency of the projects. These are scarcity of water for irrigation during the Rabi season, lack of adequate training and knowledge, lack of knowledge as to how to make the PP a sustainable one, no proper skill for record keeping and maintenance of accounts of the PP by the members, raising funds

from among the members, no adequate technical service is rendered by the implementing agencies, i.e., inadequate support from the field level officials, marketing of the cash crops/ vegetables at a remunerative price, lack of adequate support from local financial institutions, and inadequate support from the agriculture department regarding better agricultural practices.

VIII Policy Implications and Suggestions

Our field investigations have established that BKVY has fulfilled many of our planned goals like additional production, income and employment generation. It has further contributed to regional income redistribution and group income distribution, however, with a variation of its impact on different communities. Moreover, as its success is heavily loaded towards the commitments of the project planning and implementing agencies, co-ordination among other government departments and above all on involvement of the people, which can be ensured through proper training and dissemination of best practices from other parts of the country. But in order to exploit these potential benefits for development of the backward area of KBK, we have to offer a number of suggestions for the consideration of the Government:

- First of all, as we know that success of any scheme and its project depends on proper planning and execution, we would like to suggest that the gaps in planning should be bridged first. In this regard, *it is advocated that the line organizations should improve design of projects. In stead of adopting the conventional methods of providing irrigation water through open field channels that reduces the efficiency due to evaporation loss, they should promote alternative means like drip irrigation or supplying water through PVC pipes, which is technically more efficient.*

- Hence, the field organizations should *investigate the possibility of conjunctive use of land and water resources* wherever there exists a potential. Based on the water availability, the potential to harness irrigation water and electricity along with direct generation and distribution of hydel power should be explored at some of the potential sites in Koraput area for benefit of the tribal people.

- In order to improve the irrigation efficiency, it is suggested that while designing the channels care must be taken to minimize losses due to evaporation and seepage. In addition, innovative ideas such as conveying water through pipes may be explored for certain terrains.

- With respect to project formulation, we have noted that though identification of any new project depends on proper investigation through a reconnaissance survey, as the line organizations do not have adequate technical hands, the identification of potential sites are delayed. Hence, it is recommended that most of the vacant posts in these departments may be filled up on a contractual basis.

- As per the guidelines of PP Rule/Act, the SLSC should meet quarterly to clear the projects. But with regard to the frequency of holding SLSC, we have noted that while there were 5 meetings in 2002, only two meetings each were convened during 2003 and 2004. Surprisingly, there was no meeting convened during 2005 and three quarter of 2006. For instance, while the 9^{th} meeting of the SLSC was convened on November 8, 2004, the 10^{th} meeting was held after two years on November 3, 2006. Hence, the

approval process is delayed and the same breeds inefficiency. As the present committee structure is top heavy loaded, the frequency of holding meeting of the Committee at least every quarterly is not possible. Moreover, the Committee does not include any non-official member. In order to overcome these shortcomings, we suggest the following modified structure for consideration of the Government.

- In addition to the present members, the SLSC should include the Chief Administrator of KBK, ***It should also include two non official expert members (one technical person with experience in irrigation administration and another social scientist with expertise in project appraisal/ evaluation, who can render their expertise in screening of the projects***),
- In view of top heavy bureaucratic structure of the SLSC, we ***recommend for creation of a "sub-committee" of the SLSC*** to examine all the proposals as per the guidelines of BKVY. The recommendation of the sub-committee, once approved by the Chairman of SLSC can be communicated to the district magistrate for execution and the same can be placed before the SLSC for ratification.
- The SLSC should meet, at least, twice in a year to ratify the recommendation of the sub committee.
- With regard to the ***composition of the sub-committee, we suggest that it should comprise of five members, i.e., three official members and two non-official members.*** The sub-committee should be chaired either by the special secretary/ joint secretary of the Department of Water Resources and the other members be one nominee of the finance department, one of the Chief Engineers, and two non official member; one retired Chief Engineer and a social scientist with experience in water resource management.
- The proposed sub-committee should meet at least every two months to expedite the process of clearing the projects.

❖ As the present method of calculation of SBCA by the line organizations suffers from many weaknesses and the methods adopted are very traditional and obsolete, we suggest that at the proposal stage of any project, *a proper social benefit cost analysis (SBCA), based on the modern discounted approach, should be undertaken by the project proponents*. More particularly, as the KBK districts exhibit some special features in the country, the positive externalities associated with the projects of this region should be incorporated in the SBCA.

❖ But we have noted that many of the field officials are not familiar with the latest methods of SBCA calculations. Hence, it is *suggested to impart proper training to the field officials.*

❖ Though the BKVY guidelines have made elaborate provision for monitoring and evaluation by Monitoring and Evaluation Committees at the State and district levels at regular intervals, we have hardly come across any BKVY project being monitored in its proper spirit. Specially, the district level committee should be reactivated to resolve the problems in execution of the projects.

❖ In this regard, *we suggest that the district committee should have few non-official members (at least four additional members comprising of one retired irrigation official, one retired agriculture/horticulture expert, one social scientist with specialization in water resources, and a representative of an NGO operating in the district).* As the non-official members will act as a watch dog of the system, the

proposed structure would enhance the efficiency of the BKVY projects as well as that of the PPs.

- It is noted that the farmers are interested in growing cash crops in the Rabi season when the water flow from the streams decreases and thereby reduces the culturable command area of the projects. Lack of sufficient water causes scarcity in the tail end of the canal systems, which need to be strengthened with introduction modern methods of water distribution and use. Besides, wherever the water channels are not lined there is wastage of water to perpetuate the problems. Hence, most of the *field channels should be either lined or water can be supplied through PVC pipes to save seepage and evaporation losses.*

- Our study has identified that there exists a greater scope for revival of derelict flow projects, which is the prime responsibility of the MI department. But unfortunately, owing to lack of any incentive mechanism in the system, very few officials come forward to take initiative in revival of those projects. In view of high potential of revival of those derelict flow projects, *we suggest that an incentive mechanism (in line with South Korean model*) *should be adopted by the Government for BKVY projects.*

- The problems in maintenance of the various components associated with BKVY projects including sustainability of the PPs need more active role by the proponets, who are facing the problems of cash crunch even to visit the project sites to assist the farmers in maintenance of the machinery and to help them in making PPs viable. We have come across many projects of OLIC and OAIC where no officials have ever visited the site after handing over formalities of the project to the PP. In order to overcome this lacuna, ***we suggest that at least three years O&M cost should be capitalized along with the budget estimate of any project, i.e., a part of the maintenance component be capitalised.*** Around 7.5-10% of capital cost should be allocated for the next 3 years to meet the O&M expenses of the project.

- The biggest hurdle faced by the people and the project authorities to get the pump set energized due to non co-operative and vested interests of the electricity companies. Besides, the attitude of the field staff of the electricity companies are not conducive for healthy growth of the projects. Hence, it is suggested that the State Level Monitoring and Evaluation Committee should undertake co-ordination with GRIDCO so as to reduce the delay in supplying electricity to the project sites.

- Even at the district levels, the Collectors, who are supposed to establish proper coordination with the power supply agencies to promptly energize the lift points, should pay due attention to these problems and ensure smooth energization of lift points for reposing the confidence of the people on institutional administration.

- The constraints faced by the beneficiaries like payment of electricity bills when they dismount the pump sets during kharif seasons should be removed with a proactive role of GRIDCO/ WESCO.

- Besides, we would like to argue that the maintenance of existing electrical components (transformer etc.) should be *performed by the respective departments in*

collaboration of the district administration and the PPs at least for three years and then handed over to the people.

- It is proposed in the guidelines for BKVY that the assts of the projects should preferably be insured against natural calamity, theft etc. In view of the risk factors involved in the projects, more particularly with lift points, which are susceptible to theft, fire, and flood etc, the possibility of providing insurance coverage be extended by the Government on the basis of cost sharing.

- As it is noted that there has been no assistance from the officials of agriculture and horticulture department in all aspects of crop husbandry, it is suggested that they should be roped in planning and operation of BKVY projects. Since Agriculture / Marketing / Water Resources components of a *project need proper coordination to achieve higher success, we urge upon the Government to strengthen the present system in coordination and collaboration with the local people.*

- At the project level, *proper training be imparted to the people to actively participate in the management of the irrigation system* and proper co-ordination among the field organizations of the Government be established under the guidance of the KBK authorities.

- The PP represents a partnership effort that will tend to encourage people to commit their skills and develop capacity and energy to solve their own problems. But in this regard, we have noted some lacuna like lack of political and bureaucratic will, lack of enthusiasm among the members, resource sharing, revenue collection and sharing. Since the concept of PP is still based on an approach flowing from the state machinery rather than proposed by the people themselves, its viability and sustainability is very much depended on the role of the NGO, who has to play the role of a change agent. Hence, *we suggest that more and more NGOs be involved in making the PPs sustainable.*

All these suggestions need to be debated in thread bear at different levels of the State to arrive at some viable alternative solutions for the optimum utilization of the scarce land and water resources of a region like KBK.

SUMMING UP:

Our study has established that BKVY has a good potential to improve the socio-economic conditions of the people of the KBK region and to fulfill our planned goals of group as well as regional income distribution. The BKVY has, no doubt, strengthen and expanded the irrigation infrastructures in the KBK region that has helped in accelerating the rate of growth of income, output and employment in this backward region. In view of this high potential***, we suggest that this programme should not only be continuing with central assistance but also be strengthened in future years to come***. However, we have foreseen that the likelihood of achieving the objectives of BKVY by 2010 is very much dependent on financial resource allocations as well as flow of funds from the Central Government, and Government of Orissa, for which there should be a bureaucratic commitment and proper political-will.

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PHOTOGRAPHS & ANNEXURE / TABLES

Post Evaluation Study of Biju Krushak Vikas Yojana (BKVY) and Pani Panchayats (PP) in KBK Districts of Orissa

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Government of Orissa

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CONTENTS

Chapter I : Genesis of BKVY/PP in Orissa

1.1 Introduction

It is well established that the state-owned system of managing the irrigation projects has miserably failed in our country due to many structural problems. There are instances in which the authorities find it difficult to operate and maintain the projects with the amount of grant received from the Government budget (Rath, 1993; Mitra, 1998). There is no incentive for efficiency or accountability in the system (Rath, 2003). It is also noted that in addition to many planning and design level problems, more administrative problems are faced during executions and operation and maintenance of the projects. The **Public Accounts Committee on Irrigation** (1983) had noted that "*the entire planning process of irrigation project is faulty. There have been serious slippages in major and medium irrigation projects."* In view of these problems, the various National Water Policies have laid great emphasis on farmers' participation in irrigation management. It is envisaged that participation of the people can not only improve the performance of the irrigation projects but also can resolve many issues and problems associated with irrigation so that the economic conditions of the poor masses can be improved. The World Bank, which has supported our irrigation development and funded our CADA programmes, had advised the Government of India to introduce water reforms tilted towards a people-centric approach. Being influence by the success of *Pani Panchayat* and *Warabandi* in different parts of the country and in view of the World Bank policy/advice, the Government of India adopted a participatory approach in the National Water Policy 1987.

Though Orissa is endowed with vast water resources through its chain of river systems, but paradoxically enough almost every year it faces the problem of drought or floods. This implies that water resources are not optimally used. Many of its old irrigation systems have failed to deliver sufficient water for the farmers due to poor management of the system (Rath, 1993). Most of the minor irrigation projects had become defunct due to lack of proper operation and maintenance, which was a result of shortage of funds for the projects. The present practice of budgetary allocation based on ayacut-certification by the revenue authorities, results in low water rate collection in which the department has no role to play. Moreover, lack of peoples' participation in management of these projects is also recognized as one of the main causes of poor performance of the irrigation projects. Even the CADA system, which is based on a top-down approach, could not generate enough enthusiasm among the farmers to participate in irrigation management. In view of the relatively low status of water resources development and majority of the farmers being small and marginal farmers (around 75%) with a large number of poverty stricken people (around 45%) in the State, the Government of Orissa realised that it is necessary to address these issues relevant to it within the frame work of national and global water policy. Accordingly, it enacted a new State Water Policy in 1996 that introduced some amendments in the Orissa Irrigation Act, 1959, Orissa Irrigation Rules, 1961 as well as its Revised Rules, 1974. As the new policy envisaged a reorganization in the structure of administration, it reorganized its Department of Water Resources (DOWR) and created a Water Resource Board in 1993 to plan, execute and co-ordinate the utilisation of the water resources of the State. Besides the reorganization, in order to overcome the problems in irrigation, in the mid-1990s, the Government of Orissa approached international funding agencies like the World Bank and the Department For International Development (DFID) for funds to renovate the projects. Through their post evaluation studies these organisations had identified the weaknesses in the system and then advised the Government to resort to people participation in irrigation management and also to slowly disinvest in irrigation sector. In addition to these advices, there had been a significant change in our National Policies with focus on decentralized management structure, the Government of Orissa had adhered to the policy of users participation in all aspects of water planning and management by handing over of Operation and Maintenance (O&M) of irrigation systems to the users in due course. Thus, in 1996 it decided to introduce Pani Panhayat (PP) in the

State on a pilot basis and due to its success Government of Orissa has legalized PP vide Orissa Irrigation (Amendment) Rules, 1999. In order to further strengthen the PP movement in the State and with a view to extend irrigation network either by taking of new projects or by renovating the dilapidated and defunct projects, the Government introduced a special programme titled as *Biju Krushak Vikas Yojana (BKVY) in 2001*.

In 2002, inaugurating the 'Awareness Campaign' of 'PPs Programme', the Chief Minister of Orissa, Mr. Naveen Pattanaik had reiterated that ***PPs will open the door to development by ensuring the direct participation of farmers in the management of irrigation. Emphasizing the need to transform the PPs as a 'mass movement***' he had indicated that very soon the '*Biju Farmers, Project"* would be implemented in the State. The estimated budget of the new project would be Rs. 1000 crores and in the said programme 80% of the funds will be utilized through PPs. He had further assured to strengthen the tube well irrigation through the scheme of ***'Operation Trushna"***, where it is proposed to introduce PPs too and also disinvest in the state run "Tube-Well. Corporation".

In tune with his vision, both *BKVY* and Pani Panchayat have been extended to all the command areas of different irrigation projects in the state including all the new projects. The programmes have also been extended to the KBK districts under Revised Long Term action Plan (RLTAP) in the KBK districts to augment higher income and employment opportunities for the poor farmers so that their standard of living would go up.

1.2 Government of India's Policy towards greater Participation of Stakeholders

In view of the problems associated with harnessing of our water resources, various Commissions and Committees set up by the Government of India as well as the post-evaluation studies undertaken by the researchers have had recommended for an integrated approach towards water resources of the country to meet the growing demand of water in various sectors of the economy. It was argued that the growth process and the expansion of economic activities would inevitably lead to increasing demands for water for diverse purposes: domestic, industrial, agricultural, hydro-power, navigation, recreation, etc. It was further suggested that well coordinated common approaches and guidelines are necessary at the national level to tackle the recurring problems of draught and flood and to meet the emerging demands. Hence, it was realised by our policy planners that there is an urgent need for the utmost efficiency in water utilisation and a public awareness of the importance of its conservation. It was recognized that the harnessing and utilisation of this important resource has to be guided by national perspectives. The need for a national water policy was thus abundantly clear, i.e., ***water being scarce and precious national resource should be planned, developed and conserved as such, and on an integrated and environmentally sound basis, keeping in view the needs of the States concerned.*** Being influenced by these issues and problems, in 1987, the Government of India announced it "National Water Policy", that recognized water as a prime natural resource and a basic need of human life. It was further envisaged that the planning and development of water and related land resources should be directed to improve the quality of live as well as the environment. The policy laid focus on:

- Integrated and Multi-disciplinary Approach to the planning, formulation, clearance and implementation of projects, including catchment treatment and management, environmental and ecological aspects, the rehabilitation of affected people and command area development. Focus on Environmental Impact Assessment (EIA) during project planning,
- Promotion of Appropriate Organisational Structure,
- A well-developed Information System based on Data Management,
- Maximizing Availability of Water to the users,
- Multi-Purpose Use of Water Resources as well as integrated and coordinated development of surface water and ground water and their conjunctive use,

- Proper Maintenance and Modernisation of projects,
- Water Allocation Priorities in the rank order of Drinking Water, Irrigation, Hydro-power, Navigation, Industrial and other uses. However, these priorities might be modified if necessary in particular regions with reference to area specific considerations,
- Water allocation in terms of equity and social justice. Disparities in the availability of water between head-reach and tail-end farms and between large and small farms should be alleviated by adoption of a rotational water distribution system and supply of water on a volumetric basis,
- Participation of farmers and voluntary agencies in various aspects of management of irrigation systems (i.e., Participatory Irrigation Management (PIM),
- Command Area Development Approach to bridge the gap potential created and its utilisation,
- Fixation of water rates so as to convey the scarcity value of the resource to the users and to foster the motivation for economy in water-use. The rates should be adequate to cover the annual maintenance and operation charges and a part of the fixed costs,
- Water Conservation consciousness should be promoted through education, regulation, incentives and disincentives,
- Flood Control and Draught and Management
- Application of Science and Technology, and
- Perspective plan for standardized training should be an integral part of water resource development. It should cover training in information systems, sector planning, project planning and formulation, project management, operation of projects and their physical structures and systems of the water management. The training should extend to all the categories of personnel involved in these activities including the farmers.

1.3 Peoples' Participation in Irrigation Management: Results from other States

Although the Government of India announced its new policy, water being a concurrent subject, its impact is primarily dependent on the policies of the respective State Governments. Thus, the Government of India, through its circulars and letters, persuaded the States to announce their new policies and to work towards efficient management of our water resources in tune with the national policy. Among the states those have taken lead in this direction are Maharastra, Punjab, Haryana, Andhra Pradesh, and Rajastan. Each State has announced its own policies and have encouraged peoples' participation by forming Water Users' Associations(WUAs) or Pani Panchayats. Of course, the *WARABANDI* system that was in operation in Punjab and Haryana, was a bright example of farmers' participation in irrigation management. The Warabandi system had brought a number of advantages to the farmers in terms of higher productivity as well as equity in water distribution.

With regard to the success of PIM, many such success stories are reported from different parts of the country. But the rate of success is more prominent in Maharastra, which has a long tradition of farmers' participation in agriculture and irrigation through co-operative efforts. Way back in 1938, the Irrigation Enquiry Committee (known as Visvesvaraya Committee), appointed by the Government of Bombay, had examined the causes of underutilization of water in the command areas of large irrigation projects and had recommended to entrust distribution of water to cultivators themselves wherever practicable by organising Irrigation Co-operative Societies or Pani Panchayats for the purpose. Adhering to the recommendation of the Committee, a couple of WUAs were established in 1930s in the Godavari canals at Samvatsar, Ahmednagar district, and also in the Neera project in Pune district.

In the post independence period with the advent of democracy, the concept of water users' participation was revived and strengthened in Maharastra. In order to broad-base farmers

participation in water resource management, the erstwhile Government of Bombay framed rules in 1947 for formation of *Canal Advisory Committees and Water Panchayats.* The Canal Advisory Committees were primarily meant to advise the Executive Engineers on crops, irrigation intervals, dates of planting, etc. On the other hand, the Water Panchayat Committees were envisaged as intermediaries between the irrigators and the Irrigation Department with some executive functions. Since democratic participation was introduced in the Water Panchayats, the irrigators were electing three to seven members (known as Punchs). The main functions of the Panchayat were to prepare the rotational schedule, to estimate the requirements of water, to supervise water distribution among members, settling of complains and conflicts, and to make suggestions to irrigators for equitable and economic use of water. In order to meet the administrative expenses of the Panchayats, they were empowered to collect 3.125% of the water rates payable to the Government. However, this well conceived initial step towards farmers' participation in irrigation management did not materialize due to structural problems. Again though attempts were made in the 1960s to hand over some minors on the Neera and Pravara system to local WU groups, the same attempt could not fructify. The next landmark in farmers' participation took place in the early seventies when, as a part of the national policy, Command Area Development Authorities (CADA) were constituted for few major projects for promoting better, efficient and collective use of water. The CADA system was more involved in co-ordinating the activities of different departments/ agencies for better farm management practices and infrastructure works. Promotion of farmers' participation received hardly any attention. Of course, in some command areas, village irrigation councils were established by way of nomination to organise the farmers to pay on a volumetric basis but none of these functioned. However, to involve the people in a formal manner, in 1984, the ID promulgated the "Outlet Committee Rules, 1984" which conceptualized the "Group Irrigator" system. The Group was to elect a Panch for the "Water Panchayat Committee" that was empowered to collect Rs 50 per ha. of CCA for the maintenance and repair of community items. For other expenses, the committees were allowed to collect 1% of irrigation charges payable to the Government. Even though conceptually the State Government Policy provided for promotion of farmers' participation, there was no material success at the field levels due to lack of co-operation from the field officials. In the meantime, in September 1985, the Ministry of Water Resources (MoWR), GOI issued a circular to all State Governments expressing its anxiety over the lack of farmers' involvement in irrigation systems. With a view to bring farmers participation, it suggested that NGOs should be involved in the process of farmers' participation in irrigation management. It further suggested to the CADA that without waiting for NGOs, one minor in each CAD project should be selected as a pilot for farmers' participation with 50 % of grants from the central Government.

But with the announcement of the New Water Policy of GOI in 1987, the Government of Maharastra (GOM) decided to launch pilot experiment of farmers' participation in water management. Since, the new policy had envisaged the role of an NGO/ activist to motivate the farmers to form WUAs, the GOM assigned the task of organising the farmers in the Mulla Irrigation system in Ahmednagar district to the Centre for Applied System Analysis in Development (CASAD), Pune. With the persuasion of CASAD, a WU society was registered and a MOU was executed with the ID in 1989. The society took over the management from 1989-90 and since then operating successfully in the area. The achievements of the society are as follows:

- ♥ Water use efficiency has gone up significantly,
- ♥ Crop productivity has increased by 25%,
- ♥ Confidence level of farmers have significantly gone up due to less dependency on the irrigation officials,
- ♥ Dispute settlement has become easier,
- ♥ Payment of water charges to ID has become prompt and the recovery from farmers is about 90% as compared to 40-50% in the non-society commands,
- ♥ Malpractices in water delivery are checked and better delivery registered,
- ♥ Inadequacies of irrigation system are removed by the society,
- ♥ Farmers have adopted improved farm water application methods,

♥ The society has earned modest profit in the very first year of its operation,

Thus, it can be inferred that the participation of farmers through WUA in the irrigation management has resulted in *efficiency, effectiveness, and expansion* of agriculture in the command areas and thereby helped to achieve the planned goal of eradication of poverty in the rural areas. Similar success stories are reported from Andhra Pradesh, Rajastan and Punjab. With this background discussion on success of WUAs/ Pani Panchayat, an attempt was made by us to examine the impact of Pani Panchayat in a backward State like Orissa.

1.4 Status and Structure of Pani Panchayat in the State

Pani Panchayat, being a decentralized managerial structure, envisages that while the responsibility of operation and maintenance of the reservoir/diversion weir (as the case may be) of Dam, Spillways, Sluices, Primary and Secondary distribution networks etc. rests with the DOWR, the responsibility of O & M of the tertiary system, i.e., below minor / sub-minor will be vested with the PPs.

Out of the 50 pilot projects which were registered, the formal hand over of the system to the people took place in April, 2001 for 40 PPs and the rest 10 were handed over subsequently. As they envisaged a lot of benefits to them, they became enthusiastic in taking up the management of their respective canal systems for better control and management of the distributaries. Thereafter, the Government had identified another 29 irrigation projects covering an area of over 3 lakh hectares for its second phase expansion of PP schemes. It was estimated that 688 Panchayats can be formed to look after the irrigation system in these projects. The success of the first phase had also enlarged the vision of the irrigation planners and a considerable confidence was generated to spread the concept of PIM amongst the farming communities in the state. In the capacity building process, the WALMI took active part in the training of the officers and farmers on the fields as well as at its headquarters in generating a conducive environment for promotion of PIM and formation of PPs in the State.

➢ **Structure of the "Pani Panchayat" in the State:**

i) The Pani Panchayats are formed on a three-tier system with two informal associations and one formal association on minor/sub-minor basis comprising an ayacut ranging between 300-600 hectares.

ii) Chak Committees per outlet are formed taking one farmer each from high land, middle land and low land areas of the ayacut. A representative from the chak committee will be a member of the executive body of the PP. Each PP will have a President, Secretary, and Treasurer.

iii) Each beneficiary landowner within the ayacut of the concerned minor/sub-minor qualifies to be member of the concerned PP.

iv) For registration of PP, a minimum of 51% of the beneficiaries, possessing 60% of command area, are required to be members. To be eligible as a member in PP, a token membership fee Rs. 10 or as is decided by the PP is charged. Registration of the PP is done along with necessary document like bye-law, general body resolution etc. and by depositing necessary amount with the registering authorities.

v) A fund be created in the from of share capital with the contribution of the member of PP proportionate to their land holding plus a part of the water rates (Rs 35 per acre) in order to take up maintenance work of canals or to attend any work of emergent nature. The authorized office bearers of the Pani Panchayat will spend the amount.

vi) There will be an "Apex Committee" in each command area, comprising of all the presidents of the WUAs and with invited official members to prepare the canal operation schedules, O& M of the system, cropping patterns etc and to undertake the over-all co-ordination among the PPs.

1.5 Performance of PP in Orissa: Our Earlier Study Results

With a view to review the performance of Pani Panchayat in the State, we had undertaken a post evaluation study of two project sites, namely, Derajang and Aunli Medium Irrigation Projects of Angul district. The field-work was carried out by us during June-July, 2001. In addition to the secondary data collected from the officials of the irrigation department, who are located at Angul, a specially designed questionnaire was canvassed among the members of the PP in few villages, i.e., Gramashree Water Users Association and Swarnprau Water User Association in the command area of Derjang project. In addition to these data, we have extensive discussion with the field level officials on different aspects of the PP. The findings of our post evaluation study are presented below:

- ♣ Our study had established that peoples' participation in irrigation management have improved the economic efficiency as well as x-efficiency of the projects because the traditional water distribution pattern has been recharged towards a people centric approach.
- ♣ In view of the rise in income levels of the poor farmers and owing to the associated benefits to all stakeholders, it was noted that PP had contributed to fulfillment the national objective of poverty eradication, and establishment of equity and social justice. Hence, we recommend that the PP / WUAs be strengthened in a poor state like Orissa.
- ♣ The PP has not only improved the performance of the irrigation projects but has resolved many issues and problems associate with management of irrigation. Thereby, the governance of irrigation has improved significantly.
- ♣ The study has further reiterated the findings of others that the machinery of the State sub-optimally governs irrigation projects, where there are no incentives for the honest and efficient staff nor there is accountability for their failures. There is no transparency in the system too.
- ♣ In spite of introduction of PP in the State, we have noted that the various departments like irrigation, agriculture, animal husbandry, horticulture and the revenue still lack commitment and co-ordination. The social orientation of the bureaucracy is yet to achieved in Orissa, which calls for strengthening the training component of the Programme.
- ♣ It has been observed by us that the middle and higher level officials of the irrigation department are enthused to push forward the idea of PP because many of them envisage that this will provide them opportunity to minimize the political pressures on them regarding maintenance of the tertiary irrigation net works. They feel that it will reduce the political interferences in their day-to-day managerial functions.
- ♣ The present practice of collection of water rates from the farmers is replete with many loopholes, which need to be urgently reviewed. The present practice that the revenue officials will certify irrigation ayacut after a joint verification by the staff of both revenue and irrigation department provides no challenge for the officials of irrigation department. They even do not know how much area is certified by the revenue department and how many farmers are charged the water rates. The lack of involvement of the irrigation officials in water rate and cess collection is one of the major reasons for the poor health of many irrigation projects in the State.
- ♣ As the District Magistrate/ Collector is assigned all revenue collection on behalf of the Government, he is not bothered to know how much revenue coming from which head of account. As soon as his earmarked quota (which is generally assigned to each DM) is fulfilled, he relaxes in collecting rest of the dues from the people. Thus, in my judgement the present practice of revenue collection is not geared towards efficient collection, which needs to be incentive oriented in our system.

- In order to overcome these problems, I suggest that the Government should follow the Korean system of organizational structure of irrigation administration in which both the individual and collective incentives should be promoted. Though PP is based on a mix of centralized and decentralized system of management of irrigation system, we have envisaged some problems in full implementation of the PP. Hence, we would like to suggest that the help of the NGOs and activists be sought even at the execution and operation of PP. They will play a catalysts role in resolving the ensuing problems of execution of PP. The NGOs can bring better/ co-ordination among all the stakeholders. Alternatively, in the absence of NGOs, the local academic institutions can be involved through their NSS activity to motivate the people to actively participate in the PP and discharge all assigned responsibilities.
- The rise in crop productivity and the subsequent increase in net income of the farmers indicate that the water rate paying capacity of the farmers has gone up. The Government should exploit this opportunity to collect the arrear water charges from the farmers as they may not hesitate to pay their dues.
- We feel that PP will be one of the good instruments to fight the problem of recurring phenomena of draughts and floods in the State.
- With a view to improve the financial health of the irrigation projects, it is suggested that the water rate collection be assigned to the irrigation authorities and the same should be based on incentive system (both individual and collective) where any additional collection over the targeted one should be shared by the field officials who are responsible for collection.
- Finally, we envisage that a successful implementation of PP through active participation of all stakeholders will lead to a **Pareto improvement superior situation** in which everyone stands to gain; farmers are better off, government revenue increases and the burden of the officials reduced**.** Hence, PP is one of the good instruments of governance of our ailing irrigation systems, which ought to be extended to all irrigation projects in the country over time.

1.6 Features of Biju Krushak Vikash Yojana

As mentioned above, the success of PP in the pilot project areas as well as owing to the broad vision of the present Chief minister, Sri Nabin Patnaik, in 2001-02, the Government of Orissa launched the special scheme of *BKVY,* coupled with Pani Panchayat to all the command areas of different irrigation projects in the state including all the new projects. The BKVY /PP was also extended to the KBK districts under Revised Long Term action Plan (RLTAP).

The special features of the BKVY programme are that it is not only based on some ambitious goals, but it envisages many new managerial approaches like stakeholder involvement, a novel method of identification, planning, execution as well as O& M of the projects, and new funding plans, fixation of target groups, transparency, risk management and above all on a sustainability approach, which are elaborated upon to provide a broad base for our evaluation study.

i) **Objectives of the scheme**

The main objectives of the scheme are:

- ✓ to encourage water users to take initiative and participate in construction and management of new and derelict lift and flow irrigation projects,
- ✓ to stimulate mobilization of farmers to make them self reliant,
- ✓ to strengthen and expand irrigation infrastructures to accelerate the rate of growth of income, output and employment in the rural areas and
- ✓ to remove regional imbalances in irrigation coverage.

ii) Process of Project Formulation, Screening, Approval, and Execution

With a view to initiate effective planning and successful implementation the projects for the benefit of the people, the following steps are envisaged in the BKVY programme:

- The project proposal has to be submitted to the District Collector with the details of water sources, the approximate ayacut area, list of users (with the name of the leading applicant), names of the village, GP, Block, Tahasil and district.
- In the case of lift irrigation project, the collector will forward the proposal for a study of technical feasibility to OLIC or OAIC.
- In the case of flow irrigation project, the collector will forward the proposal for study of technical feasibility to the EE, MI, if the ayacut area is over 40 ha.
- In the case of MI projects of less than 40 ha, the collector can get the feasibility study done through ITDA/DRDA/Soil conservation, etc.
- After the project is found to be technically and economically feasible, the proposal should be forwarded within seven days along with the application form, feasibility report with social benefit cost analysis and other relevant documents to the Secretary, DOWR.
- However, minor irrigation projects of less than 40 ha of ayacut area and LI points may be funded by the DRDA/ITDA, etc.
- The Collector should forward the proposals to the Secretary Department of Water Resources, Government of Orissa in the order of priority adopting the criteria given in the guidelines.

♣ Screening of the Projects

- There shall be a State Level Screening Committee (SLSC) for the projects funded by the Department of Water Resources, consisting of (i) the Chief Secretary, Chairman, (ii) the Development Commissioner, member, (iii) Principal Secretary, Finance Department, member, (iv) Principal Secretary, Water Resources Development Department, member and convener.
- The state level screening committee will examine the proposals and approve or reject the proposals within one month of the receipt of proposals.
- The list of projects accepted and rejected will be communicate by the committee to the District Collector for appropriate action.

♣ Project Implementation

- The District Collector will start the implementation of the project after the project is sanctioned through an appropriate implementing agency.
- In the case of lift irrigation project funded by the DOWR, the Collector shall have the project implemented either through the OLIC or through OAIC.
- All flow irrigation projects having an ayacut area of more than 40 ha shall be implemented by the DOWR.
- In the case of flow irrigation projects will less than 40 ha of ayacut, the District Collector can select any other implementing agency/ department.
- The users must contribute their share of the project costs, well before the project implementation is complete. Their contribution can be in cash, materials labour, land, etc.
- The District Collector may decide to execute the project even through the users groups if he is satisfied of their competence. He should record his reasons for such satisfaction.

♠. Funding of BKVY Projects

- Sources of funding shall either be RLTAP for KBK districts or NABARD, or DRDA, or ITDA, or WODC, OSFDC or external donors.
- The users will contribute 10 to 20 percent of the project cost either through labour, land, materials, cash.
- In tribal sub-plan areas and KBK districts, the contribution will be 10% of the capital cost, and 20% in other areas.

♠ Target Groups of the scheme

- ✓ A group of at least seven farmers who own land in the proposed command area, irrespective of income and caste category can submit a proposal for lift or flow irrigation project.
- ✓ They should express their willingness to contribute their share of the project cost, to form Pani Panchayat in the project and to operate and manage the project in a self-reliant and sustainable manner.
- ✓ They should also collect user charges at an appropriate rate to meet the operation, maintenance and replacement cost of the project. They will not be required to pay water tax to the government or OLIC/OAIC.
- ✓ Preference will be given to areas with low irrigation coverage, to Pani Panchayat consisting of women farmers, tribals, small and marginal farmers.
- ✓ The size of the command area should be at least 4 ha in the case of LI projects.

♣ Linkage with Pani Panchayat

- ❖ The users must register themselves into a Pani Panchayat before the project implementation starts.
- ❖ For this purpose they must acquaint themselves with the provisions relating to the Pani Panchayat and fulfill its terms and conditions.
- ❖ The Pani Panchayat will not pay any water tax to the government. In stead, it shall collect users charges at an appropriate rate from the members for the recovery of the operation and maintenance expenses, and cost of replacement of equipment, if required.
- ❖ In the case of LI points the Pani Panchayat will execute agreement with the power supply organization.
- ❖ They may also execute the LI projects themselves.

♠ Approach towards Sustainability

- ❑ To make the project sustainable, a part of the earning of the members from the use of water should be appropriated to meet the future requirements of replacement and renewal of assets, unforeseen expenses, any legal obligation insurance claims for the projects etc. This amount should be placed in the Pani Panchayat Fund.
- ❑ The users should acquire basic capability and skills in operation and maintenance of project equipment. DOWR will render all assistance in this regard.
- ❑ The users should acquire the knowledge of modern agronomic practices and adopt remunerative cropping pattern to improve cash inflows for the project.
- ❑ Insurance of project equipment and other items should be undertaken by the users.

➢ **Transparency**

- The selection, implementation ad operation of the project must be transparent.
- The right to information of all the claimants to the project, such as, applicants, workers engaged in the project, project affected persons, ultimate users of the project must be respected.
- The list of projects received, under screening, accepted ad not accepted, under implementation and completed along with the names of leading applicants and appropriate date and time should be displayed at prominent locations for wide publicity.

♣ **Monitoring and Evaluation**

- Monitoring and Evaluation Committees at the State and District level shall be formed to undertake regular internal monitoring and evaluation of the projects.
- The District level Monitoring Committee will consist of the District Collector (Chairman), EE, OLIC, BM, OAIC,EE, PD, DRDA, PA, ITDA, EE of GRIDCO, Lead Bank Manager, DWO, DAO, and Horticulturist. Others may be co-opted as special invitees according to the requirement. Participation of the representatives of users should be encouraged in M& E.
- This committee should meet as many times as felt necessary by its members.
- The State Level Screening Committee should meet at least once in a quarter.
- A schedule of inspections should be drawn up by each committee and field inspections should be undertaken according to the requirements.
- Enquiries into all allegations should be made by a competent officer or a team of officers authorized by the committee.
- Evaluation of the project should be undertaken on the basis of the success indicators as prescribed below.

♦ **Risk Factors**

- There may be very large number of applications, and selection may not be prompt and become unfair.
- There may be delays in feasibility study, screening, implementation, engergization and commissioning of the projects.
- There may be cost overruns due to the delay.
- Details of Pani Panchayat may not be widely known and registration of Pani Panchayat may be difficult.
- The project benefits may not be sustainable.
- The project may be vulnerable to natural calamities.
- The Pani Panchayat may be weakened due to intra-group conflict.
- The economic returns from the project may not be maximized due to non remunerative cropping pattern arising out of unfavourable demand and supply factors (bias for traditional crops, lack of knowledge, poor integration with markets due to geographical, social and other barriers, primitive post-harvest handling system, etc.)

➢ **Risk Management**

- To avoid unfairness, criteria of maximum welfare to maximum numbers with preference to weaker sections of society will be adopted (fairness and efficiency criteria)
- Projects with higher social benefit-cost ratio will be preferred.

- Projects with larger number of farmers and preponderance of weaker sections will be accorded priority.
- Projects in low irrigation coverage districts will be preferred.
- To avoid unfairness as well as delays in feasibility study, the collector should forward the proposals to the designated agencies/Department on a "first come, first serve basis" within 7 days of receipt of the proposal. A register of the proposals received with date and time of receipt, date of forwarding to the designated Department should be maintained. After the feasibility study report is accepted, the proposal should be forwarded along with application form, feasibility report, social benefit cost analysis, and other relevant documents to the screening committee within 7 days of the submission of all the reports.
- To avoid delays in screening, the state level screening committee should sit at least once in a month and examine the proposals on the basis of aforesaid "fairness and efficiency" criteria.
- Similar register as mentioned in 10.5 should be maintained at the state level in a chronological order.
- To avoid delays in implementation, the implementing agency should follow the prescribed PWD code.
- The users should form the Pani Panchayat as soon as funds are allocated for their project.
- The users should divide their contribution as soon as the implementation begins and a call for their contribution is made (margin call)
- Collector should ensure some proper coordination with power supply agencies to promptly energize the lift points.
- Collector should divide all requisite information regarding the Pani Panchayat to the approved applicants with the help of officials of DOWR in order to avoid any difficulty in the formation of Pani Panchayat.
- Due care should taken for the formation and expansion of the Pani Panchayat Fund to make the project benefits sustainable.
- Regular meetings a transparency in the conduct of affairs of the Pani Panchayat should be maintained in order to avoid intra-group conflict. The needs of tail end farmers should be given greater attention while taking decisions. Members should be directed to make regular and proportionate subscription to the Pani Panchayat Fund. Non-cooperative members may be expelled from the group in a democratic manner by a two-third majority of all registered members.
- The assets of the project should preferably be insured against natural calamity, theft, etc to the extent possible.
- The users should be motivated to adopt a low cost, low risk and high return cropping pattern to maximize earnings. They should be trained to follow modern agronomic practices.

This study was commissioned to Indian Institute of Technology, Kanpur Prof. Rath as the Principal co-ordinator and Dr Mohaptra as the co-coordinator to examine the efficacy of the scheme in relation to the various objectives and targets set above. Accordingly the objectives of the study were set in consultation with the officials of the Planning and Coordination department of Government of Orissa.

1.7 Objectives of the present Study:

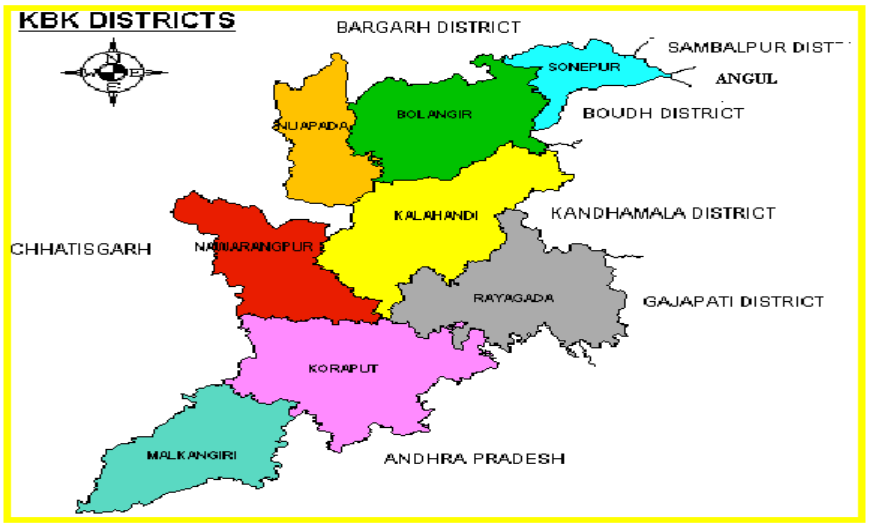
In tune with the TOR of the study and after consultation with the officials of Government of Orissa, it is proposed to investigate the following broad aspects associated with planning and implementation of BKVY/PP in the KBK districts:

- To gauge the direct and indirect impacts of BKVY programme in the KBK region,
- To evaluate the extent to which the objectives of the BKVY Programme and associated PP schemes have been achieved so far,
- To assess the likelihood of achieving the objectives of BKVY by 2010,
- To investigate the formation and structure of PP as well as the modus operandi of implementation BKVY in the region,
- To identify the problems faced in constitution of various committees under PP,
- To investigate the impact of PP on drought proofing, on poverty alleviation and the extent of ensuring improved quality of life for the people in the KBK region,
- To identify the constraints that the implementing agency responsible for implementation of the Programmes / schemes faces and to the extent these constraints impacted the achievement,
- To identify the constraints faced by the beneficiaries, the nature of the constraints and the extent to which they impacted on benefit accrual,
- To ascertain special efforts, if any, made by the implementing agencies to avoid failures and or to promote success of the programme,
- To examine the pattern of utilization of funds under BKVY and the method of implementation of various developmental activities / schemes / programmes.
- To identify the deficiencies and shortcomings in implementation of different components under RLTAP,
- To provide innovative suggestions for appropriate reforms and correctives measures for improving programme design and implementation of strategies,
- To identify “Best Practices” if any, based on the experiences from other projects sites of the country, and
- To suggest/recommend specific measures needed to achieve the objectives of programme/scheme.

Chapter II: Progress of BKVY/PP in the KBK Region

2.1 Salient Features of the Koraput, Bolangir & Kalahandi (KBK) districts

The undivided districts of Koraput, Bolangir and Kalahandi (popularly known as KBK region) have since 1992-93 been divided into eight districts: Koraput, Malkangiri, Nawrangpur, Rayagada, Bolangir, Sonepur, Kalahandi and Nuapada. These eight districts comprise of 14 Sub-divisions, 37 Tahsils, 80 CD Blocks, 1,437 Gram Panchayats and 12,104 villages are surrounded by Andhra Pradesh on the eastern and southern part, Chhatisgarh and Bargarh district of Orissa on the west side, and Gajapati, Kondhamal, Boudh, Angul and Sambalpur on its northern side. The map below shows the location of the KBK districts.



The KBK districts exhibit some special feature not only in Orissa but in the whole country in terms its tribal dominance, extreme poverty, socio-economic backwardness, prone to natural disasters and above all, owing to frequent press coverage of loss of human lives due to food scarcity. Simultaneously, it possesses vast natural resources which are either over exploited or at a nascent stage of proper harnessing of those resources. Some of those salient features of the region are summarized as:

- ✓ Tribal communities (38.72%) dominate this region
- ✓ Socio-economic indicators highlight the backwardness of this region
  - Around 72% of people in the KBK region are living below poverty line.
  - The population suffers from high morbidity on account of under-nutrition as well as endemic malaria and other localized diseases.
- ✓ Rainfall is generally erratic and unevenly distributed.
- ✓ Irrigation facilities (both surface and lift) are inadequate. Thus, the region often experiences problems of moisture stress in the form of drought.

♦ At present all the eight KBK districts are ecologically disturbed. More than 50% of forests of these districts are degraded due to mindless harvesting of forest resources and also due to the tribal practice of shifting cultivation. This aggravates the problem of poverty in the region.

- Problems of soil erosion and land degradation are common.
- The agricultural productivity some of the traditional crops like rice is very low. Per hectare yield of rice in the KBK district is substantially lower than other districts and more particularly of the coastal districts.
- Employment opportunities in the region are limited. Agriculture, which is the major economic activity, does not generate adequate avenues of employment for the rural poor. As a result, many men and women go out to urban areas both inside and outside the State in search of employment. This leaves the old and infirm in the villages

The KBK districts have been historically rich in forest and mineral resources. Though the people have been using these forests very intensively and eking out their livelihood from this source, forests of this region have not received adequate investments and managerial inputs over time. Intensive use of forests for sustenance coupled with lack of insufficient investments and managerial inputs are, thus, continuously leading to forest degradation. Although one third (16,131 sq.km.) of the geographical area of this region is recorded as forests, only 11.3% (5,473 sq.km) is actually dense forest (i.e., with crown density over 40%) as per satellite imagery data. It has been further ascertained that 9% (4,332 sq.km.) forest area is completely devoid of vegetal cover. Another 13.5% (6,327 sq.km.) forests are open having crown density more than 10% but less than 40%. The rich mineral resources are harnessed on the region by the public and private sector units, without being able to generate any linkages in the surrounding area.

The old Koraput and Kalahandi districts and portions of Bolangir districts are mainly hilly. Severe droughts and floods also often visit this region and some areas in quick succession. Therefore, backwardness of this region is multi-faceted: (i) tribal backwardness, (ii) hill area backwardness, and (iii) backwardness due to severe natural calamities.

In view of special problems of the KBK region in terms of concentration of poverty stricken people, tribal dominance, hilly terrain, poor infrastructure and more backward population, the Government of Orissa as well as the Government of India have had been recognized this region as a special development zone and accordingly had set its strategies for development. In tune with the strategies a number of special component programmes have been introduced in this region.

2.2 Strategies for Development of KBK Districts

In order to achieve higher economic development and for removal of poverty, following strategies are being envisaged by the Government of Orissa:

- Conservation of its rich natural resources (e.g., forests, soils and water),
- Building of rural productive infrastructure (e.g., irrigation projects, tanks, watershed development, roads, bridges, markets, warehouses),
- Development programmes for income generation on sustainable basis (e.g., productive rural infrastructure, SGSY, SGRY, EAS, agriculture development, and micro-credit support).
- Mobilizing and energizing the rural poor (e.g., Self Help Groups, Vana Sarakshana Samities (i.e., Forest Protection Committee), Pani Panchayats (i.e., WUAs), and Bhumi Panchayats (i.e., Land Management Committee) in the framework of public-private partnership.
- Restructuring and energizing social security system (e.g., emergency feeding programme, special nutritional programme for children under 3 years, mobile health units, promotion of education among ST/SC girls), and
- Empowerment of the tribal community as well as the women.

In tune with these broad strategies, a number of special programmes are devised by the Government from time to time and one such programme is Biju Krushak Vikas Yojana, introduced in 2001-02 with a view to improve the utilization of its water resources with the participation of the farmers and stakeholders.

2.3 Status of Biju Krushak Vikash Yojana

In order to give a boost to extension of irrigation network and to strengthen Pani Panchayat in the state, an innovative scheme, known as BKVY, was launched by the Government of Orissa in 2001-02. It was aimed at taking up various new projects and renovation of derelict projects, particularly, in the minor irrigation sector with active involvement of water users in a participatory mode. Under the scheme, stress was laid on attracting people's participation in planning and implementation of small irrigation projects by revival of derelict irrigation systems as well as construction of new projects. The scheme envisages that the project idea should be conceived by potential beneficiaries and brought to the Government agencies for technical appraisal, estimation and approval. The water users will have to contribute 20% of the project cost and the Government will fund 80% of the project cost. But in case of tribal sub-plan areas and perennially drought prone KBK districts, farmers' contribution will be limited to 10% and the Government assistance will be 90%. However, all the projects are expected to be operated and maintained by the Water User's Association or Pani Panchayats, which in turn will be exempted from payment of water tax. Wide publicity was given to the scheme so that farmers can form Pani Panchayats and apply to the concerned Collectors for assistance. It is also envisaged that the selection of the projects will be based not only on technical consideration of feasibility and cost-benefit ratio, but also on the extent of willingness of beneficiaries to participate in installation and maintenance of projects. Further to boost expansion of irrigation in the KBK region, the BKVY scheme has been linked with the Revised Long Term Action Plan (RLTAP)

The Government of Orissa, Water Resources Department vide their Resolution No. 38711 dated September 26, 2000 had decided to adopt a farmer centric scheme in the irrigation sector by forming Pani Panchayat/ Water Users Association in all major, medium, minor and lift irrigation projects and also in the drainage schemes.

The principal goal of this concept of the participatory irrigation management is to motivate the farmers in the command areas, organize them into Water Users Association or Pani Panchayat, encourage them to maintain the canals, receive water in bulk from Water Resources Department and distribute the water among themselves by adopting suitable cropping programme and rotational use of water. The PP will also be responsible for operation and maintenance of the irrigation system, other than the head reach and main canals of flow irrigation systems.

2.4 BKVY under Revised Long-Term Action Plan (RLTAP)

Removal of regional disparities has been one of the important planks of the development strategies adopted by Government of India as well as the State Government during successive Five Year Plans. However, due to several economic, social and institutional obstacles, the KBK region in Orissa has not shared gains of development in an equitable manner and continues to languish in abject poverty. Heavy incidence and persistence of poverty in this region has been a cause of concern for the State Government as well as the Government of India. Therefore, in consultation with the Government of India, State Government has adopted a special area development approach for this region with a view to focusing attention on it and accelerating its development. A Long Term Action Plan (LTAP) for the KBK districts was formulated in consultation with the Government of India for a period of seven years from 1995-96 to 2001-2002 and was formally launched by the then Prime Minister in August, 1995. LTAP was formulated with two principal objectives in view: (i) drought and distress proofing, and (ii) poverty alleviation and development saturation. However, only a meager allocation of Rs. 20.49 crore was received as additional assistance during the first three years from 1995-96 to 1997-98 against the State

Government demand of Rs. 389.21 crore. Therefore, LTAP: 1995-2002 did not take off for want of availability of sufficient funds. To overcome the fund problems, The Government of Orissa devised a Revised Long Term Action Plan (RLTAP) for the KBK districts and submitted it to Government of India for their advice in 1998 and approval of funds by the national Planning Commission. The broad objectives of the programme are:

- Drought proofing,
- Poverty alleviation and development saturation, and
- Improved quality of life for local people.

➢ Revised Long Term Action Plan (RLTAP): 1998-99 to 2006-07

The RLTAP was prepared in a sub-plan mode to address the peculiar socio-economic problems of this chronically poor KBK region. The project envisaged an integrated approach for speeding up the socio-economic development of this region by synergizing effectively various developmental activities and schemes under implementation both in Central as well as State sectors. The critical gaps in the development efforts as well as resources were proposed to be bridged through Special Central Assistance (SCA) as a special dispensation.

Therefore, there was a pooling of resources from different sources like:

(i) Normal flow of funds to KBK districts under Central Plan and Centrally Sponsored Plan Schemes,

(ii) Additional funds from Government of India exclusively for programmes in KBK districts as agreed by the Planning Commission; and

(iii) Central assistance under programmes of Government of India to be implemented in KBK districts with some relaxation in norms such as Accelerated Irrigation Benefit Programme for earmarked irrigation projects.

The State Government also took several initiatives to improve governance and to monitor the implementation of RLTAP programmes in the KBK districts. Moreover, the State Government intended to involve NGO of proven track records, PRIs and civil society organizations in implementation of RLTAP schemes from 2003-04 onwards. It had also undertaken a concurrent evaluation study by the Institute of Applied Manpower Research, New Delhi.

A total outlay to the tune of Rs.6,251.08 crore over a project period of 9 years from 1998-99 to 2006-07 was envisaged under the revised project. A scheme-wise abstract of projected outlay for RLTAP for KBK districts from 1998-99 to 2006-07 is given in Table 2.1 .

Table 2.1: Projected Outlay for RLTAP for KBK Districts for the Period from 19998-99 to 2006-07

Sl No.	Scheme	Projected Outlay (Rupees in crore)					Grand Total (Rupees in crore)
		Central Plan (CP)	Centrally Sponsored Plan (CSP) Shares		Total Central Share	Total State Share	
			Central	State			
1	Agriculture	44.74	30.19	10.01	74.93	10.01	84.94
2	Horticulture	66.17	6.35	1.62	72.52	1.62	74.14
3	Watershed Development	601.90	194.96	81.42	796.86	81.42	878.28
4	Afforestation	347.83	14.11	14.11	361.94	14.11	376.05
5	Rural Employment	-	2,235.05	558.76	2235.05	558.76	2,793.81
6	Irrigation	812.11	-	-	812.11	-	812.11
7	Health	150.95	-	-	150.95	-	150.95
8	Emergency Feeding	88.50	-	-	88.50	-	88.50
9	Drinking Water Supply	-	67.74	67.74	67.74	67.74	135.48
10	Rural Connectivity	-	534.70	65.00	534.70	65.00	599.70
11	Welfare of ST/SC	257.12	-	-	257.12	-	257.12
Total		**2,369.32**	**3,083.10**	**798.66**	**5,452.42**	**798.66**	**6,251.08**

Source:http://kbk.nic.in/RLATP.htm

Even though an additional assistance from Government of India to the extent of Rs. 1,312.20 crore was projected for the first four years of RLTAP, the State Government had received *ad hoc* additional assistance from Government of India to bridge gaps in resources available for critical sectors on year to year basis. The additional assistance requested by the State Government and additionality sanctioned by Government of India from 1998-99 to 2001-02 are given below in Table 2.2.

Table 2.2: Requirement of Additional funds by the State Government and the ACA and AIBP Funds Sanctioned by Govt. of India during 1998-99 to 2001-02

Year	Additional Assistance (Rs. in Crore)			
	Requirement Posed by State Govt.	Sanctioned by Govt. of India		
		ACA	AIBP	Total
1998-99	307.19	46.00	0.00	46.00
1999-00	307.34	57.60	45.00	102.60
2000-01	341.74	40.35	60.00	100.35
2001-02	355.93	100.00	100.00	200.00
TOTAL	**1312.2 0**	**243.95**	**205 .00**	**448.95**

Source: As above

During the first four years of RLTAP, i.e., from 1998-99 to 2001-02, the Government of India released funds to the extent of Rs.1393.99 crore (CP/CSP: Rs. 988.16 crore; ACA: Rs. 243.95 cr; and AIBP: 161.88 cr) under RLTAP for KBK districts against which Rs.1042.44 cr (CP/CSP: Rs. 709.07 cr; ACA: Rs. 187.60 crore; and AIBP: Rs. 145.77 crore) had been utilized. Consolidated information with regard to release and utilisation of funds in the KBK districts under CP/CSP, ACA & AIBP for the period from 1998-99 to 2001-02 are summarised in Table 2.3.

Table 2.3: Consolidated Information on Release & Utilisation of CP, CSP, SP and ACA Funds in KBK Districts: 1998-99 – 2001-02 (figures in Rupees in crore)

S No.	**Funding Mechanism**	**1998-99**		**1999-00**		**2000-01**		**2001-02**	
		Release	Expenditure	Release	Expenditure	Release	Expenditure/ Uitlisation	Release	Expenditure
1	CP/CSP	267.53	211.65	202.13	150.20	216.66	172.01	301.84	175.21
2	ACA (RLTAP)	46.00	13.17	57.60	55.91	40.35	57.14	100.00	61.38
3	AIBP (RLTAP)	.00	.00	40.40	46.11	49.82	44.97	71.66	54.69
Total		**313.53**	**224.82**	**300.13**	**252.22**	**306.83**	**274.12**	**473.5 0**	**291.28**

Source: As above

In view of a positive impact of central assistance, an Annual Action Plan for 2002-03 under Special Central Assistance (SCA) with an outlay of Rs. 200.00 crore and Rs. 164.69 crore under AIBP funding was approved by the Planning Commission. The RLTAP was made an integral part of the Development and Reforms Facility (DRF), an initiative taken by the Government of India effective from 2002-03. Department-wise and scheme-wise allocations of 2002-03 are shown in Table 2.4. But the State Government had received Rs.100.00 crore as SCA under DRF during 2002-03.

Table 2.4: Department-wise and Sector-wise Allocation of SCA and AIBP Funds: 2002-03

Sl.No	Nodal Department	S. Sector	Schemes	Funds Allocated (Rs. in lakh)
1	Agriculture	Agriculture	Crop diversification (maize, pulses, cereals, oil-seeds and other crops / productivity improvement efforts	200.00
		Horticulture	Vegetables, root and tuber crops, spices, fruits, productivity improvement and value-addition initiatives	123.34
		Soil Conserv.	Coffee plantations for the poor	100.00
		Watershed Dev.	Integrated Watershed Management	750.00
2	Co-operation	Agri-bussiness	Construction of 75,000 MTgodowns / agri-business development	500.00
		Agri-market	Infrastucture / institutional dev.	396.00
3	Fisheries & A. R. D.	A. R. D.	Poultry / duckery / cattle dev.	242.00
		Fisheries	Pisciculture / aquaculture	114.34
4	Forest & Environment	Forest Regn / livelihood supp.	Afforestation through JFM	1,735.00
			Medicinal / aromatic plant dev.	80.00
5	Health &F. W	Health	MHU / alternative medicines	600.00
		Family Welfare	RCH / panchvayadhi / awareness	400.00
6	H & U D	Drinking Water	Drinking Water Supply for Urban Poor	600.00
7	P & C	Infrastructure	Residential clusters / PHC etc.	1,250.00
8	Rural Development	Drinking Water	ARWSS	1,800.00
		Rural connecty	Rur. connectivity (bridges/culverts)	2,000.00
9	Works	Connectivity	Bridges/culverts & links	1,450.00
10	ST/SC Development	Female literacy	Stipend to ST Girls Students	300.00
		Community dev	Micro-credit support to Women SHG	100.00
		Food Security	Construction of Grain Banks	200.00
		Podu Rehab.	Survey of podu areas / rehab. Plan	100.00
		Female literacy	Strengthening of Educational Infrastructure	400.00
		Connectivity	Interior Area Connectivity	900.00
11	Textiles & Handloom	Handloom/craft	Handloom and craft development	150.00
		Sericulture	Sericulture development	150.00
12	Water Resources	BKVY	Biju Krushak Vikas Yojana	2,000.32
13	Women & Child Development	EFP	Emergency Feeding Programme	1,975.00
		SNP	Special Nutrition Programme	1,084.00
		Mission Shakti	Orgn. & support to women SHG	300.00
Sub-Total (SCA)				**20,000 .00**
14	Water Resources	Irrigation	Major, Medium and Minor Projects	**16,469.00**
Grand Total (SCA + AIBP)				**36,469.00**

Source: As above

Keeping the requirements of the concerned line Departments and normal flow of funds from Central Ministries in view, the State Government submitted its proposal for SCA of Rs.250.00 crore and AIBP funds of Rs.140.00 crore for effective implementation of the proposed schemes in the KBK districts during 2003-04. The proposals, received from the different Departments & district Collectors were examined in consultation with the Chief Administrator (KBK), Koraput and then forwarded to the Central Government for funding.

An objective-oriented analysis of various schemes, included in the Annual Action Plan: 2003-04, has indicated that 36.4% (i.e., Rs. 91.00 crore) of the proposed outlay under SCA was earmarked for schemes that aimed at, or contribute to, drought-proofing. 11.5% (i.e., Rs.28.70 crore) of the proposed outlay was assigned to schemes that were aimed at extending livelihood support to the poor in the region. 35.5% SCA resources were meant for infrastructure projects and the rest 16.6% (i.e., Rs. 41.60 crore) was proposed for social safety net programmes including emergency feeding, special nutrition, health and other schemes. The Department-wise and scheme-wise outlays proposed under SCA and AIBP categories for the KBK districts for the year 2003-04 are contained in table 2.5.

Table 2.5: An Objective Oriented Analysis of Proposed Schemes: 2003-04				
Objective	**Drought-proofing**	**Livelihood Support**	**Infrastructure**	**Social Safety Net**
Proposed Outlay	Rs. 91.00 crore	Rs. 28.70 crore	Rs. 88.70 crore	Rs. 41.60 crore
Share (%)	36.40	11.50	35.50	16.60
Schemes	Integrated Watershed dev.	Dev. of Agriculture / Horticulture	Warehouses / Markets / Hats	Health and related schemes
	Afforestation	Fisheries / ARD	Rural Elect.	Emergency feed
	Water supplies	Medicinal plants	Connectivity	SNP
	Imp. water bodies	Podu Rehabilitation	Res. Clusters	Reduction in IMR
	BKVY	Micro-credit support	Gramsat dev	
	AIBP	Handloom / sericulture	Schools	

Source: As above

2.5 Progress of BKVY/PP in the KBK districts

With the success of the pilot Pani Panchayat projects, the Government of Orissa wanted to broaden this farmer centric approach and hence, in 2000 it extended Pani Panchayat/ Water Users Association in the command areas of all major, medium, minor and lift irrigation projects and also in the drainage schemes.

The principal goal of the concept of the participatory irrigation management has been to motivate the farmers in the command areas, organize them into WUA / PP encourage them to receive water in bulk from Water Resources Department, distribute the water among themselves by adopting suitable cropping programme and rotational use of water and by maintaining the field channels, minor canals as well as distributaries.

Under this new policy, the State Government has been striving to increase flow of funds from different sources with a view to accelerating the pace of development in KBK districts. With respect to the progress of BKVY in the initial years it was reported that the State Level Screening Committee (SLSC) had approved 426 numbers of Lift and 37 numbers of Minor Irrigation Projects with ayacut area of 16,306 ha. at an estimated cost of Rs. 58.124 crores in the KBK districts. Against total allocation of Rs. 20.00 crores during 2001-02 and 2002-03 an amount of Rs. 19.987 crores was sanctioned for installation of 297 numbers of Lift Irrigation Projects in the KBK districts. The status of projects (MI & LI) approved by SLSC for a particular year for example in the KBK districts is given in the following table:

Table 2.6: District-wise Status of BKVY Projects approved by SLSC in 2002-03

Sl. No.	District	No. of Projects			Irrigation Potential	Estimated cost (Rs. Lakhs)	90% central Govt. share (Rs. Lakhs)	Fund Released	
		LI	MI	Total				No. of Projects	Amount (Rs. Lakhs)
1	Koraput	12	07	19	2509	1208.62	1087.76	-	-
2	Malkangiri	25	11	36	1690	534.66	481.19	25	130.15
3	Nawarangpur	-	16	16	1239	897.33	807.60	-	-
4	Rayagada	22	-	22	485	153.23	137.90	17	103.90
5	Bolangir	63	02	65	1705	154.17	462.75	29	203.09
6	Sonepur	93	01	94	4014	785.17	706.66	28	195.48
7	Kalahandi	127	-	127	3040	1150.83	1035.75	114	854.85
8	Nuapada	81	-	84	1624	568.40	511.56	84	511.20
	TOTAL	**426**	**37**	**463**	**16306**	**5812.41**	**5231.17**	**297**	**1998.67**

Source: Department of Water Resources, Government of Orissa

But the total flow of funds under Central Plan, CSP, SP, RLTAP and from other sources to the KBK districts was of the order of Rs. 1,117.32 crore, Rs. 940.97 crore during 2003-04 and 2004-05 respectively. The number of projects approved by the SLSC and the total flow of funds to KBK districts during 2005-06 was projected at Rs. 1294.65 crore, which is presented in the following tables:

Table 2.7: State Level Screening Committee Approval status as on 31.03.2006

Project Particulars	Non-KBK Dists	KBK Dists	Total
MIPs	176	52	228
LIPs	1819	1818	3637

Source: Department of Water Resources, Government of Orissa

An examination of the table shows that while 50 % of the lift point projects are awarded to KBK districts, less than 25% of the minor irrigation projects are sanctioned for the KBK districts. This implies that revival of many derelict and defunct MI projects, which has potential to be included under BKVY, are yet to be taken up under BKVY scheme.

Similarly, an analysis of the achievement figures since inception provided in table 2.8 indicates that there is a big gap between the appraised potential and the potential harnessed through on going projects under BKVY. It further shows that in terms of sanctioning of projects both in minor flow and lift, KBK districts are ahead of the non-KBK districts and the drop out rates in lift is nil for KBK districts. While more than 50% of MI projects sanctioned for the KBK

Table 2.8: Total Achievement since Inception (status as on 31.03.2006)
(Potential figures in Th. Ha)

Project Particular	Minor (Flow)			Lift (OLIC and OAIC)		
	Non-KBK (RIDF)	KBK (SCA under RLTAP)	Total	Non-KBK (RIDF)	KBK (SCA under RLTAP)	Total
1. Sanctioned (Nos)	40	52	92	1215	1402	2617
2. Dropped (Nos)	3	16	19	52	-	52
3. Taken up (Nos)	37	36	73	1163	1402	2565
4. Completed (Nos)	3	21	24	669	1107	1776
5. Ongoing (Nos)	34	15	49	494	295	789
6. Appraised Potential (Taken up projects)						
a) Creation	2.444	5.193	7.637	21.82	26.83	48.65
b) Revival		1.708	1.708	0.572	2.98	3.552
7. Potential Created (Ongoing & Completed)	0.431	1.883	2.314	12.154	21.23	33.384
8. Potential Revived (Ongoing & Completed)	-	1.708	1.708	0.216	2.22	2.436

Source: As above

districts under RLTAP grant, around 40% of projects are taken up for execution and out of which less than 25% has been completed as on 31.3.2006. On the other hand, in the lift irrigation front (which are executed by OLIC and OAIC) though more than 50% was granted, 42% has been completed only. We find that in KBK districts no project is dropped in case of lift irrigation, whereas 17% of MI project has been dropped due to local level conflicts as well as poor feasibility of many of the proposed projects.

On the other hand, the progress and achievements in attaining the irrigation potential during 2005-06 which are contained in table 2.9 indicate that more than 25 % of minor flow and lift potentials of the state have been created in the KBK districts. A number of on-going revival projects have also been completed during the period. Further 139 lift projects have been completed in the KBK districts under SCA component of the RLTAP.

Table 2.9: Progress and Achievements of Irrigation Potential during 2005-06
(Potential in Th. Ha)

Project Particular	Minor (Flow)			Lift (OLIC and OAIC)		
	Non-KBK (RIDF)	KBK (SCA under RLTAP)	Total	Non-KBK (RIDF)	KBK (SCA under RLTAP)	Total
1. Potential Created (Ongoing & Completed)	0.325	0.09	0.415	5.98	2.11	8.09
2. Potential Revived (Ongoing & Completed)	-	0.128	0.128	0.216	0.84	1.056
3. Expenditure incurred (in Rs. Cr)	1.142	4.81	5.952	17.89	5.42	23.31
4. Projects completed (Nos)	3	-	3	311	139	450

Source: As above

In order to estimate the total increase in irrigation area in the KBK districts and to learn the contribution of BKVY projects under RLTAP we have collected secondary data from different sources and examined the trend. The particulars of the irrigation potential created through RLTAP and Non RLTAP since inception of BKVY till end of 2006 are contained in table 2.10 . A critical analysis of the table shows that the share of irrigation potential created under BKVY would be around 31% of total potential created in the KBK region, out of which the OLIC has contributed the maximum, that has implemented the maximum number of lift projects in Sonepur, Kalahandi and Koraput. On the other hand, the OAIC being a late starter in undertaking execution of BKVY lift irrigation projects has fared well in districts like Malkangiri, and Nabarangpur. The MI that has a good potential to rejuvenate some of the derelict projects, is yet to take up renovation and rejuvenation of projects under BKVY.

Table 2.10: Number of RLTAP and NON-RLTAP projects undertaken during 2001-2006
(Figures of potential created in hectares)

	Name of the	BKVY /RLTAP				BKVY / RLTAP Share	NON RLTAP				Non RLTAP Share	Grand Total
	District	MI	OLIC	OAIC	Total	In %	M & M	OLIC	MI	Total	in %	
1	**Sonepur**	0	4084	842	4926	53.68	4250			4250	46.32	9176
2	**Bolangir**	317	2628	500	3445	100.00				0	0.00	3445
3	**Nuapada**	0	1064	520	1584	36.97	2580	120		2700	63.03	4284
4	**Kalahandi**	0	3241	305	3546	11.24	27850	140		27990	88.76	31536
5	**Nabarangpur**	863	2920	1791	5574	100.00				0	0.00	5574
6	**Malkangir**	533	500	1097	2130	9.55	20172			20172	90.45	22302
7	**Koraput**	702	3160	591	4453	33.10	8999			8999	66.90	13452
8	**Rayagada**	1571	1407	472	3450	77.53	1000			1000	22.47	4450
	G.Total	**3986**	**19004**	**6118**	**29108**	**30.89**	**64851**	**260**	**0**	**65111**	**69.11**	**94219**

As discussed above the BKVY project being people centric and based on stakeholders' approach is loaded towards participation of the farmers. Hence, its success is very much dependent on the

active participation of the people through Pani Panchayats. Recognising the crucial role of PP, the Government has accorded priority on its formation in the KBK region. The status of PP upto June 2007 is presented in table 2.11, which shows that nearly one-third of the potential is being covered by PP. Although a large potential is being delineated, two-third of it is yet to be harnessed due to structural difficulties.

Table 2.11: Status of Pani Panchayat in the state by 15-Jan-2007

(Area figures in thousand Ha)

Sl No	Description	Detailed Programme		Registered /Formed		Handed over		Delineation		PP formed by conducting election as per P.P. Act & Rules as on 15.01.07	
		Nos	Area	Nos	Area	Nos	Area	Nos	Area	Nos	Area
1	Major & Medium	2559	1117.5	1455	635.7	1125	495.6	2526	1109.8	467	188.7
2	Minor (Flow)	1883	328.3	1005	192.3	775	149.6	1883	328.3	820	110.1
3	Minor (Lift) OLIC	11211	247.2	11211	247.2	10600	235.1	2989	62.7	971	199.9
	Grand Total	15653	1693	13671	1075.2	12500	880.3	7398	1500.8	2258	318.7

Chapter III: Methodology Adopted and Coverage of the Study

3.1 Introduction:

In tune with the proposal submitted by us along with the TOR, we have adhered to a standard post evaluation method of project cycle that involved developing a study design, identification of the sources of appropriate data, design of questionnaire, getting suitable personnel for data collection and analysis, setting evaluation questions, identification of stakeholders, to develop method of evaluating the technical efficiency of the projects, selection of appropriate evaluation design, developing data collection and analysis strategies and to prepare a work plan. Accordingly we had set our work plan schedule in the month of July, 2006 and made arrangements for field data collection. But owing to natural calamities that struck the KBK region, i.e., unprecedented flooding in Balangir, Kalahandi, Sonepur, Nuapada, Rayagada, Nabarangpur and Malakangiri during the monsoon of 2006, we could not follow the proposed schedule. Hence, there has been a delay in submission of the draft report as well as the final report. Even it has affected the coverage of the selected samples.

In order to accomplish the above mentioned objectives, we have adopted a standard social sciences research methodology, whereby various secondary and primary data sources were scanned to collect a host of data and information related to both success and failure parameters of BKVY projects.

3.2 Data Collection:

i) Secondary Data Collection:

With view to collect secondary data from different sources, first of all, we had to identify the relevant sources from which BKVY and PP data could be obtained. In this process, we noted that there are three organization involved in planning and execution of BKVY projects, viz., Minor Irrigation Department, Orissa Lift Irrigation Corporation and Orissa Agro-Industry Corporation. Thereafter, we had to seek permission from appropriate authorities at Bhubaneswar as well as at the district level. After getting permission from the authorities, we have collected relevant data/ information from the offices of the Chief Engineer, MI, Managing Director, Orissa Lift Irrigation Corporation (OLIC), Managing Director of Orissa Agro Industry Corporation (OAIC), from the KBK authorities, and the field officials on the respective departments at the district level. While the flow project data are collected from the offices of Executive Engineers, (EE), MI located at Bolangir, Jaypore, and Rayagada; the lift irrigation point data are collected from the office of EE, OLIC, Koraput, Gunupur, and Bhabanipatna. We have noted that OAIC has encouraged its field staff to take up as many BKVY projects possible as a process of its diversification of economic activities to utilize its potential manpower. So their field staff has been aggressively associated with planning and execution of BKVY projects. The data on projects taken up by them are collected from the respective Branch Managers posted in all eight KBK districts. In addition to the BM's office, we have collected details of the projects taken up by OAIC from their head office at Bhubaneswar. The details of the data collected from the Head Office are given in Annexure/ table 1.

ii) Selection of Samples:

In order to select the samples for our study for primary data collection, we have prepared summary tables for each district in terms of block-wise demographic features and number of BKVY project undertaken in the district executed by the three organizations, viz., MI, OLIC, OAIC those which are involved in their technical preparation and execution. All those particulars along with the number of BKVY projects executed by each organisations are provided in the following table 3.1. With the help of analysis of these data, we have drawn the sample development blocks.

Table 3.1: Block-wise Demographic as well as BKVY project Profiles of the KBK districts

Sl. No	Name of The Block	Distance From Dist. H.Q. (km)	Total % Female	Population (S.Q. K.M.)	No of HH Per Village	BPL Family (in (%)	SC Family (in %)	ST Family (in %)	No of BKVY Projec			
									OLIC	OAIC	MI	T
1	2	3	4	5	6	7	8	9	10	11	12	
SONEPUR DISTRICT												
1	Binika	33	49.08	291.84	178.58	56	22.06	8.60	64	21	0	
2	Biramaharajpur	17	49.09	217.14	92.12	84	25.33	5.12	38	0	0	
3	Dunguripalli	75	48.98	401.43	191.44	72	28.98	11.14	31	5	0	
4	Sonepur	0	49.28	219.09	98.6	84	26.36	8.94	33	0	0	
5	Tarava	39	49.6	238.18	89.19	73	24.55	6.70	22	2	0	
6	Ullunda	17	49.45	211.38	76.64	71	27.13	5.96	19	5	0	
	Total / Average		**49.22**	**213.56**	**120.62**	**73**	**25.87**	**7.93**	**207**	**33**	**0**	
BOLANGIR DISTRICT												
1	Agalpur	48	49.74	295.95	150.56	53.00	15.07	7.32	19	0	0	
2	Bangomunda	99	50.11	280.66	126.25	74.00	18.98	13.52	7	0	0	
3	Belpara	62	49.59	147.78	140.24	53.00	14.48	16.98	3	0	0	
4	Bolangir	0	49.25	187.83	124.39	53.00	13.79	13.51	3	0	2	
5	Deogaon	20	49.76	198.77	119.79	52.00	13.40	11.83	5	4	0	
6	Khaprakhol	69	50.08	154.30	120.25	64.00	12.61	24.01	2	13	0	
7	Loisinga	19	49.79	265.30	136.18	52.00	12.80	11.47	15	2	0	
8	Muribahal	85	50.26	231.70	111.64	60.00	15.55	14.90	1	0	0	
9	Patnagarh	38	49.84	168.19	123.41	64.00	13.96	22.61	5	0	0	
10	Puintala	0	49.19	323.48	124.01	59.00	17.92	5.14	3	0	0	
11	Saintala	32	49.56	206.52	137.31	81.00	21.48	16.88	7	0	0	
12	Gudvella	47	22.82	538.03	108.82	81.00	21.32	22.13	38	0	0	
13	Titilagarh	67	53.05	267.43	141.31	55.00	13.80	12.66	8	0	0	
14	Tureikela	96	63.97	151.18	125.90	66.00	17.93	20.53	1	0	0	
	Total / Average		**49.74**	**179.86**	**141.67**	**61.00**	**15.62**	**15.14**	**117**	**19**	**2**	
NUAPADA DISTRICT												
1	Boden	98	50.16	210.38	153.69	91	13.84	36.01	9	0	0	
2	Khariar	70	50.11	301.09	150.98	85	16.66	24.80	30	0	0	
3	Komna	42	50.53	180.88	137.77	78	14.23	33.44	1	0	0	
4	Nuapara	0	50.21	160.52	126.34	78	13.23	33.09	9	11	0	
5	Sinapalli	120	49.92	236.84	155.33	100	9.99	19.50	0	17	0	
	Total / Average		**50.15**	137.73	**150.75**	**86**	**13.58**	**29.29**	**49**	**28**	**0**	
KALAHANDI DISTRICT												
1	Bhawanipatna	0	50.17	253.55	102.38	56.00	14.15	22.82	22	13	0	
2	Dharamgarh	45	49.68	298.57	316.90	64.00	15.32	12.54	15	0	0	
3	Golamunda	70	50.03	226.78	169.93	63.00	13.32	20.54	0	0	0	
4	Jaypatna	78	50.62	267.80	244.10	52.00	11.89	20.04	12	0	0	
5	Junagarh	26	50.09	280.17	174.06	61.00	13.52	11.89	13	8	0	
6	Kalampur	64	50.49	336.85	191.44	38.00	6.64	10.58	2	0	0	
7	Karlamunda	93	49.84	250.69	163.45	55.00	13.09	9.83	5	0	0	
8	Kesinga	35	50.00	261.02	181.13	50.00	12.15	13.76	8	1	0	
9	Koksara	61	50.32	314.49	######	67.00	15.10	23.31	4	0	0	
10	Langigarh	48	50.64	186.70	32.73	80.00	22.77	37.21	9	0	0	
11	M. Rampur	58	49.93	224.65	55.86	75.00	15.51	32.58	8	0	0	
12	Narla	30	49.83	234.54	114.45	70.00	17.28	22.61	6	3	0	

Th. Rampur	73	50.59	192.94	50.47	89.00	25.87	49.14	0	0	0	0
Total / Average	**681**	**50.15**	**253.11**	**199.44**	**63.00**	**15.01**	**21.34**	**104**	**25**	**0**	129
BARANGPUR DISTRICT											
Chandahandi	115.00	50.33	235.13	134.21	71.00	11.16	21.57	37	8	0	45
Dabugaon	33.00	49.92	255.74	147.95	77.00	14.07	42.92	1	3	0	4
Jharigaon	80.00	50.18	256.32	165.91	89.00	14.83	55.41	20	8	1	29
Kosagumuda	45.00	49.64	232.64	211.25	59.00	16.17	35.37	41	4	0	45
Nabarangpur	0.00	49.68	236.08	223.00	73.00	21.06	42.92	57	3	0	60
Nandahandi	12.00	50.30	244.85	206.90	81.00	19.01	32.46	39	0	0	39
Papadahandi	12.00	50.24	247.68	238.95	83.00	#####	37.42	11	7	0	18
Raighar	90.00	49.49	113.61	193.56	70.00	#####	45.69		23	2	25
Tentulikhunti	25.00	50.55	178.77	206.04	75.00	#####	21.67	9	0	0	9
Umerkote	62.00	49.58	265.79	178.42	64.00	#####	38.46	5	2	3	10
Total / Average		**49.92**	**1.81**	**199.18**	**74.00**	**55.09**	**37.78**	**220**	**58**	**6**	**284**
LKANGIRI DISTRICT											
Kalimela	45.00	49.40	175.69	161.39	90.00	42.14	47.72	16	21	03	40
Khariput	66.00	50.61	97.12	74.84	91.00	7.28	66.36	00	02	01	03
Korkunda	22.00	49.76	151.28	107.95	74.00	19.31	46.45	03	05	03	11
Kudumuluguma	52.00	50.32	84.85	36.64	90.00	6.22	72.54	00	00	01	01
Malkangiri	0.00	50.45	118.45	105.13	86.00	25.83	55.73	06	02	01	09
Mathili	45.00	50.29	133.54	110.46	77.00	6.54	57.73	00	03	00	03
Podia	67.00	49.99	105.80	153.06	73.00	24.41	48.39	00	17	01	18
Total / Average		**50.04**	**71.99**	**101.74**	**81.00**	**19.99**	**54.64**	25	50	10	85
RAPUT DISTRICT											
Bandhugaon	102.00	51.27	222.87	65.59	90.00	35.48	44.86	22	0	1	23
Boipriguda	44.00	50.15	86.69	69.34	82.00	25.22	37.68	0	0	0	0
Borigumma	44.00	50.20	207.73	174.54	87.00	22.20	40.36	21	1	0	22
Dasmanthpur	58.00	50.68	107.09	90.17	89.00	29.87	35.13	23	0	0	23
Jeypore	22.00	50.04	194.85	174.59	78.00	22.05	41.16	24	1	0	25
Koraput	0.00	49.80	133.37	159.00	76.00	17.76	36.19	4	0	0	4
Kotpad	72.00	49.86	191.77	155.36	86.00	22.29	45.24	0	4	0	4
Kundra	72.00	50.01	160.05	140.86	82.00	28.55	31.56	8	2	0	10
Lamtaput	57.00	50.36	94.72	179.66	78.00	22.29	34.64	0	5	1	6
Laxmipur	58.00	50.35	177.70	110.52	88.00	23.28	57.54	18	0	0	18
Nandapur	45.00	50.39	117.10	81.15	80.00	17.40	42.67	0	5	1	6
Narayanpatna	80.00	49.69	244.40	59.47	89.00	22.99	61.21	13	0	0	13
Potangi	48.00	49.80	233.78	118.21	85.00	13.88	55.03	0	5	0	5
Similiguda	22.00	50.67	178.47	139.67	86.00	16.79	43.67	21	4	0	25
Total / Average		**50.22**	**149.15**	**111.84**	**0.00**	**22.67**	**42.28**	**154**	**27**	**3**	**184**
YAGADA DISTRICT											
Bisam cuttack	48	51.52	132.28	59.41	75	13.32	49.36	3	0	1	4
Chandrapur	120	49.99	72.67	29.25	87	13.14	55.85	0	0	1	1
Gudari	92	50.30	41.55	47.46	83	11.33	65.00	5	3	0	8
Gunupur	80	51.12	53.71	99.21	70	7.04	49.09	12	0	0	12
Kalyansingpur	48	51.81	135.97	49.28	80	12.91	53.61	2	4	0	6
Kashipur	80	50.59	247.56	57.41	78	17.57	50.83	0	2	0	2
Kolnara	15	51.31	186.82	70.96	65	5.98	52.24	1	6	1	8
Muniguda	65	50.26	118.55	43.37	55	16.82	20.40	11	0	1	12
Padmapur	72	50.39	56.23	86.03	71	10.94	40.85	2	0	0	2
Ramanguda	48	50.09	51.84	86.96	71	7.76	54.04	5	0	0	5

11	Rayagada	0	51.29	209.39	64.42	68	8.16	54.07	6	7	1
	Total / Average		**50.71**	**108.58**	**66.45**	**72**	**11.82**	**48.60**	**47**	**22**	**5**

3.3 Selection Criteria of Sample Development Blocks

On the basis of backwardness of each development block of the KBK region (measured in terms of people below poverty line), we have classified them into:

- **Underdeveloped,** i.e., those which are above the district average of BPL families,
- **Moderately developed**, i.e., those which are below the district average of BPL families but within a specified range**.**
- **Relatively developed**, i.e., those which are having relatively lower number of BPL families

On the basis of this classification and by taking into account the geographical location, number of variety of projects in execution in each block and above all, on the advices of field official and district administration, we have selected a minimum of three development blocks in every district for primary data collection. However, with a view to cover variety of projects we have covered BKVY projects from six blocks of Bolangir district. In this process we have covered 27 blocks, the names of which are indicated in column 2 of table 3.2.

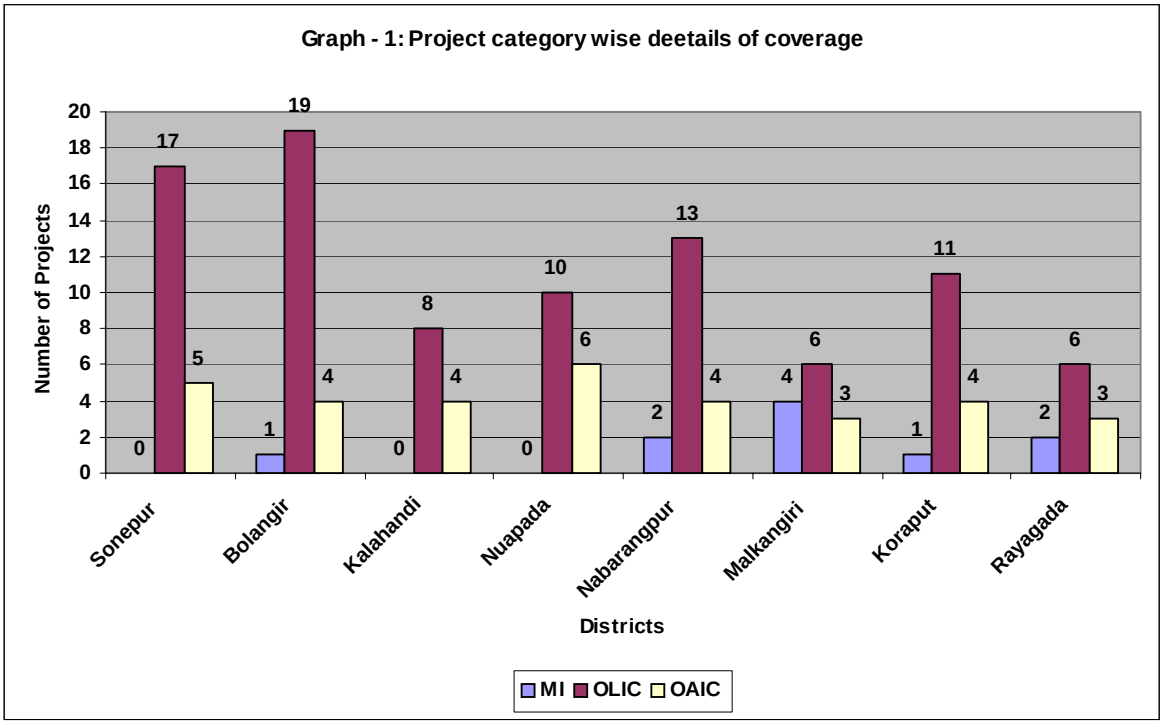
3.4 Selection of Sample BKVY Projects/PPs for Primary data Collection

Before selecting the sample BKVY projects for primary data collection, we have scanned the distribution of projects within the sample block and on the basis of random method and also considering the age of the projects, we have selected 17 OLIC and 5 OAIC projects from Sonepur district, where there are no MI projects under BKVY; 11 OLIC, 05 OAIC and 02 MI projects from Bolangir district; 10 OLIC, and 08 OAIC projects from Nuapada district; 08 OLIC and 04 OAIC project from Kalahandi, where there are no MI projects; 13 OLIC, 03 OAIC and 2 MI projects from Nabarangpur district; 08 OLIC, 02 OAIC and 04 MI projects from Malkangiri district; 12 OLIC, 05 OAIC and 1 MI projects from Koraput district; and 06 OLIC, 03 OAIC and 02 MI projects from Rayagada district. The block-wise coverage of the BKVY projects along with the number of projects covered for primary data collection are given in Table 3.2 and the chart shows the trends. The name and location of the projects along with their respective Pani Panhayat's name are shown in Table 3.4.

Table 3.2: Names of the Sample blocks and number of projects covered by our study

Sl.	Name of the Block	Number of BKVY Projects covered			Total number of projects
SONEPUR DISTRICT					
1	Binika	0	8	4	12
2	Sonepur	0	6	0	6
3	Ullunda	0	3	1	4
BOLANGIR DISTRICT					
1	Bolangir	0	3	0	3
2	Khaprakhol	0	1	3	4
3	Puintala	0	2	0	2
4	Gudvella	0	5	0	5
5	Deogoan	1	3	1	5
6	Loisingha	0	5	0	5
NUAPADA DISTRICT					
1	Khariar	0	7	0	7
2	Nuapara	0	3	3	6
3	Sinapalli	0	0	3	3

KALAHANDI DISTRICT					
1	Bhawanipatna	0	4	2	6
2	Junagarh	0	2	2	4
3	Langigarh	0	2	0	2
NABARANGPUR DISTRICT					
1	Jharigaon	0	3	3	6
2	Nabarangpur	0	7	0	7
3	Umerkote	2	3	1	6
MALKANGIRI DISTRICT					
1	Korkunda	3	3	2	8
2	Malkangiri	1	1	1	3
3	Mathili	0	2	0	2
KORAPUT DISTRICT					
1	Jeypore	0	6	0	6
2	Nandapur	1	0	2	3
3	Similiguda	0	5	2	7
RAYAGADA DISTRICT					
1	Kashipur	0	0	1	1
2	Muniguda	1	3	0	4
3	Rayagada	1	3	2	6
	Total	**10**	**90**	**33**	**133**



3.5 Primary Data Collection

As the results of the study are very much dependent on collection of information and data from the stakeholders of the BKVY projects, we have attempted to collect as many information as possible from the beneficiaries, field level officials, banks and NGOs. In order to collect those data and information from each stakeholders, we have adopted the following steps.

i) In tune with our objectives, two sets of schedules (one to be canvassed among the functionaries / officials and other among the beneficiaries who are members of the Pani Panchayat formed in BKVY project command area) were designed and pretested in the field in the initial period of the study. The pretesting was undertaken during period when our staff were deputed to collect secondary data from the field organization in each district.

ii) With the help of the feedbacks from the participants and officials, we incorporated suitable changes in the schedule and the final schedules were canvassed among the stakeholders.

iii) Although the primary data collection commenced from September, 2007 the work was disrupted owing to unprecedented flooding in the KBK region and subsequent disruption of traffic and transport facilities. In view of these unforeseen problem, our primary data collection work was extended upto December, 2006

iv) The primary data collection was carried out in the field with the support from the organization responsible for execution of BKVY projects under the direct guidance of the project coordinators.

v) However, the PRA and focus group interviews were carried out by the coordinators themselves during their visits to the project sites in October and December, 2006.

vi) In selecting the stakeholders to be interviewed we had adopted a purposive sampling method.

vii) But in selection of the sample projects, instead of adhering to the block approach, we had select the projects where PP is in operation over different time period, hence, period of implementation of PP will be one of the major criteria in selecting the sample project.

viii) Though we had proposed to cover 20 % of the samples, but due to a number of constraints in the field, we have covered only statistically significant number of beneficiaries per project by a random sampling method.

ix) Special attention was given in selecting the SC/ST households below poverty line.

x) Though we had aimed at covering some of the NGOs, who are involved in promotion of PP, we could not find any NGO in the project sites covered by us.

3.6 Primary Survey Coverage of the Study

With a view to collect general data/information on the BKVY project in terms of locational identification, nature as well as type of the project, its date of submission and execution, costs of the project, ayacut area, details about the PP and their impact on productivity, employment generation, migration, and the constraints faced by the PP were elicited from the functionaries of the PP like either from Presidents, or Treasurer or Secretaries. In this process, we have interviewed 69 presidents, 21 Secretaries/ Treasurer and some stakeholders of the PP. In addition to the functionaries, in order to get the relevant data to gauge the impact at the household level of BKVY/PP projects, we have covered at least two beneficiaries of each project, who are members of the PP. While the block-wise coverage profiles are contained in the following table 3.3, (followed by the chart showing the coverage) the detailed data are provided in the Annexure tables 1-12. Out of the twelve annexure tables, the first five reflects the views of the functionaries of PPs and the rests cover the demographic and impact factors of the BKVY projects/ PPs on the households.

Examination of table shows that we have been able to reach 133 project functionaries and 251 members / beneficiaries of the Pani Panchayat. Hence, total number of coverage of the beneficiaries has been 384 members of the study region with a maximum number covered from the erstwhile Bolangir district.

An analysis of the demographic profiles of sample households covered by us reveals that a maximum number of beneficiaries are from the ST & SC communities (44.6%), followed by 39 % from the OBC and around 15% are from the general caste. Only three families are from the Muslim community. Further, most of the families are of nucleus type, and are owner cultivators.

3.7 Analysis of Data and Reporting:

The compilation and analysis of secondary and primary data has been done though the help of MS like EXCEL, and MS-WORD. For proper analysis of those data/ information relevant data sheets are prepared. To gauge the impact of BKVY/PP, we have adhered to various methods of impact evaluation like Environmental Impact Assessment (EIA) and Social Benefit- Cost Analysis (SBCA). With the help of those data and evaluation results, we have identified the benefits flowing from BKVY as well as the weaknesses and constraints in the delivery system. With the help of those major findings, we have suggested some preventive measures those are likely to improve the efficiency of the scheme.

Table 3.3: Block-Wise Coverage of project functionaries and beneficiaries of the Study

Sl. No.	Name of Districts	Project Functionary	Project Beneficiary	Total coverage
1	Sonepur	22	44	66
2	Bolangir	24	48	72
3	Kalahandi	12	18	30
4	Nuapada	16	28	44
5	Nabarangpur	19	38	57
6	Malkangiri	13	25	38
7	Koraput	16	30	46
8	Rayagada	11	20	31
Total		**133**	**251**	**384**

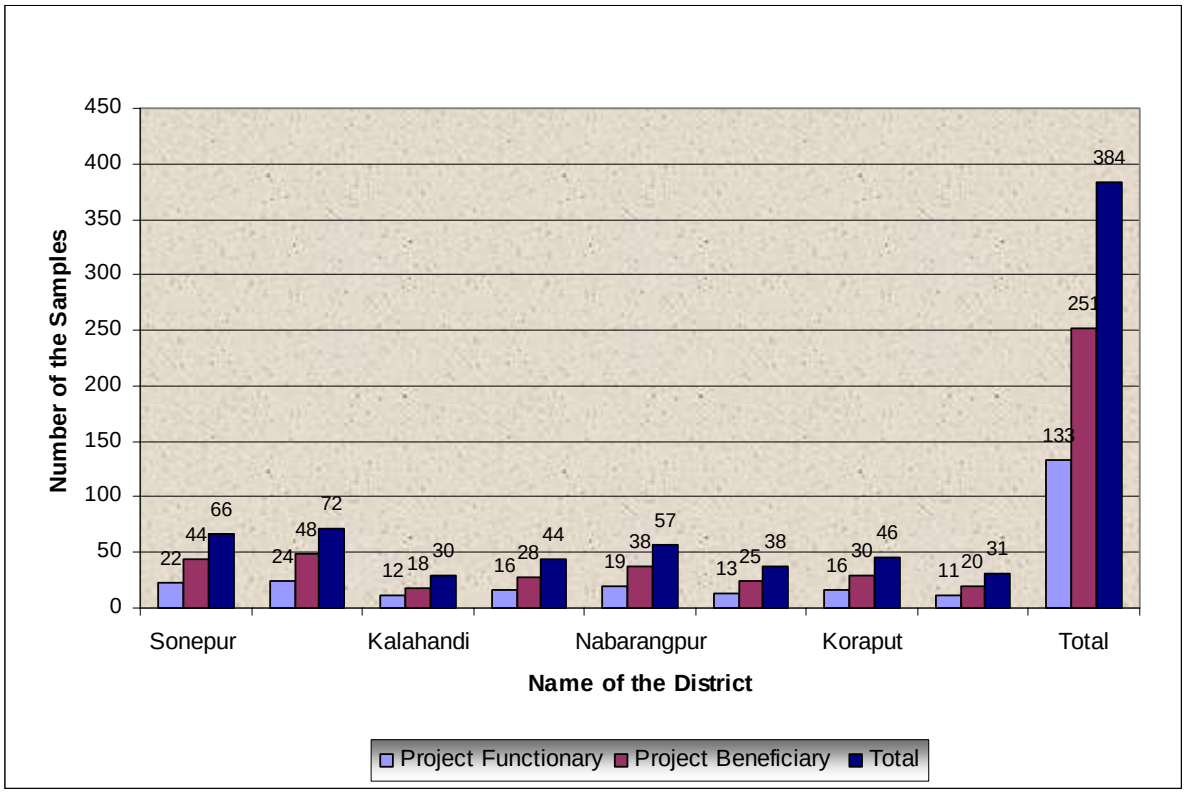

450
400
350
300
250
200
150
100
50
0
Number of the Samples
22
44
66
24
48
72
12
18
30
16
28
44
19
38
57
13
25
38
16
30
46
11
20
31
133
251
384
Sonepur
Kalahandi
Nabarangpur
Koraput
Total
Name of the District
Project Functionary
Project Beneficiary
Total

Table 3.4: Particulars of the Pani Panchayat Covered by our Study

Sl No.	District & PP Code	Project Name	Name of Pani Panchayat	Implementing Agency	Village Name	Block Name
Sonepur District						
1	**SPUP-1**	Khuntillpalli-1	Narayani pp	OLIC	Khuntillapalli	Ullunda
2	**SPUP-2**	Khuntillpalli-2	Dadhi baman pp.	OLIC	Khuntillapalli	Ullunda
3	**SPUP-3**	Chadheipark-6	Chadheipark-6	OLIC	Chadheipark	Ullunda
4	**SPUP-4**	Purnabashi	Purnabashi	OAIC	Badali	Ullunda
5	**SPBP-5**	Ghodadhar-3	Radhakrishna pp	OLIC	Ghodadhar	Binika
6	**SPBP-6**	Siyali-1	Raghunath pp.	OAIC	Siyali	Binika
7	**SPBP-7**	Sansamara-3	Sansamara-3	OLIC	Sansamara	Binika
8	**SPBP-8**	Singhijuba	Singhijuba	OAIC	Singhijuba	Binika
9	**SPBP-9**	Sarangalli-1	Sarangpalli	OAIC	Sarangpalli	Binika
10	**SPBP-10**	Hutuma-1	Maa samaleswari	OAIC	Hutuma	Binika
11	**SPBP-11**	Pandakital-IV	Pandakital-IV	OLIC	Mahadevpalli	Binika
12	**SPBP-12**	Pandakital-V	Pandakital-V	OLIC	Mahadevpalli	Binika
13	**SPBP-13**	Phulmuthi	Krushikalyan	OLIC	Chardha	Binika
14	**SPBP-14**	Sakama-I	Jogmaya	OLIC	Mahadevpalli	Binika
15	**SPBP-15**	Sakama-II	Khambeswari	OLIC	Mahadevpalli	Binika
16	**SPBP-16**	Sakama-III	Maa Maheswari	OLIC	Mahadevpalli	Binika
17	**SPSP-17**	Ainlapalli-1	Aiulapali-2	OLIC	Ainlapalli	Sonepur
18	**SPSP-18**	Reegudipalli-5	Rugudipali-5	OLIC	Reegudipalli	Sonepur
19	**SPSP-19**	Bhoipalli-2	Bhoi palli	OLIC	Bhoipalli	Sonepur
20	**SPSP-20**	Baghpali-4	Baghpali-4	OLIC	Baghpali	Sonepur
21	**SPSP-21**	Baidyanath-3	Baidyanath	OLIC	Baidyanath	Sonepur
22	**SPSP-22**	Nandanmal-3	Nandanmal-3	OLIC	Nandanmal	Sonepur
Bolangir District						
23	**BGKP-1**	Bandepadar-1	Annapurna WUA	OAIC	Bandepadar	Khaprakhol
24	**BGKP-2**	Sarjipalli	Maa Tarini WUA	OAIC	Sarjipalli	Khaprakhol
25	**BGKP-3**	Dhanda meender	JayaDurga pp.	OLIC	Banjipalli	Khaprakhol
26	**BGKP-4**	Bandepadar-2	Lakehmi pp	OAIC	Bandepadar	Khaprakhol
27	**BGBP-5**	Semila-2	Khambeswari pp	OLIC	Semila	Bolangir
28	**BGBP-6**	Semilla-3	Patmesureri pp.	OLIC	Semilla	Bolangir
29	**BGBP-7**	Duanpalli-3	Sunamukhi	OLIC	Duanpalli	Bolangir
30	**BGPP-8**	Khalipalli	Jai Kisan	OLIC	Khalipalli	Puintala
31	**BGPP-9**	Durgapalli-3	Annapurna pp.	OLIC	Durgapalli	Puintala
32	**BGLP-10**	Magurbeda-2	Alekha Mahima	OLIC	Magurbeda	Loisingha
33	**BGLP-11**	Magurbeda-1	Jai Jagannath	OLIC	Magurbeda	Loisingha
34	**BGLP-12**	Kushmale	Ugratara	OLIC	Kushmale	Loisingha
35	**BGLP-13**	Gungi-3	Maa Lurengudi	OLIC	Gungi	Loisingha
36	**BGLP-14**	Lankabahal-2	Viswakarma	OLIC	Lankabahal	Loisingha
37	**BGGP-15**	Dulikana-2	Maa Khadenbudhi	OLIC	Dulikana	Gudvella
38	**BGGP-16**	Medhekela-1	Madhekela-1	OLIC	Medhekela	Gudvella
39	**BGGP-17**	Medhekela-2	Madhekela-2	OLIC	Medhekela	Gudvella
40	**BGGP-18**	Jamut-IV	Jamut-IV	OLIC	Jamut	Gudvella
41	**BGGP-19**	Kotgoan	Kotgoan WUA	OLIC	Kotgoan	Gudvella
42	**BGDP-20**	Gudungamala-2	Ashram	OLIC	Gudungamala	Deogoan
43	**BGDP-21**	Ratakhandi-V	Maa Banjari	OLIC	Ratakhandi	Deogoan
44	**BGDP-22**	Budelgumma-1	Kaleswar	OAIC	Budelgumma	Deogoan
45	**BGDP-23**	Goudagotha-VI	Goudagotha-VI	OLIC	Goudagotha	Deogoan
46	**BGDP-24**	Khaksikana	Khasibudha	MI	Khaksikana	Deogoan
Kalahandi District						

47	**KDBP-1**	Gobra-1	Khambeswari	OAIC	Gobra	Bhawanipatna
48	**KDBP-2**	Gobra-2	Dhobalexwar pp.	OAIC	Gobra	Bhawanipatna
49	**KDBP-3**	Chahagran-2	Annapurna pp.	OLIC	Chahagran	Bhawanipatna
50	**KDBP-4**	Chandeepalla-2	Chandeepalla-2	OLIC	Chandeepalla	Bhawanipatna
51	**KDBP-5**	Kalam-1	---	OLIC	Kalam	Bhawanipatna
52	**KDBP-6**	Boria	United Farmer WUA	OLIC	Kesinga	Bhawanipatna
53	**KDJP-7**	Chingedeswer-2	Maa Bhandargharani	OLIC	Chingedeswer	Junagarh
54	**KDJP-8**	Amathola	Maa Thakurani	OAIC	Amathola	Junagarh
55	**KDJP-9**	Baladiamal-3	Thakurani pp.	OLIC	Baladiamal	Junagarh
56	**KDJP-10**	Kendapati-1	Ganjagumen pp.	OAIC	Kendapati	Junagarh
57	**KDLP-11**	Niali-III	Jay Sri Ram	OLIC	Niali	Lanjigarh
58	**KDLP-12**	Chandanpur-II	Maa Bhanirabi	OLIC	Chandanpur	Lanjigarh

Nuapada District

59	**NPSP-1**	Kapsi-4	Gerjighat pp	OAIC	Kapsi	Sinapali
60	**NPSP-2**	Sinapalli-2	Tentulighat pp	OAIC	Sinapalli	Sinapalli
61	**NPSP-3**	Baragran-4	Baragachha	OAIC	Baragran	Sinapalli
62	**NPNP-4**	Supuli-1	Supuli-1	OAIC	Supuli	Nuapada
63	**NPNP-5**	Kalyanpur-1	Utkal PP	OAIC	Kalyanpur	Nuapada
64	**NPNP-6**	Krishna	Pipal Khanda	OAIC	Krishna	Nuapada
65	**NPNP-7**	Dotto-II	Thakur	OLIC	Datto	Nuapada
66	**NPNP-8**	Beheradi-I	Tendahi	OLIC	Beheradi	Nuapada
67	**NPNP-9**	Janjeera-I	Jay Maa Durga	OLIC	Janjeera	Nuapada
68	**NPKP-10**	Brrighat-1	Birishat -4 LIP	OLIC	Brrighat	Khariar
69	**NPKP-11**	Godhuapader-2 LIP	Goddhuapadar-2	OLIC	Godhuapader	Khariar
70	**NPKP-12**	Mondosil-4	Mondosil-4	OLIC	Mondosil	Khariar
71	**NPKP-13**	Bhuliasinkuan-III	Bhuliasikuan	OLIC	Bhuliasinkuan	Khariar
72	**NPKP-14**	Chandgir-III	Chandgir	OLIC	Chandgir	Khariar
73	**NPKP-15**	Badadevli-II	Maa Bastarani	OLIC	Badadevli	Khariar
74	**NPKP-16**	Bargoan-III	Bargean-III	OLIC	Bargoan	Khariar

Nabarangpur District

75	**NRJP-1**	Pandra Gandhi II	Maa Tapasarini	OAIC	Pandra Gandhi	Jharigaon
76	**NRJP-2**	Pandra Gandhi I	Maa Paradesini	OAIC	Pandra Gandhi	Jharigaon
77	**NRJP-3**	Telkanadi	Bodra Gosin	OLIC	Telkanadi	Jharigaon
78	**NRJP-4**	Chitaguda	Kandipadar	OAIC	Chitaguda	Jharigaon
79	**NRJP-5**	Gobari IV	Gobari IV pp	OLIC	Gobari	Jharigaon
80	**NRJP-6**	Gubani-3	Gubani-3	OLIC	Gubani	Jharigaon
81	**NRUP-7**	Khanda MIP	Maa Ganga	MI	Khanda MV-12	Umerkote
82	**NRUP-8**	Mahuli	Ambedker	MI	MahuliMV-17	Umerkote
83	**NRUP-9**	Bheda-1	Maa Pendrani	OAIC	Beheda	Umerkote
84	**NRUP-10**	Ektaguda	Ektaguda PP	OLIC	Ektaguda	Umerkote
85	**NRUP-11**	Sonarharandi	Sonavharandi	OLIC	Sonarharandi	Umarkota
86	**NRUP-12**	Sonarharandi	Sonavharandi	OLIC	Sonarharandi	Umarkota
87	**NRNP-13**	Kurluguda	Maa Thakurani	OAIC	Kurluguda	Nabarangpur
88	**NRNP-14**	Pujariguda	Pujari guda PP	OAIC	Pujariguda	Nabarangpur
89	**NRNP-15**	Sindhigaen	Sindhigaen-1	OLIC	Sindhigaen	Nabarangpur
90	**NRNP-16**	Churahandi IV	Churahandi IV	OLIC	Churahandi	Nabarangpur
91	**NRNP-17**	S.Maliguda-IV	---	OLIC	S.Maliguda-IV	Nabarangpur
92	**NRNP-18**	Ambadola-IV	Ambadola-IV	OLIC	Churahandi	Nabarangpur
93	**NRNP-19**	Ambadola-I	Maa Thakurani	OLIC	Ambadola-I	Nabarangpur

Malkangiri District

94	**MGKP-1**	M.V-119	M.V-119	MI	M.V-119	Korkunda
95	**MGKP-2**	M.V-7	Pulimetala pp	OLIC	M.V-7	Korkunda
96	**MGKP-3**	Poteru-IV	Poteru-6 pp	OLIC	MV-63	Korkunda
97	**MGKP-4**	Kachal wade-IV	Sri Jagannath pp	OAIC	Kachal wade	Korkunda
98	**MGKP-5**	MPV-17	---	OAIC	MPV-17	Korkunda
99	**MGKP-6**	MPV-6	MPV-6	OLIC	MPV-6	Korkunda
100	**MGKP-7**	MV-53	MV-50	MI	MV-53	Korkunda
101	**MGKP-8**	M.V-120	MV-120 PP	MI	M.V-120	Korkunda
102	**MGGP-9**	Jagannath palli	Jagannathpalli pp	OLIC	Jagannath palli	Malkangiri
103	**MGGP-10**	Baivapari -II	Jai Jagannath pp	OAIC	Bailapari	Malkangiri
104	**MGGP-11**	Kenjeli	---	MI	Kenjeli	Malkangiri
105	**MGMP-12**	Pujariguda	Pujariguda pp	OLIC	Pujariguda	Mathili
106	**MGMP-13**	Champjharon	Champjharan	OLIC	Champjharon	Mathili
Koraput District						
107	**KTSP-1**	Hatimunda	Nisanimunda	OAIC	Hatimunda	Similiguda
108	**KTSP-2**	Shisaput	Patapada	OAIC	Shisaput	Similiguda
109	**KTSP-3**	Gelaguda	Gelaguda	OLIC	Gelaguda	Similiguda
110	**KTSP-4**	Pungar-II		---	Pungar	Similiguda
111	**KTSP-5**	Alasidusura-I	Allasidusura-I	OLIC	Alasidusura-I	Similiguda
112	**KTSP-6**	Pandriguda-II	Pandrigude	OLIC	Pandriguda	Similiguda
113	**KTSP-7**	Malli-Morla	Malli-Morla	OLIC	Malli-Morla	Similiguda
114	**KTNP-8**	Bisipur	Thakurani pp.	OAIC	Bisipur	Nandapur
115	**KTNP-9**	Badaliguda	Kamarghat	OAIC	Badaliguda	Nandapur
116	**KTNP-10**	Nandapur	Gangeisuni pp	MI	Nandapur	Nandapur
117	**KTJP-11**	Dharanahandi-I	Dharanahandi-I	OLIC	Dharanahandi	Jeypore
118	**KTJP-12**	Salpa-IV	Salpa-VI	OLIC	Salpa	Jeypore
119	**KTJP-13**	Salpa-III	Salpa-III	OLIC	Salpa	Jeypore
120	**KTJP-14**	Salpa-IV	Salpa-IV	OLIC	Salpa	Jeypore
121	**KTJP-15**	Dharanahandi-IV	Dharanahandi-I	OLIC	Dharanahandi	Jeypore
122	**KTJP-16**	Dharanahandi-IV	Dharanahandi-III	OLIC	Dharanahandi	Jeypore
Rayagada District						
123	**RGRP-1**	Amlabhata-II	Nagabali pp	OLIC	Amlabhata	Raygada
124	**RGRP-2**	Khairaguda LIP	Khairaguda	OAIC	Khairaguda	Raygada
125	**RGRP-3**	Champikota	Champikota PP	MI	Champikota	Raygada
126	**RGRP-4**	Hata Seskal-II	Nagabali pp	OLIC	Seskal	Raygada
127	**RGRP-5**	Utkapadu LIP	Utkapadu pp	OAIC	Utkapadu LIP	Raygada
128	**RGRP-6**	Dingarpunga	Jay Hanuman pp	OLIC	Dingarpunga	Raygada
129	**RGMP-7**	Lataguda	Sarveswar pp	OLIC	Lataguda	Muniguda
130	**RGMP-8**	Goada Chandan Khunti	Maa Sarala	OLIC	Goada Chandan Khunti	Muniguda
131	**RGMP-9**	Nua sahi	Maa Bhabani	OLIC	Nua sahi	Muniguda
132	**RGMP-10**	Sitarampur MIP	Maa Thakurani	MI	Sitarampur	Muniguda
133	**RGKP-11**	Leemadoor	Yogaswari	OAIC	Leemadoor	Kashipur

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Chapter 1V: Findings of the present study

4.1 Introduction:

The KBK region comprising of eight districts are the most backward districts of the State of Orissa in terms of most of the socio economic indicators of development. This region accounts for 19.80 % of population with over 30.6 % of the geographical area of the state. But most of the people living below poverty line are concentrated in this region. Around three-fourth of the population are living below poverty line in this region, with a high concentration of 86 % living below poverty line in the Nuapada district, followed by 84% in the Koraput district. On the other hand, Bolangir has the lowest number of people below poverty line, i.e., 61%. Tribal communities also dominate in this region. As per 2001 Census, about 38.41 % of the people of these districts belong to the Schedule Tribes communities including five primitive tribal groups, viz., Bondas, Dadai, Langia, Sauras and Dangiria Kandhas. Further, 16.25 % of population belong to the Schedule Caste communities. Around 90 % of the people are living in the rural areas with low literacy rate. Most of them are subjected to high morbidity on account of undernourishment as well as endemic malaria and other localized diseases.

In addition to the socio economic backwardness, the region suffers from economic backwardness also. Not only the productivity of land is very low owing to geographical disadvantages, the employment opportunities for the people are limited too. This being a hilly region and with high variation in rainfall distribution (which is very erratic) lacks adequate irrigation facilities. Coupled with low irrigation opportunities, practice of shifting cultivation, high soil erosion and land degradation (more than 50 % of the forest area in these district are degraded) this region is often prone to drought. Thus this region is called “perennially drought-stricken" area with "perpetual drought" conditions existing for the past three decades. The time line of droughts provided in the Annexure shows that whenever there is a drought in the state, the KBK region always faces drought. Even whenever there is a moderate drought, it occurs only in the KBK region. Moreover, hunger and misery that stalks Kalahandi and Koraput is known to everyone. Thus, the backwardness of this region is multi-faceted: (i) tribal backwardness, (ii) hill area backwardness, and (iii) backwardness due to severe natural calamities.

As mentioned above, in order to tackle these problems, the Government has had introduced many special programmes in this region including CSP, SP, CP and RLTAP. More particularly, in order to promote usage of scanty water resources of the region and to ensure benefit to the poor marginal and small farmers through extension of irrigation, the Government of Orissa has introduced schemes like SCA, AIBP and BKVY. The BKVY is extended to the KBK region with certain concessions and also included under RLTAP for higher agriculture development and thereby to improve the standard of living of the poor communities. In tune with the objectives of our study, we have undertaken the field investigations in our study area, in course of which we have covered 133 projects of BKVY and its corresponding PPs. The findings of our investigations, based on the responses of the project implementing agency, the functionaries of the PPs as well as the beneficiaries are highlighted below along with the problems/constraints identified in planning and execution of the projects.

4.2 Impact of BKVY projects in the KBK region

The impact of any development project primarily depends on selection of proper indicators of success. In order to gauge such impact indicators of the BKVY projects, we have identified some direct impact factors, such as, additional crop productivity, additional income generation, employment generation, impact on livestock, and material assets. Moreover, some indirect success factors are analysed in a qualitative manner to highlight the gains flowing from BKVY projects. Most of those success indicators reported below are based on our primary data/ information gathered from the beneficiaries. The focus group interview and PRA conducted in the study area have also provided a lot of useful information. Some of those major findings are:

♣ DIRECT IMPACT FACTORS:

♥ Crop Productivity:

The details of our field survey results dealing with land and crop productivity, which are contained in Annexure/ table 4 and 9 show that the crop productivity has significantly increased in the command areas of the BKVY projects owing to intensive cultivation as well as changes in cropping patterns. More particularly, the productivity gains are very high during the Kharif season due to assured water supply for irrigation. A comparison of productivity figures in terms of yield rates of paddy during Kharif and other crops grown during Rabi season before BKVY and formation of PP and after formation of PP reveals that while the increase in productivity vary in the range of 25% to more than 100 % in different sample blocks during Kharif; the yield rate for Rabi is mostly more than 100% in most of the project sites. Due to availability of assured irrigation water during Kharif, farmers have adopted high yielding variety of paddy (see photograph 10 and 19) as a result of which the productivity of land has gone up. Moreover, many farmers of PP have adopted commercial cultivation like vegetables (such as, banana, cabbages, ginger, sugarcane, cauliflower, groundnut, brinjal, sweet potato) to increase the productivity of land. In fact, in many areas, the Rabi crops like paddy, pulses and vegetable grown are the additional crop practices to generate more than 100% rise in land productivity. While photographs 13, 14 depict the mixed cropping practices in Koraput district, photograph 15 shows the changes in scenario in Malkangiri, Photo 16 and 18 show the practices in Kalahandi and Rayagada district. There has been rapid transformation in productivity which can be seen by comparing photograph 17 and 18, i.e., how the unproductive barren land is transformed into a very productive land after introduction of BKVY projects in the KBK region. We have noted that in Nabarangpur district a significant increase in productivity of sugarcane has taken place after irrigation facilities from BKVY projects. A typical project of palm cultivation has been introduced in Rayagada (see photograph 21 and 22) to augment more than 100 % rise in yield rate of land.

However, with respect to the question that whether these additional yield can be attributed to BKVY/PP or to some other structural changes in the region because of Government interventions/ extraneous effects, we have observed that for a scientific answer to this question, there is a need to apportion the additional yield rate with the help of an independent study. But notwithstanding these observations, our general impression (based on pure value judgement) is that these additional yield and crop diversifications would not have been possible without the intervention in the BKVY and corresponding PP. In fact, BKVY is primarily responsible for these changes.

Further, we have observed that as a result of this rise in crop productivity, a number of ancillary activities have come up in the study area to add income levels of both the beneficiaries and non-beneficiaries of BKVY projects. For, example, it is noted that due to a significant rise in rice yield and intensive cultivation of rice in the Bolangir- Sonepur area, a number of rice mills have come up in the recent years. These rice mills are a boom for the farmers to sale their surplus rice as well as to provide employment to the poor labourers of the area.

♥ Additional Income Generation

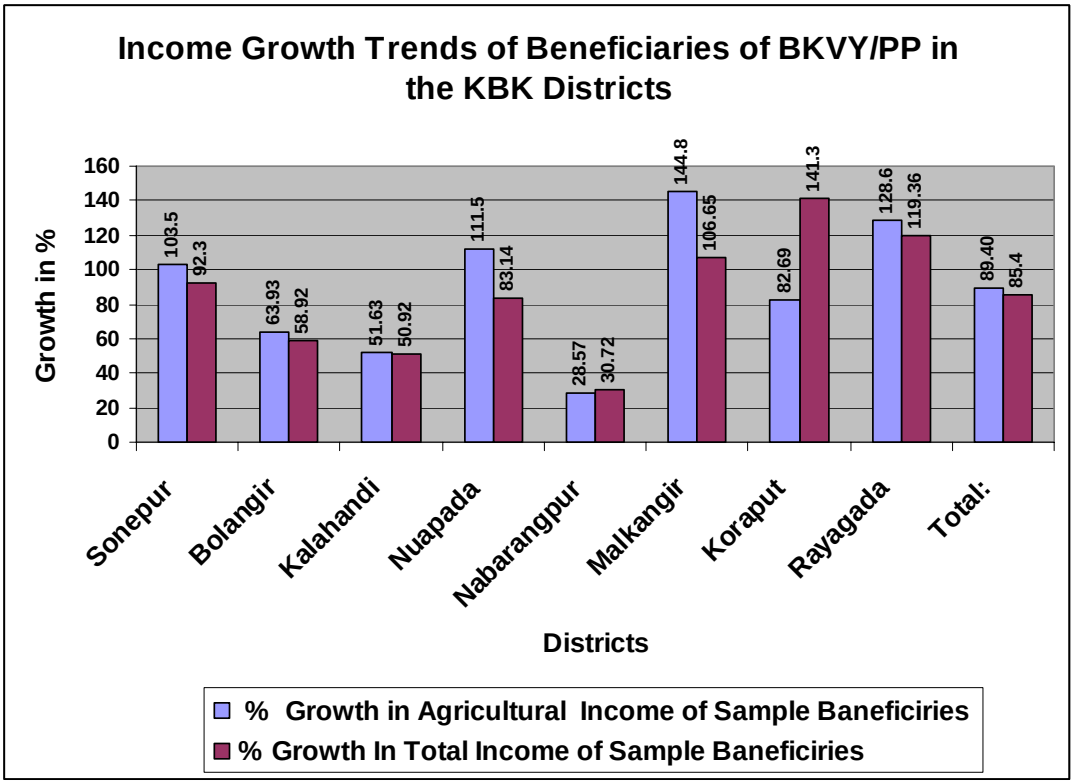
The income and consumption in terms of expenditure particulars of the households of farmers participating in PP after BKVY project are reported in Annexure/ Table 10. An analysis of the figures indicate that almost all the households have gained in income generation, specially gain in income from agriculture. As mentioned above, owing to change in crop productivity and cropping patterns, the farmers' net income from agriculture has gone up significantly. It is reported to us during our focus group interview (see photographs 23-26) that the farmers have gained additional income from commercial cultivations like banana, sugarcane, groundnut and vegetable cultivation. In the project sites of Kesinga, Bhabanipatna, Rayagada area, the farmers net gain from banana cultivation alone has been reported around Rs 40,000 per acre. In few project sites of Malkangiri, i.e., MV 120 and its surrounding areas, we were informed that a typical beneficiary has earned around Rs 1,00,000 from groundnut cultivation during the Rabi season. In Koraput area also the farmers earn around Rs 50,000 per acre from mixed vegetable cultivation. We have estimated these

gains in income from agriculture as well as total income of the households and the summery of the estimates are given in table 4.1 and the trends are depicted in the bar chart.

Table 4.1: Summery of Growth in Agricultural as well as Total Income of the Beneficiaries of BKVY/PP in the KBK Districts

Sl. No.	District	% Growth in Agricultural Income of Sample Beneficiaries	% Growth In Total Income of Sample Beneficiaries
1	Sonepur	103.5	92.3
2	Bolangir	63.93	58.92
3	Kalahandi	51.63	50.92
4	Nuapada	111.5	83.14
5	Nabarangpur	28.57	30.72
6	Malkangir	144.8	106.65
7	Koraput	82.69	141.3
8	Rayagada	128.6	119.36
	Total:	89.40	85.4

Source: Based on the primary data collected from Sample Beneficiaries of BKVY/PP in the KBK Districts



An analysis of the above figures indicate that on an average the additional income generated from agriculture has been around 90% for all districts, however, with a significant variation among districts. The maximum gain from agriculture is accrued in the Malkangiri district (144.8%). In addition to rise in income from agriculture, there has been an overall growth in total income of the beneficiaries. It has increased by more than 85 % in the BKVY project, of course with variation among the districts. Interestingly, maximum growth in total income has been reported from the project sites of Koraput (141.3%), followed by Rayagada (119.36%) and Malkangiri (106.65), which are relatively more backward. This implies that BKVY/ PP projects have high potentials of growth in the relatively more backward districts. As a result of this rise in overall income of the households, there has been rise in expenditure level of the households, which establishes that the standard of living of the household has gone up after introduction of BKVY/PP in the KBK region.

A further analysis of the above graph reveals that the growth agriculture income of the sample beneficiary households is higher than growth of total income of households in all the districts other than Koraput. When we examined this deviation in normal trend for Koraput, we found that in addition to growth of agriculture and crop diversification (which is to a large extent attributable to dominance of the typical Mali community in our project sites), there has been greater scope for the family members to be engaged in large scale industrialization and tertiary sector growth that has taken place in this district. Most of the large scale industries like HAL, NALCO, and other ancillary industries are predominantly existing in this district. Further, there has been rapid growth of urbanization in this district (i.e., urban centers like Jeypore, Koraput, Sunabeda, Similiguda, NALCO township are there within this district), which also provides income generation opportunities for the local people. The industries and townships provide opportunities for growth of the ISB sectors. Moreover, as NH 43 passes through this district, marketing and business opportunities are rapidly growing. In this regard, we have noted maximum volume of trade and business taking place in the weekly markets at Kunduli, and Similiguda.

♥ Additional Employment

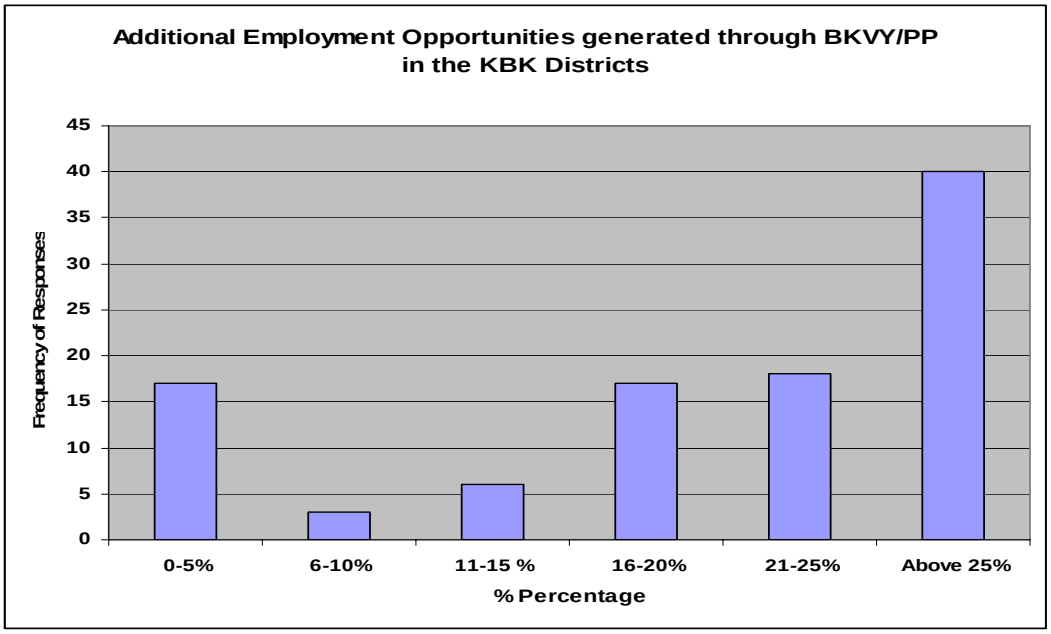
In addition to the rise in production and productivity of land as well as income levels, we have noted that employment levels in the BKVY project area have gone up after introduction of the scheme in the KBK region. The details of household level data are reported in Annexure/ table 12 and its summery is provided below in 4.2 along with the trend diagram. Analysis of the figures in the summery table shows that most of the households have gained in terms of additional employment opportunities for them. While 39% of the households have gained more than 25 % additional employment for their family members, around one-third of the households have been benefited to the extent of 16-25% range. Moreover, 16% of the households have been marginally benefited in the range of less than 5% of additional employment.

In addition to this direct employment opportunities, there has been indirect rise in the employment opportunities in the KBK region after introduction of BKVY scheme indirectly due to rise in allied to agriculture activities as well as rise in agro-based industries in some parts of the study area. Even new sugar mills and palm oil processing plants are in offing in the region to create more employment opportunities for the people. Besides, the rise in service sector has also created additional employment opportunities for the people.

Table: 4.2: Summery of additional employment opportunities in BKVY project area

Sl. No.	District	Additional Employment Opportunities (Increment in %)					
		0-5%	6-10%	11-15 %	16-20%	21-25%	Above 25%
1	Sonepur	0	0	1	2	4	8
2	Bolangir	3	1	1	1	1	2
3	Kalahandi	3	0	1	6	2	0
4	Nuapada	5	1	0	0	0	3
5	Nabarangpur	2	0	3	4	4	6
6	Malkangir	2	0	0	2	0	9
7	Koraput	2	1	0	2	4	6
8	Rayagada	0	0	0	0	3	6
	Total:	**17**	**3**	**6**	**17**	**18**	**40**

Source: Based on the primary data collected from Sample Beneficiaries of BKVY/PP in the KBK Districts



♥ Impact on Livestock Possession

It is well argued in the economic literature that a rise in agriculture productivity is very much dependent on growth of allied to agricultural activities like animal wealth and vice versa because there is a positive correlation between the two. Hence, it is expected that there would be rise in animal wealth in the KBK region after introduction of BKVY projects. With a view to examine the validity of this hypothesis, we have attempted to estimate the changes in animal wealth possession of the households who are members of the PP and accordingly collected the relevant data/information. The compiled data of animal wealth during the pre and post PP period are contained in Annexure/ table 8. An examination of the data indicates that there is a rise in total animal wealth of the households after introduction of BKVY/PP in the KBK region. However, as expected, there has been a significant rise in possession of bullock i.e., a rise of 113.7% and cow by 108%. Though there is a marginal rise in case of he-buffallow by 4%, the number of she-buffallow has gone down by 21%. This trend establishes the hypothesis of positive correlation between agriculture growth and animal wealth, implying thereby that there has been rise in standard of living of the sample households.

♥ Impact on Possession of material assets

The rise in income levels due to rise in agricultural production is likely to provide a boost for the beneficiary households to acquire more and more of material assets. Our study has reveled that there has been a rise in possession of material assets in the range of 30-40% among the PP households in the project site. The rise has mainly come due to additions of transport vehicle like motor cycle and cycle and other durable material assets. Even there is a rise in possession of TV set among the beneficiaries.

♥ The extent of irrigation coverage

In respect of irrigation coverage, our study has established a marginal rise during Kharif season. But the rise in coverage is very significant in the Rabi season. It has gone up around 60-80% during the Rabi season and by 25-30 % during the summer season. The project site located near river Mahanadi, Tel, Suktel, Indrabati and some perennial streams of Koraput have availed the additional coverage during summer season.

♣ INDIRECT IMPACTS OF BKVY PROJECTS

The indirect and secondary impacts are those which are either associated with or flowing from the above mentioned direct benefits. Some of those indirect impacts flowing from BKVY projects are provided below:

a) As shown above the BKVY scheme has, no doubt, strengthen and expanded irrigation infrastructures and has accelerated the rate of growth of farmers income, output and employment in the KBK areas. Through this process of acceleration, it has helped to reduce the regional income inequalities in the state.
b) When we investigated the impact of PP on drought proofing, on poverty alleviation and the extent of ensuring improved quality of life for the people in the KBK region, we found that all three aspects are fulfilled by the BKVY projects in the KBK region.
c) The other secondary benefits flowing from these projects are identified to be significant, e.g. the rise in number rice mills in the corridor between Sonepur and Bolangir because of a significant rise in rice production in the area due to intensive rice cultivation.
d) Similarly, it has been noted by our study that the number of Gur and Khandasari making units in the Nabarangpur, Rayagada and Koraput area have gone up owing to extensive sugarcane cultivation in river plains of Indravati, Uppar Kolab and Nagabali rivers.
e) BKVY has helped to remove regional imbalances in terms of irrigation coverage within the State. The intra district variations within the state has gone down after introduction of BKVY and PP.

♦ Impact in terms of IRA:

In order to assess and estimate the impact of BKVY in the framework of impoverishment and risk factors, we have undertaken a qualitative analysis with the help of IRA attributes, which are advocated by a number of researchers and policy planners, such as,

a) Landlessness
b) Joblessness
c) Homelessness
d) Marginalisation
e) Loss in Income and Consumption level
f) Increased Morbidity and Mortality
g) Food Insecurity
h) Loss of Access to Common Property and Services, and
i) *Community disarticulation /disintegration*

These attributes are not only vital to the process of measuring the economic and social upliftment of the common masses but rather these are the fundamental parameters which are used in this study to examine the impact of improvement in water resource utilization and crop diversification in the KBK region. Almost all these attributes of IRA have shown improvement in our study area after introduction of the BKVY/PP, implying thereby that BKVY has a high potential for improving the socio economic conditions of the poor people.

4.3 Impact of Pani Panchayat on Performance of BKVY project

As BKVY projects are based on the principle of participation of the end users, the institution of Pani Panchayat plays a crucial role on its success. With a view to study impact of PP on performance of BKVY projects, we have focused on:

- Level of awareness among the members regarding formation of PP
- Process of formation and structure of PP in the study area,
- Modus operandi of fund raising, handling of records and accounts, managing the O & M part of the BKVY projects in the region,
- Identification of the problems faced in constitution of various committees under PP, establishing rapport with various field organization, and
- Examining the impact of PP on drought proofing, on poverty alleviation and the extent of ensuring improved quality of life for the people in the KBK region,

♥ Awareness about Pani Panchayat Act

In course our focus group interview and primary data collection, we have learnt that the awareness among the members regarding the PP act is very poor. This lack of knowledge of Pani Panchayat Act amongst the users is attributed to lack of dissemination of knowledge / information by the agencies which are responsible to promote PP. Besides, there are not many active NGOs in the region to promote PP, who could bring visible changes among the beneficiaries. We have noted that that a NGO like PRAYAS, which is working in Boipariguda block of Koraput district is bringing a lot of changes in their sample villages. But, unfortunately, their experience is not replicated by the agencies those are involved in execution BKVY projects.

Furthermore, it is noted that even the awareness among the field staff working to promote BKVY projects is minimal and also there is no inducement on their part to learn about various provisions of PP act. It is observed that as the formation of PP is in a nascent state, it needs to be nurtured by the BKVY project implementing agencies. But as there is no provision of funding in subsequent years, these agencies loose interest in providing any help to PPs during operation and maintainance stage of projects.

♥ The Pani Panchayat Formation and PP Fund

We have learnt from our survey results as well as from the information collected during the focus group interview that PPs have been formed due to continuous inducement from OAIC and OLIC, which is a precondition associated with BKVY projects. It is further noted that these organizations are deeply associated so as to formation of PP primarily due to their struggle for existence. There is a lack of sustenance aspect of PPs. Indeed, their involvement is also linked to their getting additional funds from the Government and also due to the risk associated with execution of these projects. There is a possibility that the pump set and its accessories may be stolen unless the people come forward to take charge of these projects. They have envisaged that unless it is handed over to the PP, there is a risk associated with it. It may be stolen or can be damaged. In addition, they are not able to maintain the projects as there is no budget provision for the same. On the other hand, the Minor Irrigation, which has regular staff and a allotted budget from the Government for each year, plays a passive role in formation of PP in their command areas. Hence, PP formation is considered as a routine matter and the implementing agencies do not take it seriously.

But with regard to the formation of committees, we have not identified any problems faced in constitution of various committees under PP, But most of the committees are not active. There is typical PP noticed by us in Rayagada district, where the PP is formed under the patronage of a young

entrepreneur from neighbouring Andhra Pradesh. We are glad to learn that he has taken initiative to go for Palm oil tree plantation and to set up its first oil extracting plant in Orissa,

Successful BKVY project but PP is yet to be registered

The OLIC has commissioned a derelict flow LI projects in Malimurla, Similiguda block of Koraput district with a command area of 60 acres. The project lifts water from a perennial stream that flows from the Deomali hills, the highest hill range of Orissa. There are 30 households of the Mali community who own the land in the command area of the project. Since water is available from an assured source, beneficiaries have started growing cash crops, mostly vegetables like cabbage, ginger, cauliflower, brinjal, ladies finger, beans (shown in the photograph below). They are also marketing their vegetables in the nearby weekly markets at Kunduli, Similguda and Patangi without much difficulty. Though they are selling the vegetables to wholesalers from nearby urban areas of Orissa and Andhra Pradesh at a very low price, still they get some profits. As it has become remunerative to them, most of the family members are engaged in farming activity without migrating to nearby areas for work. Thus we have noted that most of the farmers are quite happy with the outcome of the BKVY project. Though they have taken over the operation and maintenance of the pump set and associated accessories informally, the Pani Pnchayat of the members is yet to be registered. Though there is a President and Secretary of the proposed PP, the PP is non functional; there are no meetings of the members and no PP fund. This indicates that the PP is not constituted properly owing to lack of induced effects, which is ought to be performed by the project executing authority, viz., OLIC.

Photographs4.1: Vegetable cultivation in the Malimurla BKVY Project, Koraput (round the year vegetable cultivation by PP members)

Though the membership fees for joining the Pani Panchayat were collected initially and deposited in the PP fund, the fund has not expanded in due course as there is no systematic attempt to collect water charges on a sustained manner. The PPs generally collect contributions to pay the electricity charges and other O&M costs as when required. In fact, at many project sites the members of PP are not aware of the need for fund creation due to lack of knowledge on the their part. To add to it, in this front there is no incentive mechanism involved with PP either from the side of the Government or from the implementing agencies. Indeed, the members are ignorant about the advantages associated with PP fund. Even we were surprised to learn from one of the active PP of Malkangiri, which has received state level awards, that their members are not aware about the PP fund. Another factor responsible for non-creation of PP fund is that once the PP is officially registered and the project is handed over to the PP, the implementing agency adopts no follow up measures. Not only the modus operandi of fund raising is weak, we have also noted a number of shortcomings in handling of records and accounts and managing the O & M part of the BKVY projects in the region. Because of lack of induced effects, the formation of Committees at many sites are not picking up as per the PP guidelines. Similarly, there is no rapport between the project proponent /implementing agency and the people at the grass root level.

♥ Insurance of assets of the project

In view of the risks associated with machines of PP under BKVY owing to the vagaries of nature, we have observed that there is a good potential for insurance of the assets. But due to

lack of knowledge and also due to poor insurance infrastructure in the region, and more particularly, due to lack of support from Government machinery, most of the assets are not insured. In fact, most of the functionaries and members of PPs are ignorant about the advantage of insurance. Hence, no insurance of assets are reported to us during our field survey in the study area. Nor the officials have advised them regarding insurance of assets.

4.4 Extent to which the objectives of BKVY fulfilled

In order to evaluate the extent to which the objectives of the BKVY programme have been achieved in the KBK region, we have undertaken the PRA approach and focus group discussion route. Of course, such analysis is mostly based on the above mentioned direct and indirect impacts as well as our subjective value judgement drawn from the focus group interviews with the stakeholders.

- ✓ In respect of the first goal of BKVY, i.e., to encourage water users to take initiative and participate in construction and management of new and derelict lift and flow irrigation projects, we have noted that people/ beneficiaries have come forward to take the responsibility of maintaining the project. Though applications for new projects are made in the name of the local people, the leadership in initiating and commencing of the projects still lies with the field organizations like OLIC, OAIC and MI.
- ✓ More particularly, in most of the lift points of both OLIC and OAIC, the farmers have realized that unless they maintain the pump set and its associated accessories, and pay the electricity charges, they will be deprived of the benefits. So awareness to take care of the project for their well-being has spread through the PP.
- ✓ In view of the benefits, the water users have come forward to form the PP and gradually the awareness spreads to discuss the various issues and problems in the PP meeting and try to find out possible solutions.
- ✓ Our study has established that the BKVY projects and their associated PPs have definitely stimulated the mobilization of farmers and to make them self reliant.
- ✓ As discussed above, the BKVY has, no doubt, strengthen and expanded the irrigation infrastructures in the KBK region that has helped in accelerating the rate of growth of income, output and employment in this backward region.
- ✓ BKVY has promoted the growth decentralized irrigation system that has become an instrument to remove regional imbalances in irrigation coverage in the KBK region, and
- ✓ Last but not the least, BKVY and PPs have impacted the physical and socio economic environment that would assist drought proofing, poverty alleviation and to a large extent ensure improved quality of life for the people in the KBK region,

4.5 Process of Project Formulation, Screening, Approval and Implementation

It is well argued in the economic literature that the success and sustainability of any development project are often dependent on the process of project formulation, its screening and approval mechanism and above all, how projects are implemented in the field. The Guidelines of the

Government of Orissa for BKVY projects has also contained elaborate steps for planning and execution of the projects. In this section, we have critically investigated pros and cons of these

planning aspects of BKVY / PP formation to find out if there is any scope for further improvement so as to make the scheme more beneficial for the people. Most of these observations are based on our discussion with various stakeholders and also scrutiny of the records at different levels.

♥ Project Planning and Formulation Aspects:

With regard to project planning starting with identification, timely feasibility study, screening and implementation of BKVY projects, we have noted that there is a considerable lag between the initial project proposal submitted by the people and the execution of the projects. In fact, we have noted that the preparation of feasibility report part in very weak, of course, with a considerable variation between the three implementing agencies, viz., OLIC, OAIC and MI. Contrary to our expectation, the organization of MI which has the maximum potential in preparation of feasibility report is lagging behind its two other competing organizations. The major cause attributed to the weakness is the bureaucratic structure and attitude of the department officials toward BKVY projects. In fact, they are not doing their homework seriously. The OLIC under the present circumstances is forced to participate in BKVY, but they are as inefficient as the MI. On the other hand, OAIC, the new entrant in participating in this programme has taken it up as a challenge and performing better than the other two. They have redefined their conventional role and accordingly have adopted a commercial approach. Hence, the other two organizations involved in execution of BKVY projects have to learn lesions from OAIC. In respect of the project selection procedures, we have observed a relatively transparent system.

With respect to project formulation, we have noted that though identification of any new project depends on proper investigation through a reconnaissance survey, as the line organizations do not have adequate technical hands, the identification of potential sites are delayed.

On the other hand, though projects are to be screened and approved by the State Level Screening Committee, which is supposed to clear the proposal within a month time on the basis of feasibility report, we have noted that there are many weaknesses involved in the present system. In view of infrequent meeting of the SLSC, the approval process is delayed and the same breeds inefficiency. We have come across projects which have taken more than one year for clearance by the SLSC.

Even if the projects are approved, there is inordinate delay in completion of the projects. It is noted by our study that there are 12 projects each in Nabarangpur and Malakangiri, which have taken more than two and half years for completion.

Moreover, the benefit cost analysis that forms the corner stone for the feasibility reports suffers from a number of weaknesses. The method adopted is very crude and is not capable of capturing the externalities flowing from the BKVY projects. The BCR calculations do not reflect the flow of benefits and costs for the entire life span of the projects, nor there is discounting of benefits and costs. Moreover, the benefit and costs estimates are not converted into social benefits and social costs respectively. Thus, we would like to say that the modus operandi of screening and approval of the BKVY projects on the parameter of SBCA is not optimal.

4.6 Technical Aspects dealing with Strengths of BKVY projects

The technical aspects investigated by us during our field visits have revealed the following strengths associated with BKVY projects:

- Selection of almost all sites of BKVY projects are quite appropriate. Most of the sites are strategic locations and capable of catering water for their designed command area (shown in photographs 1, 2, 3, 4, and 7).

- The water resource potentials (particularly flow of water in the small streams) are well exploited.
- The PP members who are users of the project are well aware about the significance of proper operation and maintenance (O&M) of the pumps and many of them have got training for the operation of pumps and other small works associated with the projects. Many a times these are discussed in the PP meeting to find appropriate solutions.
- Care is taken to utilize water for maximum land area that is possible. Natural topography is well utilized for the purpose (shown in photographs 1 and 7).
- There has been significant improvement in the land productivity due to BKVY projects, which is amply clear when one compares the status of land before and after the project (Photographs 14, 15,16,17 and 18).
- The users have started developing a feelings of belongingness toward these water utilization projects. In general, they have started sharing the management of the several operations associated with the project by undertaking discussion among the members (Photographs 23, 24, 25 and 26).

4.7 Constraints faced in BKVY project Implementation

With a view to identify the constraints that the implementing agencies are facing in executing the projects, we had a round of discussions with the officials of all the implementing agencies starting from the Heads of the department to the levels of Executive Engineers/ Asst Engineers of MI and OLIC and Branch Managers of OAIC as well as the mechanics and mates, who work with the people at the project sites. The common constraints / problems those affect their efficiency levels and significantly impact the achievements are:

- As the training component of BKVY is relatively weak, there is a lack of co-ordination between land, water and the common man (i.e., a mismatch between *Jami, Jal and Jana*).
- Shortage of funds for O&M of the projects,
- Capital cost escalations take place due to a considerable gap between project proposal, project approval and its implementation,
- Lack of proper coordination among other line organization like agriculture, animal & husbandry, fisheries, forestry, soil conservation department and electricity supply company (i.e., WESCO),
- Most of the organizations are besieged with problems like shortage of adequate staff,
- There is no inducement mechanism on the part of the staff to motivate formation of PP and getting the people to be mobilized in making PP a success
- Recovery of 10% of the capital cost from the water users is, in fact, managed in the field. It is adjusted in some pretext or the other. The contribution part is not taken up seriously by the stakeholders. Indeed it is used notionally to complete the formalities of project formulation, and
- Although the BKVY Guidelines have focused on proper monitoring, there is no proper post monitoring mechanism of these projects. The monitoring mechanism is hardly operational in the field.

In addition to these common constraints, the officials of both the OLIC and OAIC face some typical problems like-

- Getting electricity connections for the lift points,

- There is considerable delay involved in undertaking the survey for energisation of the pump sets, spread of line and finally getting the line charged for electricity distribution / energisation,
- Lift points near the rivers are often threatened to natural calamities, such as, flood and cyclone,
- Demoralisation of the staff due to non payment of their salaries regularly,(we have come across few personnel of OLIC who are not paid their salary for more than 10 months in a row; nor do they have funds for travel to the site to supervise the work and to educate the people in making PPs effective and functional.

On the other hand, the MI faces many typical constraints in initiation and execution of projects like:-

- Getting forest clearance for reservoir as well as canals,
- Shortage of field staff like Amins and NMR for investigation
- Getting peoples' participation in the form of application
- As many potential sites are already exploited earlier, getting any new appropriate MI site has become a problematic issue.

Besides the above constraints faced by the implementing organizations, ***the beneficiaries of the BKVY projects also face some constraints*** which invariably affect the benefit accrual as well as efficiency of the projects. These are:

- ✓ Scarcity of water for irrigation during the Rabi season,
- ✓ Lack of adequate training and knowledge,
- ✓ Lack of knowledge as to how to make the PP a sustainable one?
- ✓ No proper skill for record keeping and maintenance of accounts of the PP by the members,
- ✓ Fund raising from among the members,
- ✓ No adequate technical service is rendered by the implementing agencies, i.e., inadequate support from the field level officials
- ✓ Marketing of the cash crops/ vegetables at a remunerative price
- ✓ Lack of adequate support from local financial institutions
- ✓ Inadequate support from the agriculture department regarding better agricultural practices.

4.8 Deficiencies and Shortcomings of BKVY projects

As discussed above, the BKVY projects have achieved many successes in spite of the above constraints. Notwithstanding these achievements, we have noted many deficiencies and shortcomings associated with BKVY projects and its associated PP. In case preventive measures are undertaken to remove these deficiencies, there will be higher efficiency of these projects and the PPs will be sustainable. Those deficiencies identified by us are:

⇒ In spite of high benefit potential of BKVY projects to augment benefits to the water users in the KBK region, with regard to the extent to which BKVY has encouraged the beneficiaries/ water users to take initiative in management of new and derelict lift and flow irrigation projects, we have noted no significant change in the attitude of the people nor there is attitudinal change in the mindset of the officials of MI and OLIC. This is due to lack of proper sharing of information among the beneficiaries as well due to proper training among the beneficiaries and officials.

⇒ Our investigation regarding the formation and structure of PP shows that the PP formation is considered as a formality and nobody takes it seriously. No attempt is made to disseminate the advantages of PP in the rural areas.

⇒ There is a considerable gap between project proposal submission and project completion. We have noted in some cases there are inordinate delay, e.g., projects have taken more than a year for approval and more than two years between approval and completion.

⇒ Peoples' participate in construction of new projects and renovation of old projects is minimal, i.e., they only contribute some labour and few cases surrender their land for construction of field channels.

⇒ The farmers in the command areas of BKVY projects are rarely stimulated to mobilize themselves to make themselves self-reliant.

⇒ At many places (especially the sites by OLIC), there is no pump house and in the absence of the pump house, the pumps are exposed to vagaries of weather which results in decreased efficiency.

⇒ The pump, when not located in a pump house is subjected to theft, and also there are chances of being washed away during flood.

⇒ When the intake points of pumps are not well protected, (see photographs no 1,3,4,and 5) they are subjected to deposition of sands during flooding. Owing to these types of open exposures, we have noted that many pump sets are frequently damaged and that affects the efficiency.

⇒ A general observation is that most sites of OLIC are poorly maintained. This refers to maintenance of pumps.

OLIC boasts but beneficiaries refute

In course of our discussion with the officials of OLIC, they have always boasted that in view of all technical skill as well as vast experience available with them, they are the best player in setting up of lift irrigation points in the KBK region. Their efficiency should not be compared with their competitor, the OAIC which is a new player in this venture. Indeed, they allege that the OAIC gets all the work done through the contractors, who not only use sub standard materiasl but are not capable enough to deliver the assignment successfully. On the contrary to these arguments, in course of our focus group interviews we have learn that the OLIC do not use quality materials nor do they supervise the work seriously so as to ensure sustainable benefits to the farmers. They do not come to induce them to form the PP nor do they help them in management of the affairs of PP.

⇒ Probably, the weakest link of the BKVY project is that it does not have a component for maintenance. Thus, there is a higher probability of their failures and due to these weaknesses the projects may not deliver sustainable output.

⇒ Many old MI projects are not functioning efficiently due to mismanagement and due to absence of any inducement mechanism (see photographs 8,11,and 12).

⇒ At many places, the channels used for irrigation are not properly designed and are subjected to severe water loss due to evaporation, seepage, breaking of levees.

⇒ There is lack of coordination between different line agencies involved in development of the KBK region,

⇒ Many LI point projects are greatly dependent on the nearby electrical transformer, which works inefficiently to add to the problems of the farmers.

⇒ It is also noted that no modern method of water utilization, like drip irrigation is attempted in these projects. Nor there is any attempt to have conjunctive use of water

⇒ Further it is noted that rain water is not properly tapped to enhance efficiency of the BKVY projects.

⇒ At the O & M stage, adequate technical service is not rendered by the implementing agencies, as a result of which the life of the project would be reduced.

⇒ To ascertain special efforts, if any, made by the implementing agencies to avoid failures and or to promote success of the programme.

⇒ The modus operandi of implementation of BKVY projects in the region has many weak links like which needs to be bridged

4.9 Best Practices for Empowerment of Rural Communities: Our Earlier Studies of Public Private Partnership

Our study of 2003 had highlighted that PPs in the command areas of the Derajang and Aunli medium irrigation project located in the Angul district of Orissa had become effective with the help of the NGOs, who work as the change agent in this whole exercise. The NGOs had persuaded the farmers to form PP for their benefit by undertaking training programmes, motivating them to join this co-operative endeavour and bring together the people and the government officials. Another best example of the NGOs playing a lead role in creating new awareness among the members of the dormant civil society, is the contributions of *Tarun Bharat Sangh (TBS)*, Jaipur, a Rajastan based NGO under the leadership of Mr Rajinder Singh who have played a lead role in reviving the traditional water harvesting structures for sustained utilization of the scarce water resource of the region. They have activated the civil society and helped empowering the rural communities by initiating a proper use of the common property resource of land and water. Our study of 2006, based on the field surveys and PRA undertaken in some randomly selected villages of Alwar district in Rajastan, which receives the lowest rainfall in the country and which faces a perpetual problem of draught due to scarcity of water have shown that the water users associations (WUAs) have become very effective in delivering a number of benefits to the poor farmers under the guidance of TBS. The major findings of both the studies are:

- Our case studies have established that a public-private partnership or private-private partnership (i.e., between NGO and common people of our civil society) will not only lead towards sustainable development of our water resources, but also will bring improvement in the socio-economic condition of our deprived rural population. The rural communities have been empowered and immensely benefited from this participatory management of the common property resources of land and water.
- This movement towards attainment of sustainable use of our land and water resource has empowered the people and more particularly, women children. The studies show that with the new partnership, the farmers have gained additional income, employment opportunities have gone up and above all, their standard of living has improved. Now they are capable of spending more money to provide better education for their children. Health care expenses for the family have also gone up.
- With the help of some sustainable development indicators like empowerment, opportunities and food security, access to common property, and tree coverage ratio, we have observed that the small water harvesting structures constructed with the help of the people, of course backed by TBS, have proved to be a blessing for the farmers of the area. Not only the farm productivity and allied activities have gone up, but also employment opportunities have been higher as a result of which out migration has been reduced.
- The new structure of management of irrigation projects has not only improved the efficiency and x-efficiency benefits, but also better performance of the irrigation projects has resolved many issues and problems associate with management of irrigation. Thereby, the governance of irrigation has improved significantly.
- Further it is established that the Government of India's commitment to move away from the command and control / top-down approach to a participatory bottom-up approach has resulted in a win –win situation. Both the Government and the civil society have stood to gain in this process.
- The decision of the Government to rope in the NGOs to play a catalytic role to promote participatory irrigation management (PIM) and to bring public –private partnership for sustainable use of the water resources has been fructified to a great extent.

- The central message of our studies is that people should not look forward to Government to do every thing for them. There is a hidden potential within them and within the surrounding environment, which has to be judiciously harnessed for their betterment. Proper utilization of the hidden potential in their area can bring prosperity for them provided they develop partnership among themselves on a co-operative basis. This cooperative movement has brought economic prosperity in lives of villagers.

What is unique about TBS' approach?

The TBS possesses some exceptional features compared to other NGOs:

- TBS has a well-articulated philosophy that emphasises the use of local resources with peoples' participation,
- It aims at organising all activities through village level committees, i.e., through *Gram Sabha,* where there is proper representation of women,
- It is aimed at expansion or restoration of social and cultural values by setting example in welfare action,
- To energise human power, especially youth power, it focuses on value based work with an orientation to physical labour,
- It is aimed at maintaining an ecological balance between nature and man,
- To build up of an integrated natural resource management programme using water harvesting structures as an entry point activity, and
- Another prime motive of TBS is to be vigilant and to inculcate togetherness.

Chapter V Policy Implications and Suggestions

In the last chapter we have discussed the direct and indirect benefits flowing from the BKVY projects in the KBK region. Besides, we have examined some of the problems and constraints faced in planning and execution of these projects as a result of which its efficiency levels of the project are going down. Our field investigations have further established that BKVY has fulfilled many of our planned goals like additional production, income and employment generation. It has further contributed to regional income redistribution and group income distribution, however, with a variation of its impact on different communities. Hence, we foresee that BKVY has a good potential to improve the socio-economic conditions of the people of the KBK region. In view of this high potential we suggest that this programme should not only be continuing with central assistance but also be strengthened in future years to come.

Though we have noted a high potential for BKVY projects in the KBK region and to harness its land and water resources, the likelihood of achieving the objectives by 2010 is very much dependent on financial resource allocations as well as flow of funds from the Central Government, and Government of Orissa. Moreover, its success is heavily loaded towards the commitments of the project planning and implementing agencies, co-ordination among other government departments and above all on involvement of the people, which can be ensured through proper training and dissemination of best practices from other parts of the country. But in order to exploit these potential benefits for development of the backward area of KBK, we would like to offer few suggestions for the consideration of the Government:

- First of all, as we know that success of any scheme and its project depends on proper planning and execution, we would like to suggest that the gaps in planning should be bridged first. In this regard, it is advocated that the line organizations should improve design of projects. In stead of adopting the conventional methods of providing irrigation water through open field channels that reduces the efficiency due to evaporation loss, they should promote alternative means like drip irrigation, which is technically more efficient (my personal experience of visiting few project sites in China in 2006 has convinced me that the drip irrigation system is highly efficient in similar topographic situation as KBK region).

- Further, the field organizations should also investigate the possibility of conjunctive use of land and water resources wherever there exists a potential. Based on the water availability, it may be tried to get multiple benefits from a project. For example, small check dams may be planned and designed for both irrigation and power generation. Our recent study (2007) has establishes that the micro hydel projects render a number of benefits to the poor tribal population in the form of providing irrigation water as well as electricity for domestic use in the nights. In view of those advantages, during our field visits to some remote tribal villages, we have noted the villagers expressing their interest in participating in such endeavour. They are willing to contribute their labour and pay the nominal electricity charges for their benefit.

- Thus, such possibility of irrigation along with direct generation and distribution of hydel power should be explored at some of the potential sites in Koraput area for benefit of the tribal people.

- In order to improve the irrigation efficiency, it is suggested that while designing the channels care must be taken to minimize losses due to evaporation and seepage. In addition, innovative ideas such as conveying water through pipes may be explored for certain terrains.

- Some of the constraints associated with planning process as mentioned in the last chapter should be removed to improve the efficiency of BKVY projects. There should have some involvement of the local people in designing of the projects so that they develop a belongingness with the project.

- With respect to project formulation, we have noted that though identification of any new project depends on proper investigation through a reconnaissance survey, as the line organizations do not have adequate technical hands, the identification of potential sites are delayed. Hence, it is recommended that most of the vacant posts in these departments may be filled up on a contractual basis.

- As per the guidelines of PP Rule/Act, the SLSC should meet quarterly to clear the projects. But with regard to the frequency of holding SLSC, we have noted that while there were 5 meetings in 2002, only two meetings each were convened during 2003 and 2004. Surprisingly, there was no meeting convened during 2005 and three quarter of 2006. For instance, while the 9th meeting of the SLSC was convened on November 8, 2004, the 10th meeting was held after two years on November 3, 2006. Hence, the approval process is delayed and the same breeds inefficiency. As the present committee structure is top heavy loaded, the frequency of holding meeting of the Committee at least every quarterly is not possible. Moreover, the Committee does not include any non-official member. In order to overcome these shortcomings, we suggest the following modified structure for consideration of the Government.
    - In addition to the present members, the SLSC should include the Chief administrator of KBK,
    - It should also include two non official expert members (one technical person with experience in irrigation administration and another social scientist with expertise in project appraisal/ evaluation, who can render their expertise in screening of the projects),
    - In view of top heavy bureaucratic structure of the SLSC, we recommend for creation of a "sub-committee" of the SLSC to examine all the proposals as per the guidelines of BKVY. The recommendation of the sub-committee, once approved by the Chairman of SLSC can be communated to the district magistrate for execution and the same can be placed before the SLSC for ratification.
    - The SLSC should meet, at least, twice in a year to ratify the recommendation of the sub committee.
    - With regard to the composition of the sub-committee, we suggest that it should comprise of five members, i.e., three official members and one non-official member. The sub-committee should be chaired either by the special secretary/ joint secretary of the Department of Water Resources and the other members be one nominee of the finance department, one of the Chief Engineers, and two non official member; one retired Chief Engineer and a social scientist with experience in water resource management.

    - The proposed sub-committee should meet at least every two months to expedite the process of clearing the projects.

- In many of the LI points (especially in rivers) the intake of water has to be designed properly. Care must be taken so that the intake point is not affected by flood and or shifting of banks of river.

- The professional /technical aspect of the project planning and implementation has a lot of scope for improvement, which need to be examined at different levels. More particularly, the calculation of BC ratio is very weak. The methods adopted are very traditional and obsolete, hence, needs improvement.

- As the present method of SBCA undertaken by the line organizations suffers from many weaknesses, we suggest that at the proposal stage of any project, a proper social benefit cost analysis (SBCA), based on the modern discounted approach, should be undertaken by the project proponents. But we have noted that many of the field officials are not familiar with the latest methods. Hence, it is suggested to impart proper training to the field officials. More particularly, as the KBK districts exhibit some special features in the country, the positive externalities associated with the projects of this region should be incorporated in the SBCA.

- Though the BKVY guidelines have made elaborate provision for monitoring and evaluation by Monitoring and Evaluation Committees at the State and district levels at regular intervals, we have hardly come across any BKVY project being monitored in its proper spirit. Specially, the district level committee should be reactivated to resolve the problems in execution of the projects. In this regard, we suggest that the district committee should have few non-official members (at least four additional members comprising of one retired irrigation official, one retired agriculture/horticulture expert, one social scientist with specialization in water resources, and a representative of an NGO operating in the district). As the non-official members will act as a watch dog of the system, the proposed structure would enhance the efficiency of the BKVY projects as well as that of the PPs.

- It is noted that the farmers enjoy the freedom of deciding own cropping patterns within the allocated water, many of them prefer to grow cash crops. Particularly, they are interested in growing cash crops in the Rabi season when the water flow from the streams decreases and thereby reduces the culturable command area of the projects. Lack of sufficient water causes scarcity in the tail end of the canal systems, which need to be strengthened with introduction modern methods of water distribution and use. Besides, wherever the water channels are not lined there is wastage of water to perpetuate the problems. Hence, most of the field channels should be either lined or water can be supplied through PVC pipes to save seepage and evaporation losses.

- Our study has identified that there exists a greater scope for revival of derelict flow projects, which is the prime responsibility of the MI department. But unfortunately, owing to lack of any incentive mechanism in the system, very few officials come forward to take initiative in revival of those projects. In view of high potential of

  revival of those derelict flow projects, we suggest that an incentive mechanism (in line with South Korean model) should be adopted by the Government for BKVY projects.

- It is noted during our Focus Group interview and PRA that most of the projects are facing problems in maintenance of the various components associated with BKVY projects including sustainability of the PPs. The line organizations are also facing the problems of cash crunch to visit the project sites to assist the farmers in maintenance of the machinery and to help them in making PPs viable. We have come across many projects of OLIC and OAIC where no officials have ever visited the site after handing over formalities of the project to the PP. In order to overcome this lacuna, we suggest that at least three years O&M cost should be capitalized along with the budget

estimate of any project, i.e., a part of the maintenance component be capitalised. Typically a project costing Rs. 700000/, a nominal 7.5-10% should be allocated as O&M expenses for the next 3 years, which would be sufficient for travel and other soundry expenses of the project.

- The biggest hurdle faced by the people and the project authorities to get the pump set energized due to non co-operative and vested interests of the electricity companies. Besides, the attitude of the field staff of the electricity companies are not conducive for healthy growth of the projects. Hence, it is suggested that the State Level Monitoring and Evaluation Committee should undertake co-ordination with GRIDCO so as to reduce the delay in supplying electricity to the project sites. The constraints faced by the beneficiaries like payment of electricity bills when they dismount the pump sets during kharif seasons should be removed with a proactive role of GRIDCO.

- Even at the district levels, the Collectors, who are supposed to establish proper coordination with the power supply agencies to promptly energize the lift points, should pay due attention to these problems and ensure smooth energization of lift points for reposing the confidence of the people on institutional administration.

- Besides, we would like to argue that the maintenance of existing electrical components (transformer etc.) should be performed by the respective departments in collaboration of the district administration and the PPs at least for three years and then handed over to the people.

- It is proposed in the guidelines for BKVY that the assts of the projects should preferably be insured against natural calamity, theft etc. But our study has established that no machinery of the projects have got insurance coverage. In view of the risk factors involved in the projects, more particularly with lift points, which are susceptible to theft, fire, and flood etc, the possibility of providing insurance coverage be extended by the Government on the basis of cost sharing.

- To improve the performance of the projects, there should be proper maintenance of field channels periodically and regularly with the help of the PPs.

- As it is noted that there has been no assistance from the officials of agriculture and horticulture department in all aspects of crop husbandry, it is suggested that they should be roped in planning and operation of BKVY projects. Since Agriculture / Marketing / Water Resources components of a project need proper coordination to achieve higher success, we urge upon the Government to strengthen the present system in collaboration of the local people.

- At the project level, proper training be imparted to the people to actively participate in the management of the irrigation system and proper co-ordination among the field organizations of the Government be established under the guidance of the KBK authorities.

- The PP represents a partnership effort that will tend to encourage people to commit their skills and develop capacity and energy to solve their own problems. But in this regard, we have noted some lacuna like lack of political and bureaucratic will, lack of enthusiasm among the members, resource sharing, revenue collection and its sharing. Since the concept of PP is still based on an approach flowing from the state machinery rather than proposed by the people themselves, its viability and

sustainability is very much depended on the role of the NGO, who has played the role of a change agent. The withdrawal of the NGO may jeopardize the effective functioning of the PPs. Hence, we suggest that more and more NGOs be involved in making the PPs sustainable.

- With regard to the peoples' perspective for making the programme a success, the members of PPs suggest that there should be regular/periodical visits by officials to encourage the farmers. As awareness programmes like video shows, and introduction to successful farmers of the country and the state will result in increase in production, we suggest to strengthen this component. Moreover, provision for imparting training to selected members of PPs be undertaken at frequent intervals.

- On the other hand, the official perspectives for success of the BKVY projects and PPs, as noted by us during our discussions with them are:
  - Officials must get their salary regularly in time. They feel that how can we motive others when we are not motivated.
  - A small component (5-10%) of project cost may be kept for TA of officials for next 2-3 years after installation of project.
  - They should receive help and cooperation from other associated departments like agriculture, horticulture, veterinary, banks etc.
  - Training of officials to motivate them to work in tribal areas.

All these challenges need to be debated in thread bear at different levels of the State to arrive at some viable alternative solutions for the optimum utilization of the scarce land and water resources of a region like KBK, which is frequently marred by the twin natural calamity of draught and flood in different parts owing to sub-optimal use of its water resources.

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Photographs -13 & 14: Vegetable cultivation in the Marlimurlla BKVY Project Koraput

Photograph -15: Vegetable cultivation in the Mathili BKVY Project, Malkangiri

Photograph - 16: Banana cultivation in the Kesinga BKVY Project, Kalahandi

Photograph – 17: Un productive land at Sitarampur, Muniguda, Rayagada

Photograph - 18: Transformation of unproductive land in to highly productive land through BKVY Project at Sitarampur, Muniguda, Rayagada

Photograph -19: Paddy crop grown at Binka BKVY Project, Sonepur

Photograph -20: Sugarcane crop grown at Devgaon BKVY Project, Bolangir

Photograph -21: Palm cultivation with Sugarcane at Seskal BKVY Project, Rayagada

Photograph -22: Palm fruits at Seskal BKVY Project, Rayagada

Photograph – 23: Focus Group Interview at Boghapalli, Bolangir

Photograph – 24: Focus Group Interview at village Boria, Kesinga, Kalahandi

Photograph – 25: Focus Group Interview at village Dwarnapalli, Bolangir (inactive PP in this village)

Photograph – 26: Focus Group Interview in village MV 120, Malkangiri (there is a lot of awareness among members but the PP is dormant in terms of fund raising)

Photograph – 1: BKVY Lift Point of OLIC at Malimurla, Similiguda, Koraput

Photograph – 2: BKVY Lift Point of OAIC at Krishna, Komana, Nuapada

Photograph – 3: BKVY Lift Point of OLIC from Mahanadi River at Sonepur

Photograph – 4: BKVY Lift Point of OLIC at Sonepur

Photograph – 5: BKVY Lift Point of OLIC in Binka, Sonepur

Photograph – 6: BKVY Pump house of OAIC in Binka, Sonepur

Photograph – 7: BKVY Project of MI at Sitarampur, Muniguda, Rayagada

Photograph – 8: Poorly maintained BKVY MI Project at Nandpur, Koraput

Photograph – 9: Field Channel of BKVY project of OLIC in Sonepur

Photograph – 10: Field Channel of lift project of OAIC in Binka, Sonepur

Photograph – 11: **Champikota MI project, Champikota, Rayagada (poorly maintained drainage channel)**

Photograph – 12: **A Poorly maintained minor canal of BKVY MI project in Nandpur, Koraput**