2016-2021

DISTRICT IRRIGATION PLAN

TIRAP

GOVERNMENT OF ARUNACHAL PRADESH

NABARD CONSULTANCY SERVICES PVT. LTD.

Corporate Office : 24, Rajendra Place, NABARD Building,
New Delhi – 110125
Reg. Office : 3rd Floor, NABARD Building
BKC, Bandra East, Mumbai-400051
ZONER: NABARD, 6th Floor, G S Road, Guwahati- 781006
Email: zoner@nabcons.in / headoffice@nabcons.in

District Irrigation Plan

2016-2021

Under

Pradhan Mantri Krishi Sinchayee Yojana

PMKSY

TIRAP

Arunachal Pradesh

NABCONS

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CREDIT CITATION

NABCONS sincerely acknowledges that without the overall support provided by the top officials of the State Government, Arunachal Pradesh, especially the Departments of Agriculture, Water Resources Department, RD Department, and RWD as also the teams of District-level field functionaries of the participating Departments and agencies under the overall leadership of the Chairman, District Level Implementation Committee (DLIC), it would not have been possible to prepare this ***District Irrigation Plan (DIP)*** *under "****Pradhan Mantri Krishi Sinchayee Yojana" for the State of Arunachal Pradesh****".*

NABCONS hereby records its earnest thanks and gratitude for the same and trusts that this document shall be instrumental in bringing about a transformative progress in the lives of the farmers in the District.

District Irrigation Plan (DIP) Dashboard

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No…… Dated 05/05/2017

CERTIFICATE

This is to certify that District Irrigation Plan (DIP) for Tirap District, Arunachal Pradesh has been prepared by the NABCONS in collaboration with the DLIC as per the operational Guidelines of PMKSY issued by the Ministry of Agriculture Cooperation and Farmers Welfare, Govt. of India, in the year 2015-2016. The DIP is approved and hereby vetted through DLIC.

(Shri Ravi Jha) IAS
Deputy Commissioner –cum-
Chairman
DLIC, PMKSY
Tirap District, Khonsa
Arunachal Pradesh

Deputy Commissioner
Tirap District, Khonsa
Arunachal Pradesh

(P. Khoisia)
Deputy Director (Agri.) –cum-
Member Secretary
DLIC, PMKSY
Tirap District, Khonsa
Arunachal Pradesh

Deputy Director Agriculture
Tirap Dist.
KHONSA

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Abbreviations Decoded

Abbreviations	Decoded Forms
AIBP	Accelerated Irrigation Benefit Programme
ATMA	Agricultural Technology Management Agency
BCM	Billion Cubic Meters
CAD	Command Area Development
CCA	Culturable Command Area
DIP	District Irrigation Plan
DLIC	District Level Implementation Committee
DRDA	District Rural Development Agency
DTW	Deep Tube Well
HKKP	HKKP
IWMP	Integrated Water Management Programme
KVK	Krishi Vigyan Kendra
LLP	Low Lift Points
LPCD	Litres Per Capita Per Day
MCM	Million Cubic Meters
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MI	Minor Irrigation
NABARD	National Bank for Agriculture and Rural Development
NABCONS	NABARD Consultancy Services
PDMC	PDMC
PMKSY	Pradhan Mantri Krishi Sinchayee Yojana
RIDF	Rural Infrastructure Development Fund
SIP	State Irrigation Plan
SLIC	State Level Implementation Committee
SLNA	State Level Nodal Agency
STW	Shallow Tube Well
ZRS	Zonal Research Station
CGWB	Central Ground Water Board
AMSL	Above Mean Sea Level
GEC'97	Ground Water Estimation Committee, 1997

Executive Summary

In an agrarian economy like India, agriculture utilizes the major share of country's exploitable water resources. Though, the sector utilizes the maximum share of exploitable water resources, availability of the same at different locations to different extent makes it vital to adopt effective utilization of water through storage, channelizing and judicial use. At some places like Punjab and Haryana, the environmental and socio-economic rationale for this sector is now being questioned. Accordingly, it is needed to challenge and change the fundamentals of the prevailing view of water resources exploitation. A new and more suitable approach to water resources allocation is necessary if the population is to be adequately fed, without further degradation and destruction of the critical ecosystem services. Water productivity needs to be enhanced considerably, and economic cost-benefit analysis and pricing regimes can play a significant role in such a process. However, these economic measures will not be sufficient on their own. They will need to be buttressed by technological innovation and institutional changes in order to encourage a more equitable distribution of resources and to mitigate potential international conflicts across 'shared' water basins.

Water has unique characteristics that determine both its allocation and use as a resource by agriculture. Agricultural use of water for irrigation is itself contingent on land resources. In a situation of growing water scarcity and rising demands for non-agricultural (household and industrial) use of water, reassessment of sectoral allocations of water is inevitable. In developing countries, irrigated agriculture plays a vital role in contributing towards domestic food security and poverty alleviation. Therefore, achievement of these objectives is dependent on adequate allocations of water to agriculture. Justification of such allocations requires that irrigated agriculture be a cost-effective means of achieving stated political or social objectives, such as food security or poverty alleviation, and that all externalities be taken into account in the pricing mechanism. Improved allocation of irrigation water is required within the agriculture sectors in order to achieve greater efficiency in the use of irrigation water and existing irrigation infrastructure. Reallocation is also required in order to reduce waterlogging and salinization of irrigated land to decrease the negative environmental impacts and other externalities of irrigation (caused by over-extraction of groundwater and depletion and pollution of surface water).

Government of India launched Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) to address the constraints in providing assured irrigation as well as increasing efficiency and productivity of current water use to bring more prosperity to the rural areas. Priorities of Government of India were reflected in the Hon'ble President's address to the joint Session of the Parliament of 16th Lok Sabha where he indicated that "Each drop of water is precious". Government is committed to giving high priority to water security. It will complete the long pending irrigation projects on priority and launch the 'Pradhan Mantri Krishi Sinchayee Yojana' with the motto of 'HKKP'. There is a need for seriously considering all options including linking of rivers, where feasible; for ensuring optimal use of our water resources to prevent the recurrence of floods and drought. Harnessing rainwater through '*Jal Sanchay*' and '*Jal Sinchan*' will nurture water conservation and ground water recharge. Micro irrigation will be popularized to ensure 'Per drop-More crop".

PMKSY has been approved with an indicative outlay of Rs.50000 crore over a period of five years from 2015-16 to 2019-21. The programme is an amalgamation of on-going schemes of Ministry of Water Resources, River Development and Ganga Rejuvenation, Ministry of Agriculture & Cooperation and Ministry of Rural Development. The existing schemes AIBP, CADWM, MI, SWMA, Watershed & Convergence with MGNREGA were brought together under the umbrella program of PMKSY. Further the scheme seeks convergence with schemes like Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Rashtriya Krishi Vikas Yojana (RKVY), Jawaharlal Nehru National Solar Mission and Rural Electrification programmes (JLNNSM & REP), Rural Infrastructure Development Fund (RIDF), Members of Parliament Local Area Development Scheme (MPLAD), Members of Legislative Assembly Local Area Development Fund (MLALAD), Local Body Funds (LBF), Working Plan of State Forest Department (WPSFD) etc. The PMKSY will be implemented in an area development mode only by adopting a decentralized state-level planning and projectised execution structure that will allow the State to draw up their own irrigation development plans based on DIPs and SIPs with a horizon of 5-7 years. The programme will be supervised and coordinated, utilizing the existing mechanism and structure available under Rashtriya Krishi Vikas Yojana (RKVY) with State Agriculture Department acting as the State Nodal Agency for implementation of PMKSY. However, the implementing departments for the four components like AIBP, PMKSY (HKKP), PMKSY (PDMC) and PMKSY (watershed development) will be decided by the respective program ministry/department.

The five chapters of the DIP, along with its introductory chapter, explains the profile of the District, its water requirement for agriculture and allied sectors, water availability, assessment of water requirement for various sectors and Strategic Action Plan for augmentation and effective management of available water resources.

During the course of preparation of District Irrigation Plan (DIP) for Tirap District of the State of Assam, a team of Consultants from NABCONS (A wholly-owned subsidiary of National Bank for Agriculture and Rural Development) had visited the District to collect data and have interaction with all the stakeholders. The methodology adopted to prepare DIP included collection of primary and secondary data from the field from various sources, including published documents and websites, conduct of meetings with different line departments and other stakeholders to obtain ground-level realities and data through structured, unstructured interviews, focussed group discussions etc., Meetings with various State Government departments and related institutions, GIS maps of the areas/clusters were studied to understand the land-morphology, topography of the District, focussed group discussions and interaction with of Agriculture Officers, Horticulture Officers, Soil Conservation Officers, Extension Officers, Rural Development Department, Animal Husbandry Department, Irrigation Officers for identifying the key issues and focus areas of the District. In the District, the Panchayat and village-level schemes were identified as per the need and irrigation potential to be created under PMKSY. The Panchayat resolutions were consolidated and put up in the Block Development Committee and Block Plans were put up in the Zilla Parishad along with the plans of other line departments participating in implementation of PMKSY. On the basis of detailed discussion and analysis of data, the team arrived at the projection of various components of PMKSY and a 5 Year Strategic Action Plan under PMKSY has been prepared for the year 2016-17 to 2020-21 as detailed in Chapter-V of this District Irrigation Plan.

District Profile and Demography

Tirap District, whose nomenclature can be traced to the Tirap River, is almost entirely covered by mountainous tracts, treacherous gorges, and ravines. The District derived its name from the River Tirap, which originates from a high peak in Laju Circle. The river flows from the southeast to the northeast part of the district and then crossing over to Changlang district and finally joins into the Buri-Dihing River near Ledo of Assam. Tirap is located between latitudes north 26º48'N and 27º47' and between longitudes east 95º22' and 96º16' and head quarter is located on latitude 26º59'37.72" and longitude 95º30'12.59". The district lies in the southern side of the Brahmaputra River and in the southern part of the state. Northern part of the district is bounded by Dibrugarh district of Assam, eastern side by Changlang district of Arunachal Pradesh, western part by Longding district of Arunachal Pradesh and southern side by Myanmar. Khonsa, the headquarters of Tirap district is approachable from both Tinsukia (120 km) and Dibrugarh (125 km) town of Assam. Tirap consists of three developmental blocks: Namsang, Khonsa, and Lazu.

As per the Census report of 2011, the population of Tirap district is 55022 out of which the Schedule tribe comprise 49962 (90.80%), and general castes 5060 (9.20%). Further, there are 28894 males and 26128 females.

Agriculture

Tirap falls under the Eastern Himalayan Zone II. Agriculture is the mainstay of the people of Tirap district. All the cultivators stick to their traditional Jhum cultivation. There is no major irrigation projects in the district, except a few number of minor irrigation schemes. Amongst minor irrigation schemes, Surface flow and Surface water lift are available. There is no ground water structure for irrigation. Total geographical area of the district is 126000 Ha. Average annual rainfall of district is 3579 mm.

District Water Demand and Gap

The total Water Demand of the District has been calculated by summing up all major sectors consuming water. The present annual water demand of the district has been assessed as 558.08 MCM. Total projected annual water demand during the year 2021 has been assessed as 579.41 MCM.

PMKSY Financial Proposal

A total of 04 departments has participated in the district Irrigation Plan preparation such as Agriculture, Water Resources Department, DRDA (RD) and Soil Conservation wing of Rural Works Dept. under PMKSY for Tirap District. The total outlay of the district Irrigation Plan for a period of 5 years is about **Rs. 19651.96 lakh** out of which WRD has the maximum share of 60% of the total outlay. All the departments have proposed various kinds of activities to be implemented under four major components of PMKSY, i.e., Har Khet Ko Pani (HKKP), Per Drop More Crop (PDMC) and PMKSY Watershed Management Components.

INTRODUCTION

Background

Preparation of decentralized area specific district planning process visualized in various plans took concrete shape through the years and initiatives like specific guidelines on methodologies and processes for preparation of district plans; framework for preparation of perspective plan, medium term and annual plans by then planning commission in 1969 and the 73rd and 74th Constitutional Amendments conferring constitutional status to Panchayat at district and sub-district level; local self-government in urban areas; constitution of District Planning Committee to consolidate the plans prepared at Panchayat and Municipalities and prepare a draft development plan for the whole district.

The decentralized planning process was further strengthened through emphasis by Planning Commission on preparation of district level plans and making it an integral part of the process of preparation of the States 11th Five Year Plan. The Planning Commission issued guidelines in August 2006 for preparation of the District Plans. The Guidelines define the District Planning as 'the process of preparing an integrated plan for the local government sector in a district taking into account the resources (natural, human and financial) available and covering the sectoral activities and schemes assigned to the district level and below and those implemented through local governments in a State. The document that embodies this statement of resources and their allocation for various purposes is known as the "District Plan".

Government of India through a resolution in National Development Council on 29th May 2007 conceived a special Additional Central Assistance Scheme (ACAS) to address the slow growth of agriculture and allied sectors by incentivizing States to draw up plans for their agriculture sectors more comprehensively. The NDC resolution states "GoI introduced a new Additional Central Assistance Scheme to incentivize states to draw up plans for their agriculture sector more comprehensively, taking agro-climatic conditions, natural resource issues and technology into account, and integrating livestock, poultry and fisheries, etc. This involved a new scheme for Additional Central Assistance (ACA) to State Plans, administered by the Union Ministry of Agriculture over and above its existing Centrally Sponsored Schemes, to supplement the State-specific strategies including special schemes for beneficiaries of land reforms. The newly created National Rain-fed Area Authority on request, was to assist States in planning for rain-fed areas".

The NDC in its resolution advised the States to prepare a Comprehensive District Agriculture Plans (C-DAP) that will fully utilize available resources and include allied agriculture sectors. Further, GOI issued a manual on preparation of Comprehensive District Agriculture Plans to help the states prepare C-DAP. As per these Guidelines, the objective of district planning is 'to design an integrated and participatory action plan for the development of local area in general and agriculture and allied sectors in particular'. The objectives of Comprehensive District Agriculture Plan (C-DAP) were: -

1. To prepare a Comprehensive District Agriculture Plan (C-DAP) through participatory process involving various organizations and stakeholders;

2. To enable optimum utilization of scarce natural, physical & financial resources;

3. To assess and plan for the infrastructure required to support the agriculture development;
4. To establish linkages with the required institutional support services, like credit, technology transfer, ICT, research etc.; and

5. To evolve an action plan for achieving sustainable agricultural growth with food security and cropping system that will improve farmers' income. The guidelines required the State/District authorities to (i) ensure that the agricultural plans are prepared for the district and then integrated into the agricultural plans of the State based on the agro-climatic conditions, availability of technology, trained manpower and natural resources; (ii) local needs / crops / feed and fodder / animal husbandry / dairying / fisheries / priorities are reflected in the plan; (iii) productivity gaps for important crops and livestock and fisheries are reduced; and (iv) the returns to the farmers from these are maximized.

The latest move in the process of strengthening of decentralized planning process was the Government of India guidelines issued in 2015 in the form of a template for the preparation of District Irrigation Plan (DIP) and State Irrigation Plan (SIP) as part of the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY**)** program and made the preparation of DIP and SIP mandatory for the states to receive funds from the program. The present report is a product of these long-drawn efforts of Government of India to strengthen the decentralized planning process in the country focusing on the vital resource i.e., water.

Water is of vital importance for human & animal life, maintenance of ecological balance and promotion of developmental activities. Considering its vital importance and ever increasing demand for water, in the face of population growth, urbanization & industrialization and considerations of climatic change, making water, an increasingly a scarce resource, available to multiple uses, planning and management of this vital resources, utilization of water economically, optimally and equitably assumes greater importance.

According to the 12th Five year Plan the water budget estimates of India by Ministry of Water Resources suggests an availability of 1123 billion cubic meters (BCM) against a current estimated demand of 710 BCM. The Standing Committee of the Ministry of Water Resources estimates that this water demand will rise to 1093 BCM by 2025. Though the existing water availability in the immediate future seems to be adequate, with the near constant supply of water resources in the face of increasing demand on account of population growth, urbanization and industrialization will strain the water supply-demand balance.

The per capita water availability which stood at 5,177 cubic meters in 1951 was reduced to 1820 cubic meters in 2001 while the international prescribed limit is 1800 cubic meters. The projected per capita availability of water is 1341 cubic meters in 2025 and 1140 cubic meters in 2050 suggesting shortage of water in the medium term[1]. Further, the all India water balance estimates does not reflect the variations in water balance across time and space- certain areas having a positive water balance and the others facing acute shortage. The problem is further accentuated by water quality related issues.

With the abundant surface and ground water supply in the first five decades since independence, more than 80 percent of the total available water resources were allocated for irrigation purposes and the rest

[1] Ministry of Water Resources (2011), Strategic Plan for Ministry of Water Resources, Government of India, New Delhi.

meeting the domestic and industrial demands. In a recent study[2] on the demand for water from agriculture, domestic and industrial uses in 2000, 2025 and 2050 seems to suggest that domestic demand (34 BCM in 2000, 66 BCM in 2025 and 101 BCM in 2050) and industrial demand (42 BCM in 2000, 92 BCM in 2025 and 161 BCM in 2050) for water will utilize the total balance water available while agriculture demand for water will be (605 BCM in 2000, 675 BCM in 2025 and 637 BCM in 2050). This change is partly because of the changing sectoral contributions of India's GDP and also partly because of dynamics of irrigation development in the country where the initial expansion in area under irrigation is propelled by the availability of abundant water resources and availability of good quality land. This is no longer the case in many of the states where the availability of land and water are serious constraints for further expansion of irrigation. Further, as per the erstwhile planning commission up to March 2012 out of 141 million hectares of net sown area in the country 114 (or 81%) million hectares is Irrigation Potential Created (IPC) and 88 (or 62%) million hectares is Irrigation Potential Utilized (IPU) leaving almost 20% of irrigated potential unutilized. This leaves 40 percent of the net sown area in the country dependent on rainfall which makes farming a high risk and less productive.

The competing demands for water resources and the emerging issues and concerns were to be addressed through certain basic principles and commonality in approaches in dealing with planning, development and management of water resources[3] under an Integrated Water Resource Management framework. The main objectives of water resource management as delineated in National Water Policy 2012 are: -

a) Planning, development and management of water resources need to be governed by common integrated perspective considering local, regional, State and national context, having an environmentally sound basis, keeping in view the human, social and economic needs;

b) Principle of equity and social justice must inform use and allocation of water;

c) Good governance through transparent informed decision making is crucial to the objectives of equity, social justice and sustainability. Meaningful intensive participation, transparency and accountability should guide decision making and regulation of water resources;

d) Water needs to be managed as a common pool community resource held, by the state, under public trust doctrine to achieve food security, support livelihood, and ensure equitable and sustainable development for all. Water is essential for sustenance of eco-system, and therefore, minimum ecological needs should be given due consideration.

e) Safe Water for drinking and sanitation should be considered as pre-emptive needs, followed by high priority allocation for other basic domestic needs (including needs of animals), achieving food security, supporting sustenance agriculture and minimum eco-system needs. Available water, after meeting the above needs, should be allocated in a manner to promote its conservation and efficient use.

f) All the elements of the water cycle, i.e., evapo-transpiration, precipitation, runoff, river, lakes, soil moisture, and ground water, sea, etc., are interdependent and the basic hydrological unit is the river basin, which should be considered as the basic hydrological unit for planning.

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[2] *Ministry of Water Resources, National Water Policy, 2012, Government of India, New Delhi.*

g) Given the limits on enhancing the availability of utilizable water resources and increased variability in supplies due to climate change, meeting the future needs will depend more on demand management, and hence, this needs to be given priority, especially through (a) evolving an agricultural system which economizes on water use and maximizes value from water, and (b) bringing in maximum efficiency in use of water and avoiding wastages.

h) Water quality and quantity are interlinked and need to be managed in an integrated manner, consistent with broader environmental management approaches inter-alia including the use of economic incentives and penalties to reduce pollution and wastage.

i) The impact of climate change on water resources availability must be factored into water management related decisions. Water using activities need to be regulated keeping in mind the local geo climatic and hydrological situation.

Government of India launched Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) to address the constraints in providing assured irrigation as well as increasing efficiency and productivity of current water use to bring more prosperity to the rural areas. Priorities of Government of India were reflected in the Hon'ble President's address to the joint Session of the Parliament of 16th Lok Sabha where he indicated that "***Each drop of water is precious. Government is committed to giving high priority to water security. It will complete the long pending irrigation projects on priority and launch the 'Pradhan Mantri Krishi Sinchayee Yojana' with the motto of 'Har Khet Ko Pani'. There is a need for seriously considering all options including linking of rivers, where feasible; for ensuring optimal use of our water resources to prevent the recurrence of floods and drought. By harnessing rain water through 'Jal Sanchay' and 'Jal Sinchan', we will nurture water conservation and ground water recharge. Micro irrigation will be popularized to ensure 'Per drop-More crop***".

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The funds under this program would be provided to the States as per the pattern of assistance of Centrally Sponsored Schemes (CSS) decided by the Ministry of Finance and NITI Aayog. During 2015-16 the existing pattern of assistance of ongoing Scheme will be continued. An outlay of Rs. 50,000 crore have been approved for 2015-20. The financial assistance provided to the state governments from this centrally sponsored scheme is subject to fulfilment of certain conditions. Firstly, a state will become eligible to access PMKSY fund only if it has prepared the District Irrigation Plans (DIP) and State Irrigation Plan (SIP), excepting for the initial year, and the expenditure in water resource development for agriculture sector in the year under consideration is not less than the baseline expenditure, which is defined as the average of the expenditure in irrigation sector irrespective of the department in the state plan in three years prior to the year under consideration. Secondly, States will be given additional weightage for levying charges on water and electricity for irrigation purposes, so as to ensure sustainability of the programme. Thirdly, interstate allocation of PMKSY fund will be decided based on

- Share of percentage of unirrigated area in the state vis-à-vis national average including prominence of areas classified under Desert Development Programme (DDP) and Drought Prone Area Development Programme (DPAP);
- Increase in percentage share of expenditure on water resource development for agriculture sector in State Plan expenditure in the previous year over three years prior to it; and
- Improvement in irrigation efficiency in the state.

Vision

The overreaching vision of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) will be to ensure access to some means of protective irrigation to all agricultural farms in the country, to produce 'PDMC', thus bringing much desired rural prosperity.

Objectives

The objectives of the PMKSY are to:

a) Achieve convergence of investments in irrigation at the field level (preparation of district level and, if required, sub district level water use plans).

b) Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (Har Khet Ko Pani).

b) Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.

c) Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent.

d) Enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop).

e) Enhance recharge of aquifers and introduce sustainable water conservation practices.

f) Ensure the integrated development of rain-fed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and other NRM activities.

g) Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.

h) Explore the feasibility of reusing treated municipal waste water for peri-urban agriculture, and

i) Attract greater private investments in irrigation.

Strategy/Approach

To achieve these objectives PMKSY adopted strategies that include:

a) Creation of new water sources; repair, restoration and renovation of defunct water sources; construction of water harvesting structures, secondary & micro storage, groundwater development, enhancing potentials of traditional water bodies at village level like *Jal Mandir* (Gujarat); *Khatri*, *Kuhl* (H.P.); *Zabo* (Nagaland); *Eri, Ooranis* (T.N.); *Dongs* (Assam); *Katas, Bandhas* (Odisha and M.P.) etc.

b) Developing/augmenting distribution network where irrigation sources (both assured and protective) are available or created;

c) Promotion of scientific moisture conservation and run off control measures to improve ground water recharge so as to create opportunities for farmers to access recharged water through shallow tube/dug wells;

d) Promoting efficient water conveyance and field application devices within the farm viz, underground piping system, Drip & Sprinklers, pivots, rain-guns and other application devices etc.;

e) Encouraging community irrigation through registered user groups/farmer producers' organizations/ NGOs; and

f) Farmer oriented activities like capacity building, training and exposure visits, demonstrations, farm schools, skill development in efficient water and crop management practices (crop alignment) including large scale awareness on more crop per drop of water through mass media campaign, exhibitions, field days, and extension activities through short animation films etc.

Programme Components

PMKSY has following four components:

1. Accelerated Irrigation Benefit Programme (AIBP)

To focus on faster completion of ongoing Major and Medium Irrigation including National Projects.

2. PMKSY Har Khet Ko Pani (HKKP)

This component focuses on: -

a) Creation of new water sources through Minor Irrigation (both surface and ground water).

b) Repair, restoration and renovation of water bodies; strengthening carrying capacity of traditional water sources, construction rain water harvesting structures (Jal Sanchay);

c) Command area development, strengthening and creation of distribution network from source to the farm;

d) Ground water development in the areas where it is abundant, so that sink is created to store runoff/ flood water during peak rainy season.

e) Improvement in water management and distribution system for water bodies to take advantage of the available source which is not tapped to its fullest capacity (deriving benefits from low hanging fruits). At least 10% of the command area to be covered under micro/precision irrigation.

f) Diversion of water from source of different location where it is plenty to nearby water scarce areas, lift irrigation from water bodies/rivers at lower elevation to supplement requirements beyond IWMP and MGNREGS irrespective of irrigation command.

g) Creating and rejuvenating traditional water storage systems like Khatri, Kuhl etc. at feasible locations.

3. PMKSY Per Drop More Crop (PDMC)

a) Programme management, preparation of State/District Irrigation Plan, approval of annual action plan, Monitoring etc.

b) Promoting efficient water conveyance and precision water application devices like drips, sprinklers, pivots, rain-guns in the farm (*Jal Sinchan*);

c) Topping up of input cost particularly under civil construction beyond permissible limit (40%), under MGNREGS for activities like lining inlet, outlet, silt traps, distribution system etc.

d) Construction of micro irrigation structures to supplement source creation activities including tube wells and dug wells (in areas where ground water is available and not under semi critical/ critical/ over exploited category of development) which are not supported under AIBP, PMKSY HKKP, PMKSY Watershed and MGNREGS as per block/district irrigation plan.;

e) Secondary storage structures at tail end of canal system to store water when available in abundance (rainy season) or from perennial sources like streams for use during dry periods through effective on-farm water management;

f) Water lifting devices like diesel/ electric/ solar pump sets including water carriage pipes, underground piping system;

g) Extension activities for promotion of scientific moisture conservation and agronomic measures including cropping alignment to maximize use of available water including rainfall and minimize irrigation requirement (*Jal Sarankchan*);

h) Capacity building, training and awareness campaign including low cost publications, use of pico projectors and low cost films for encouraging potential use water source through technological, agronomic and management practices including community irrigation;

i) The extension workers will be empowered to disseminate relevant technologies under PMKSY only after requisite training is provided to them especially in the area of promotion of scientific moisture conservation and agronomic measures, improved/ innovative distribution system like pipe and box outlet system, etc. Appropriate Domain Experts will act as Master Trainers; and

j) Information Communication Technology (ICT) interventions through NeGP-A to be made use in the field of water use efficiency, precision irrigation technologies, on farm water management, crop alignment etc. and also to do intensive monitoring of the Scheme.

4. PMKSY (Watershed Development)

a) Effective management of runoff water and improved soil & moisture conservation activities such as ridge area treatment, drainage line treatment, rain water harvesting, in-situ moisture conservation and other allied activities on watershed basis.

b) Converging with MGNREGS for creation of water source to full potential in identified backward rain-fed blocks including renovation of traditional water bodies.

Rationale/ Justification

The district of Tirap was curved out of Lohit District as the 18th District of the State vide Govt. of Arunachal Pradesh Notification No. DAD-34/2012(pt). Itanagar on the 23rd July 2014. Since the district is a new one, the status and need of irrigation, the water resource management including irrigation related priorities was identified for the District by the peoples' representatives of district with support from administration and technical experts of erstwhile Lohit district. For instance, the reports of Strategic Research and Extension Plan (SREP) prepared under ATMA, Comprehensive District Agriculture Plan (C-DAP) prepared as part of Rashtriya Krishi Vikas Yojana (RKVY), Potential Linked Credit Plans (PLP) of NABARD and the Integrated District Development Plan etc. of Lohit district was used for identifying irrigation related issues for the district including (i) promoting water use efficiency through sprinkler and drip irrigation; (iii) promoting protected poly-house cultivation to minimize risk factors and enhance quality and productivity; (iv) Improvement of on-farm water delivery and efficiency of existing irrigation systems; (v) promotion of soil conservation of arable & non-arable land through engineering measures; (vi) creation of new water harvesting structures, check dams, ponds, tanks, etc. (vii) increase the forest cover in the district and (viii) land improvement measures.

Methodology

During the course of preparation of District Irrigation Plan (DIP) the team visited Tirap District to collect data and have interaction with all the stakeholders. Methodology adopted to prepare DIP is outlined in brief as under:

a) Collection of primary and secondary data from the field from various sources including published documents and websites.

b) Various meetings were held to obtain ground level realities and data from key personnel/stakeholders through structured, unstructured interviews, focused group discussions etc.

c) Meetings with various State Government departments and related institutions were held

d) Focused group discussions and interaction with of agriculture officers, horticulture officers, soil conservation officers, extension officers, rural development department, animal husbandry department, irrigation officers for identifying the key issues and focus areas of the region.

e) Discussion with NABARD officer of was also held during the visit.

f) Team members also participated in the District Level workshop and held active discussions with Departmental officers, State Level officers and scientists of various institutions.

In the district, the Panchayat level schemes were identified as per the need and potential and resolutions were passed by the Panchayat to include the schemes under PMKSY. The Panchayat resolutions were then consolidated and put up in the Block Development Committee and a block plan was put up in the Zila Parishad along with the programme of other line departments participating in implementation of PMKSY.

On the basis of detailed discussion and analysis of data, the team arrived at the projections of various components of PMKSY and Department-wise plan for 7 years from 2016-17 to 2020-23 as detailed in the Plan.

Chapter- I
General Information of the District

1.1 District Profile

Tirap is located between latitudes north 26°48'N and 27°47' and between longitudes east 96°16' and 92°22'. The district lies in the southern side of the Brahmaputra River and in the southern part of the state. Northern part of the district is bounded by Dibrugarh district of Assam, eastern side by Changlang district of Arunachal Pradesh, western part by Longding district of Arunachal Pradesh and southern side by Myanmar. Khonsa, the headquarters of Tirap district is approachable from both Tinsukia (120 km) and Dibrugarh (125 km) town of Assam. Tirap consists of three developmental blocks: Namsang, Khonsa, and Lazu. 112 are inhabited villages and six uninhabited village in the district out of 118 villages.

Table 1.1. District Profile of Tirap District

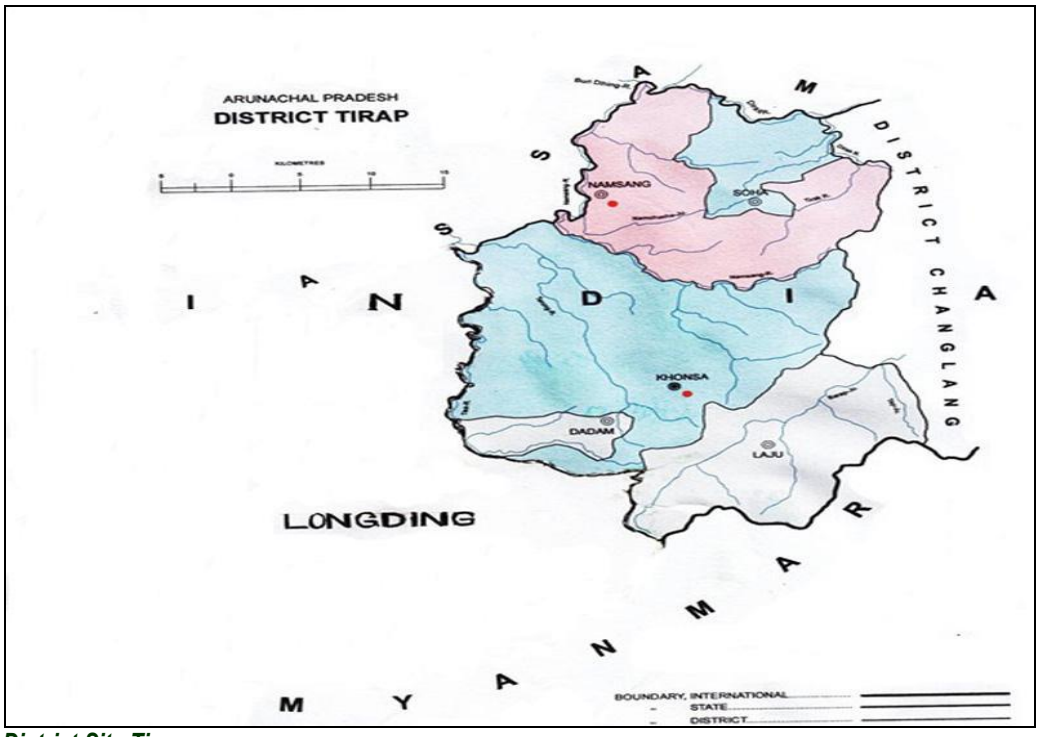
Name of District	District code	Latitude	Longitude
Tirap	254	N 26°48'and 27°47'	E 96°16' and 92°22'

Source: Census of India, 2011

Administrative setup of Tirap District

Tirap district was one of the oldest district of Arunachal Pradesh which was formed during the British time. Later on, the erstwhile Tirap district was bifurcated to form Changlang district in the year 1987. Tirap was again bifurcated to create a new district named Longding. The present district consists of three blocks- Namsang, Khonsa and Lazu. There are four Arunachal Pradesh Legislative Assembly constituencies located in Tirap district- Namsang, Khonsa-East, Khonsa-West, and Borduria-Bogapani. The number of Villages in Tirap district is 118.

Map 1 Location Map of Tirap District



Source: District Site Tirap

1.2 District Demography

The total population of the Tirap district is 55,022 which comprises of 28,894 males and 26,128 females. The number of ST members has the largest and majority population in the district with 49,962 members out of the total population.

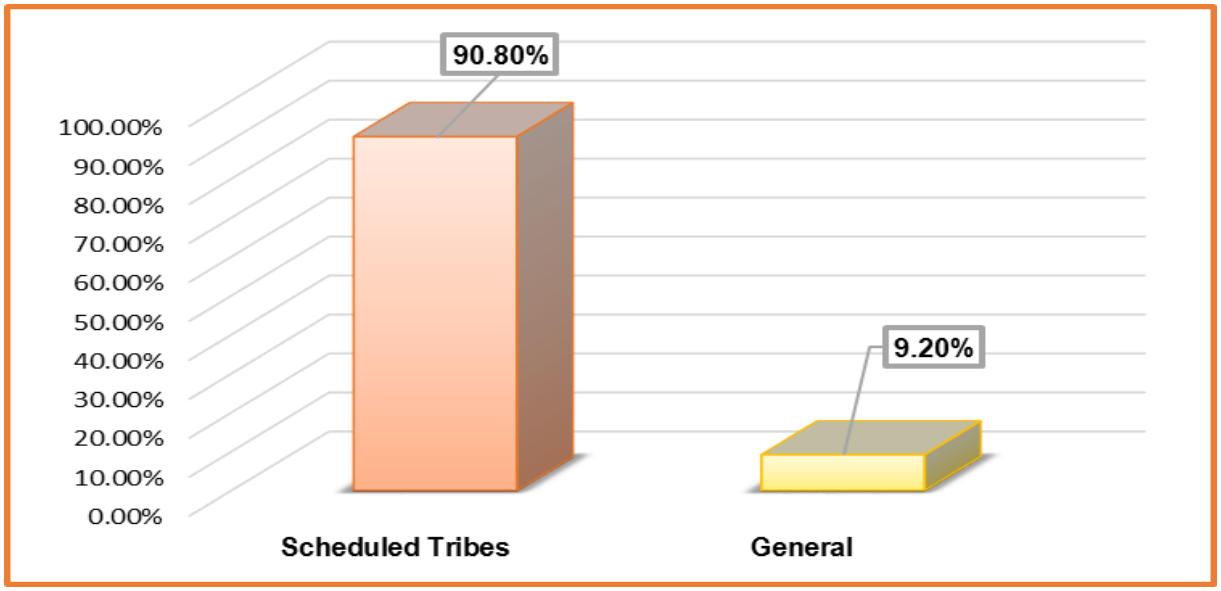
Table 1.2. Demography of Tirap District

District	No. of Villages	Population				ST	General	Total
		Males	Females	CH* (1-14 yrs)	Total	No. of Member	No. of Member	No. of Member
Tirap	118	28894	26128	8641	55022	49962	5060	55022

Source: Census of India, 2011 Tirap District and IDWG, State Data
Block-wise data not available

The Category-wise population statistics of the district are given below in graph 1.2 in which the population share of Scheduled Tribes is 90.80% and general categories is 9.20%

Figure. 1.3. Block-wise Population Category



1.3 Biomass and Livestock

Water plays an important role in livestock productivity. Livestock productivity in pastoral areas depends greatly on the availability of water. There are several factors, which determine water balance, water turnover, and functions of the animal. Assessment of livestock and water requirement is helpful in modeling water and livestock relationships.

The demand for meat, dairy products and eggs rises faster than the demand for crops; thus both scenarios call for livestock production to increase relatively more rapidly than crops. The world livestock system is broadly divided into pastoral grazing, mixed farming and industrial systems (Sere and Seinfeld 1996). Estimate of the current demand of 1.7 billion tons of cereals and 206 million tons of meat in developing countries could rise by 2020 to 2.5 to 2.8 billion tons of cereals and to 310 millions of tons of meat (IFPRI 2000). Water is used by the herbivore as a medium for physical and chemical

energy transfer, namely for evaporative cooling and intermediary metabolism (Konandreas and Anderson; King 1983; Kirda and Riechardt 1986). Livestock and poultry water consumption depend on a number of
Physiological and environmental conditions such as:

Type and size of animal or bird

Physiological state (lactating, pregnant or growing) Activity level.

- Type of diet-dry hay, silage, or lush pasture.
- Temperature-hot summer days above 25 0C can sometimes double the water consumption of animals.
- Water quality - palatability and salt content

Table 1-3 (a): Population of Small and Milch or Meat Animals in Tirap District

Name of Block	Any other Milch or Meat Animal (Nos.)			
	Poultry (Nos)	Pigs (Nos)	Goats (Nos)	Sheep (Nos)
Namsang	7570	1245	1385	Nil
Khonsa / Dadam / Borduria	18885	4518	2878	Nil
Lazu	1219	388	247	Nil
Total	**27674**	**6151**	**4510**	**-**

Source: Livestock census of India 2012, Tirap District

Table 1-3 (b): Population of Large and Draft Animals in Tirap District

Name of Block	Large Animals (in Nos)		Hybrid Buffalo (nos)	Draft Animal Horses & Ponies (nos)
	Indigenous Cows	Hybrid Cow		
Namsang	970	77	-	-
Khonsa / Dadam / Borduria	884	270	-	-
Lazu	601	-	-	-
Total	**2455**	**347**	**-**	**-**

Source: Livestock census of India 2012, Tirap District

1.4 Agro-Ecology, Climate, Hydrology and Topography

Agro-ecology is the study of ecological processes that operate in agricultural production systems. The prefix agro- refers to agriculture. Bringing ecological principles to bear in agro ecosystems can suggest novel management approaches that would not otherwise be considered. Agro ecology is the application of ecological concepts and methodological design for long-term enhancement and management of soil fertility and agriculture productivity. It provides a strategy to increase diversified agro-ecosystem. Therefore, it is benefiting the effect of the incorporation of plant and animal biodiversity, nutrient recycling; biomass creation and growth with natural resource systems based on legumes, trees, and incorporation of livestock. These all make the basis of a sustainable agriculture and aim to improve the food system and societal sustainability. The agro ecology supports production of both a huge quantity and diversity of good quality of food, thread and medicinal crops, together with family utilization and the market for economic and nutritionally at risk populations. Sustainable agricultural practices have to tackle the conservation of biodiversity, enhanced ecological functions, social tolerance, self-reliance,

fairness, improved quality of life, and economic productivity of crops, and live- stock. Sustainability of agriculture is viewed critically from the point of food and ecological security at the regional scale.

Physiography

Physiographically, the district can be divided into three main units, which are as follows:

a) The foothill zone, comprising undulating plains.
b) The lesser Himalayan zone rising from the foothill zone, comprising a rugged mountainous and forested terrain, rising to a maximum attitude of 200m above M.S.L.
c) Intermontane valleys with conspicuous terraces and older terrace deposits.

Geomorphology

The area has three distinct hydrogeomorphic units:

i) **Denudostructural hills**: Occupy 90% of the area comprising Barail and Disang formations. Lithologically both the formations comprise shales, compact sandstones, and siltstones. This unit represents a high runoff zone and has little importance from ground water development point of view.
ii) **Linear ridges**: Exposures of Tipam sand stone group in the form of linear ridges are found in the north-western part of the district. This hydrogeomorphic unit comprises sanstone, shales, and clay and represents a good source for ground water.
iii) **Valleys**: Alluvium of the river Namsang in the north-western part of the district occurs as valleys. This hydrogeomorphic unit is also of importance from ground water development point of view.

Soils

The soil developed on low altitudinal hills ranges with intermittent narrow valleys are loamy, fine loamy and clayey. Soils in upper piedmonts areas are loamy-skeletal or coarse-loamy in texture. Soils on undulating upland and gently sloping plain are fine/ fine loamy/ coarse loamy or coarse-silty in texture. The soils developed in recent and active flood plain are coarse silty in texture. Soils on channel bars are sandy in texture. Soils are strongly to moderately acidic in reaction (pH 4.3-5.6). However, the soils of flood plain area are slightly acidic to mildly alkaline (pH 5.5 to 8.4).

Hydrogeology

The water bearing formations of Tirap district can be divided into two groups-

a) **Unconsolidated formation**: This covers Alluvium zone, a linear stretch in NE-SW direction along Deomali area bordering Assam. The aquifer consists of fine sand, silt, and boulders. Ground water occurs under unconfined condition in this formation. The unconfined aquifer exists down to a depth of 12 to 15 m bgl. The depth of ground water level varies from four to 6m bgl.

b) **Semi-consolidated formation**: amongst the semi-consolidated formations, only Tipam sandstone bears some significance. This formation consists of thick gritty ferruginous sandstone and clay. In this formation, ground water under unconfined condition does not extend beyond 15 m bgl and depth of water level varies from 3-4 m below ground level. In deeper depths, ground water occurs under semi-confined to confined conditions.

It is observed that shales belong to Disang and Barail Groups are of less important for ground water exploitation. Intermontane valleys present in this area are very small in extent, i.e. about 1 sq. km only.

The valleys are consisting of shales, compact sandstone and siltstone. At present, no ground water structure is present in these valleys but there is scope for ground water development in the valleys.

Rainfall and Climate

The climate is predominantly cold, wet and highly humid. The area falls under heavy rainfall belt and annual average rainfall is 3478.5 mm. Monsoon generally starts in May /June and lasts until September, but winter rains are also considerable. The periods February – March and October – November may be considered as pre-monsoon and post-monsoon periods respectively.

Geomorphology

The Tertiary and Quaternary sediments of the Naga-Patkoi belt extend north-eastward in Changlang and Tirap districts of south-eastern Arunachal Pradesh. **Namdhapa Crystalline Complex**: This crystalline complex occupies the highest tectonic level. The main lithological variant of this package is a well foliated, mesocratic, biotite granitoid gneiss that is divisible into three textural types' viz. augen gneiss, homophanous gneiss and streaky gneiss. Among these, augen gneiss forms the dominant constituent, banded gneiss is rare. In some localities, particularly in Laboi Hka, profuse developments of migmatites are found. The dominant migmatitic structures in these zones can be termed as phlebitic (vein type injection gneiss), stromatic (banded gneiss), schlierric and nebulitic (in the diatextits of the migmatitic zones). Amphibolite and mica schist are present as enclaves. This litho-package is frequently traversed by late phase leucocratic and pegmatitic granite veins. This late phase activity is particularly prevalent along the sole of this litho-package.
Megascopically the granitoid gneiss exhibits well developed mylonitic foliation throughout the area, which is also corroborated by the petrographic studies. The original hypidiomorphic granular texture is not preserved. A reduction of overall grain size as well as relative proportion of porphyroclasts is perceptible from augen gneiss to streaky gneiss. Based on the relative proportion of porphyroclasts, the augen gneiss and the streaky gneiss can be termed as augen mylonite and mylonite. Effects of post crystalline deformation are noticeable prominently in the granitoid gneiss. The augens are commonly made up of feldspar. Quartz porphyroclasts are comparatively rare. The mylonitic foliation, which generally warps around feldspar / quartz porphyroclasts, is commonly defined by elongation of quartzo-feldspathic grains.

Tilung Formation: Rocks of this formation are disposed in a narrow belt along the central part of the area. To the north, it is overlain by the Namdhapa Crystalline Complex whereas to the south it is underlain by rocks of the Gandhi gram Formation (Tertiary age).
This formation is constituted of quartz-chlorite/mica schist with intercalation of quartzite. The proportion of quartzite dominates over schist in upper reaches of the Noa-Dihing valley, particularly along Longhuizilu Hka and Angachidulu Hka. Occasionally this package is traversed by concordant metabasic bodies represented by amphibolite. At places, thin veins of quartz and qaurtzcarbonate are observed. These veins are particularly predominant towards the upper and lower parts. In some sections, lenticular pockets of calc-silicate rock also constitute a part of this formation. One such band is well exposed near the confluence between the Noa-Dihing River and the Angachidulu Hka.

The quartz-chlorite/ mica schist is medium to fine grained and greenish grey in colour. The dominant mineral constituents are quartz, chlorite, muscovite, and biotite. The relative proportion of the

phyllosilicate minerals varies from sample to sample. Common accessories include epidote, sphene, and opaque. Occasionally, in a hand specimen this schist appears to be gritty. However, from the petrographic study it is found that the rocks are phyllonitic. The larger, still preserved porphyroclasts of quartz, in a pulverized fine-grained matrix, giving rise gritty appearance to the rock at places. The quartzchlorite/mica schist frequently grades to quartzite, which is fine-grained, greyish-white to greenish-white in colour. The greenish colour is due to presence of chlorite. In some sections (e.g. upper reaches of Noa-Dihing and Laboi Hka) quartzite is found to be thinly bedded. In other sections, it is thickly bedded and the bedding is poorly preserved. Generally, the quartzite is micaceous. The dominant mineral constituents are quartz-muscovite and rarely chlorite. Accessories include opaque and a few grains of tourmaline. In calc silicate rocks, the bulk mineralogy is constituted of quartz, chlorite, carbonate, and rarely muscovite. Sphene, epidote, and opaque constitute the accessory minerals. Chlorite is mostly present as fine-grained pasty material forming bands, which alternate with quartzose or carbonate rich bands. Sphene and epidote are frequent and are invariably restricted to chlorite rich zones.

Megascopically as well as under microscope, rocks of this formation are found to be intensely deformed with a prominent development of mylonite foliation. Occasionally, these rocks attain Phyllonitic texture. Commonly rocks of this unit are found to be affected by several sets of joints, particularly near its contact with the underlying Gandhigram Formation. In the Laboi Hka, section well developed shear bands are observed within this lithopackage. Petrographic study reveals presence of S-C fabric within the rocks of this formation. In a hand specimen, down dip mineral lineation is conspicuously developed.

Disang Group: The oldest horizon of Tertiary sequence in Tirap and Changlang districts is represented by the rocks of Disang Group, which comprises thick succession of unfossiliferous dark grey compact shales with frequent intercalations of hard massive grey and reddish sandstone. These rocks are abutted in north by Disang Thrust. The shale to arenaceous facies of Disang Group has typical miogeosynclinal depositional facies. South of Bogapani, Disang beds are extensively developed into the southern part of Tirap district. The rocks are repetitively folded and faulted resulting in an enormous thickness of these sediments. On the basis of presence of Venericardia sp. in the lower part of the Upper Disang and Dictyoconides sp. from the upper part in Nagaland, Sinha and Chatterjee, (1982) considered the unit to range from Palaeocene to Middle Eocene. There are number of brine/saline wells/springs located in the Disang Group. It is not clearly known whether the source of saline water is in the Disang or in the underlying rocks.

Barail Group: Rocks of Barail Group occur in two different sediment logical environments in Tirap district. The one occurring to the south of Disang Thrust belongs to the geosynclinal facies, whereas the other found north of it belongs to shelf or platform facies and is coal bearing. Freshwater terrestrial to deltaic deposits occur as narrow belts under which many intricate thrust sheets occur within the belt of schuppen. In the Naga-Patkoi range, the Barail Group has been subdivided into three formations viz., Nagaon, Bargolai, and Tikak Parbat Formations (Mathur and Evans, 1964). The E-W trending Margherita Thrust running along the foothills of Kuwan Bum range exposes the coal bearing Bargolai Formation, but better coal seams of Tikak Parbat Formation occur in Miao and Namchik-Namphuk areas, which are of better quality. There are a number of coal-bearing Barail horizons exposed towards north-eastern side around Rima, Wintog, Longchang, and Motongsa villages. The miogeosynclinal

Barails are well exposed in the higher contours of Patkai Bum, south of Khonsa and Longding areas. They are characterised by grey to greyish brown, compact, fine-grained sandstones with greyish to greenish grey shale intercalations. The precise facies transition between the coal bearing and the geosynclinal Barail Group is however, not exposed.

Naharkatia Group: The post-Barail but pre-Namsang succession, which was originally referred as Tipam Group, has been redesigned by Baruah et.al, (1992) as Naharkatia Group to avoid the use Tipam both for group and for formation. Rocks belonging to Naharkatia Group are exposed North of Bogapani check post area where the salty shales of Disang Group abut against the sandstones. They occur in the form of elongated wedges. Naharkatia Group comprises Tipam Formation and Girujan Formation.

Namsang Formation: Around Deomali area in Namsang and Dibang valleys the mottled clay, sandstone, gritty to conglomeratic sandstone with pebble, coal (derived from Barail) and minor lignite lenses constitute Namsang Formation. They lie over the Girujan Formation unconformably. Namsang Formation consists of a sequence of soft sandstone with thin clay beds, lignite, and conglomerate.

Dihing Formation: Dihing Formation is the uppermost Tertiary sequence in Tirap and Changlang districts, observed north of Kuwan Bum. It comprises boulder to pebble-sizedclasts of quartzite and gneiss embedded in a matrix of loose sand & clay and sand rock with very soft greenish and bluish clayey beds, carbonized wood fragments, and small lenses of lignite. The maximum thickness of about 2500 mt is attained in Mana Bum anticlinal structure. Dihing Formation is exposed along Noa-Dihing and in Miao, Deomali and Nam Dhapa area. The formation has been subdivided into lower sandstone and an upper boulder bed member. The lower sandstone member is medium to coarse grained, soft with greyish to bluish grey sandy clay lenses, which ultimately grades into pebble bed with increasing thickness.

In Namsang, area occasional lenticels of sand are present in association with pebbles.

Table 1-4 a : Agro-ecology and Topography of Tirap district

District	Agro Ecological Zone Type	Type of Terrain	Block Area (Ha)	Normal Annual Rainfall (mm)	Average Monthly Rainfall (mm)	Normal Rainy Days (No.)	Maximum Rainfall Intensity (mm)		
							Up to 15 Min	Beyond 15 but up to 30 Min	Beyond 30 but up to 60 Min
Tirap				3479	290	170			

Table 1-4 (b): Climate and Elevation of Tirap district

Average Weekly Temperature (° C)									Elevation		
Period											
Summer (April - May			Winter (Oct - Mar)			Rainy (June - Sept)			Min	Max	Median
Min	Max	Median	Min	Max	Median	Min	Max	Median			
16	32	24	3	16	10	13	18	16			

Source: District Agriculture Contingency Plan

1.5 Soil Profile

Soil is a major part of the natural environment, alongside air and water, and is vital to the existence of life on the planet. Soil is the result of the process of the gradual breakdown of rock - the solid geology that makes up the earth. As rock becomes broken down through a variety of processes, such as weathering and erosion, the particles become ground smaller and smaller. As a whole, soil is made up from four constituents: mineral material, organic material, air, and water. There are considered to be three main mineral parts to soil; „sand", „silt" and „clay". These parts give the soil its 'mineral texture'. In addition, as leaves and other organic material fall to the ground and decompose - there also forms an „organic" layer. Soil scientists (or penologists) use a series of sieves to separate out the constituent parts in order to characterize soil by texture class. Many natural bodies, such as plants and animals, are discrete entities, which can be classified, and guidelines for their identification followed. Soils are much more difficult to identify and classify than these discrete bodies for two main reasons: (i) soil is more or less a continuum covering the land surface of the earth, not a set of discrete entities; and (ii) most of the soil is below ground and therefore not readily visible. Soils grade into one another across the landscape usually without sharp boundaries between one type of soil and another. Soil surveyors who make maps of soils have to use their skills in reading changes in the landscape coupled with auger borings in the soil to identify the nature of the soil. There are several ways of classifying a soil, from the simple to the complex. A soil type may be as simple as „a sandy soil" or „a clayey soil" and this is often the perception of many land users, such as farmers or civil engineers, who see it as material they have to deal with to achieve an end result, such as the growing of a crop of wheat, or the building a road. Simple classifications tend to be of local and restricted relevance only. At the other end of the spectrum is the soil scientist who needs to understand how soils have formed, which types occur where, and for what the different types of soil can be used. The soil scientist seeks a much broader understanding, with the aim of underpinning the use and preservation of this important natural resource, and this has manifested itself in a number of detailed soil classification systems worldwide. Soils have many important functions. Perhaps the best appreciated is the function to support the growth of agricultural and horticultural crops. Soil is the mainstay of agriculture and horticulture, forming as it does the medium in which growth and ultimately the yield of food producing crops occurs. Farmers and gardeners have worked with their soils over many centuries to produce increasing amounts of food to keep pace with the needs of a burgeoning world population. The soil's natural cycles go a long way in ensuring that the soil can provide an adequate physical, chemical and biological medium for crop growth. The farmer and horticulturalist have also become skilled in managing soils so that these natural cycles can be added to as necessary to facilitate adequate soil support and increasing yield to enhance production.

Table: 1.5: Soil Profile

		Land Slope			
District	Area (ha)	0-3% (ha)	3-8% (ha)	8-25% (ha)	>25% (ha)
Tirap	126000	3780	8820	31500	81900

Source: District Agriculture Office of Tirap District

1.6 Soil Erosion and runoff status

Soil erosion is a naturally occurring process that affects all landforms. In agriculture, soil erosion refers to the wearing away of a field's topsoil by the natural physical forces of weather and wind or through forces associated with farming activities such as tillage.

Erosion, whether it is by water, wind, or tillage, involves three distinct actions – soil detachment, movement, and deposition. Topsoil, which is high in organic matter, fertility, and soil life, is relocated elsewhere "on-site" where it builds up over time or is carried "off-site" where it fills in drainage channels. Soil erosion reduces cropland productivity and contributes to the pollution of adjacent watercourses, wetlands, and lakes.

Soil erosion can be a slow process that continues relatively unnoticed or can occur at an alarming rate, causing serious loss of topsoil. Soil compaction, low organic matter, loss of soil structure, poor internal drainage, salinization, and soil acidity problems are other serious soil degradation conditions that can accelerate the soil erosion process. The greater the intensity and duration of a rainstorm, the higher the erosion potential. The impact of raindrops on the soil surface can break down soil aggregates and disperse the aggregate material. Lighter aggregate materials such as very fine sand, silt, clay, and organic matter are easily removed by the raindrop splash and runoff water; greater raindrop energy or runoff amounts are required to move larger sand and gravel particles.

Soil movement by rainfall (raindrop splash) is usually greatest and most noticeable during short-duration, high-intensity thunderstorms. Although the erosion caused by long lasting and less-intense storms is not usually as spectacular or noticeable as that produced during thunderstorms, the amount of soil loss can be significant, especially when compounded over time.

1.7 Land Use Pattern

Land use is a function of four variables, land, water, air, and man, each plays in its own role in composing its life history. Land constitutes its body, water runs through its veins like blood, air gives it oxygen, and man acts as the dynamic actor to reflect its types, pattern, and distribution. Land varies in altitudes, forms, and expressions. Man has played his part on land to portray the different phases of his ties with it. The Homo sapiens moved from one topography to another where climate, flora, and fauna also changed. He used land, flora, and fauna to fit his limited wants. Men multiplied, their wants increased and become complex, the uses of land also increased, methods, and technology changed. Man was making his own map on the face of the earth to portray his link, adaptation, creation, and destruction. Man has cleared the forest for shifting (Jhum) cultivation. He then used the land for large-scale farming, small-scale farming, intensive farming, mixed farming, dry farming, etc. He has used the land for one crop or another is a minor land use problem, but to use each plot of land for the right cultivation under optimum conditions to obtain optimum yield is a significant problem. Man has learnt the use of grasslands, semi-arid and arid lands to his own advantage by applying improved methodology and utilization of his accomplishments.

Majority of the area in Tirap district falls under forest area, which is not easily cultivable. The high slope area of the district makes it difficult for cultivation. The total geographical area of the district is 1260 Sq. Km.

Table 1.7: Land use Pattern in Tirap District

Name of District	TGA (Ha)	Area under Agriculture					Area under Forest	Area under Wasteland	Area under other uses
		Gross Agriculture Area (1)	Net Sown Area – Agri (2)	Cropping Intensity (%)	Net Area under Horticulture (Ha)	Gross Cropped Area (Ha)			
Tirap	126000	9041	8450	107%	817	9858	79100	2120	35514

Source: Department of Agriculture, Tirap District

Land-Use Classification

The conservation and development of land resource is in area needs special focus. It needs well thought and rational planning, which in turn depends upon minute observation of land use pattern. The aim of this study is clear visualization of local land environment. The intense and focused study of the details of land use puts us in a position to conserve the important elements of the nature, which otherwise lead in a direction of destruction and consequently threaten the social strata. The present study focuses mainly on dimension, which is very important from the sustainability point of view that is distribution of different groups of land use, i.e. their ratios in the region. Therefore, it becomes very complex and diversified to study all the groups available at micro-level, homogenous groups are generalized to reduce the number of groups, and these simplified groups of land use are called generalized land use classification.

Chapter- II
District Water Profile

Water is vital for survival of both plants and animals. It is the central component of the planet Earth controlling the weather, climate, plant and animal kingdom. It supports agriculture, forestry, navigation, industries and hydroelectricity generation and other uses such as for recreation, water sports activities etc. The importance of water has been recognized all over the world. Water resource development and management practices are given top priorities all over the world to avoid the water crisis in future. This chapter outlines the different type of crops, productivity and irrigation status of the Tirap district.

2.1 Area Wise, Crop-Wise Irrigation Status

Nearly 5% of the total geographical area of the district is under cultivation. Agriculture in the district is characterized by limited use of modern techniques and low productivity. As a result, despite the vast majority of the population engaged in agriculture, the contribution of agricultural production to the district domestic product is low and most of the population engaged in agriculture remains poor. A substantial portion of the cultivated area is under the traditional Shifting Cultivation known locally as "Jhum" cultivation. Majority of the famers are engaged in cultivation of Paddy, Maize, and Millet. Along with paddy, Maize also forms a substantial part of the staple food in the district. A combination of Paddy and Maize is taken as a regular food item by the tribal population of the district. Among the horticultural crop, Orange, Pineapple, Banana are grown in the district. Vegetable are also grown in the district, which includes tapioca, colocasia, ginger, pea, Chilli, Potato are the main crops. The ginger grown in the district is of very good quality. Tirap district also have a history of Tea cultivation. Adjacent to the border of Assam, the area under the district is suitable for tea cultivation. Crop-Wise irrigation status is given in the following table 2.1 (a) and (b):-

Figure.2.1.1: Area-wise & block-wise crop irrigation status

Agriculture Crops

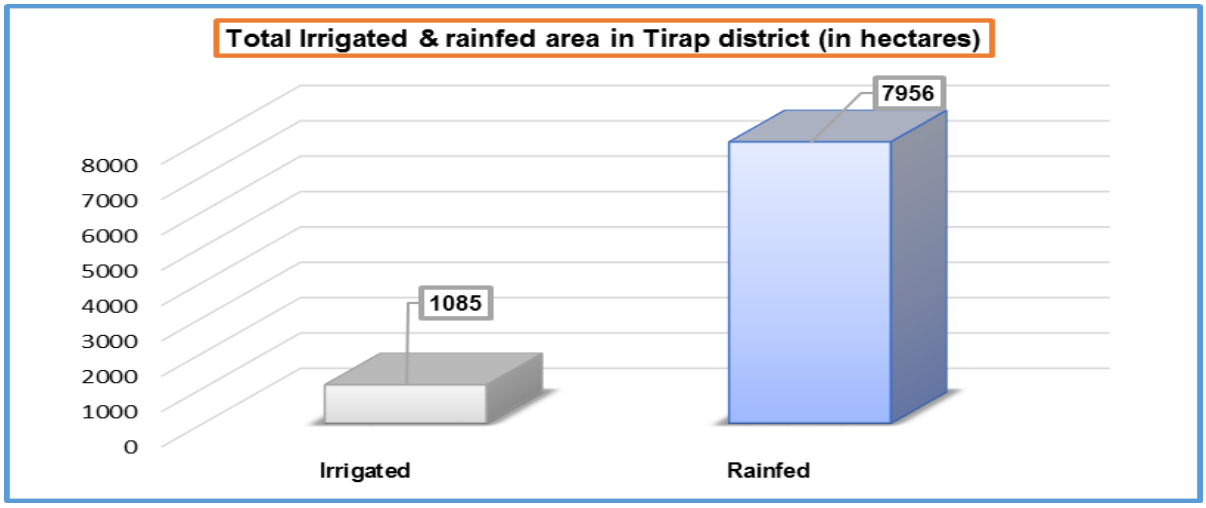
Block	Kharif (Area in ha.)			Rabi (Area in ha.)			Irrigated	Rainfed	Grand Total
	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total			
Namsang	330	2418	2748	71	518	588	400	2935	3336
Khonsa / Dadam / Borduria	273	2001	2274	58	428	487	331	2429	2761
Lazu	291	2134	2425	62	457	519	353	2591	2945
Total	**894**	**6553**	**7447**	**191**	**1403**	**1594**	**1085**	**7956**	**9041**

Horticulture Crops

Block	Irrigated	Rainfed	Total
Namsang	0	301	301
Khonsa / Dadam / Borduria	0	249	249
Lazu	0	266	266
Total	**0**	**817**	**817**

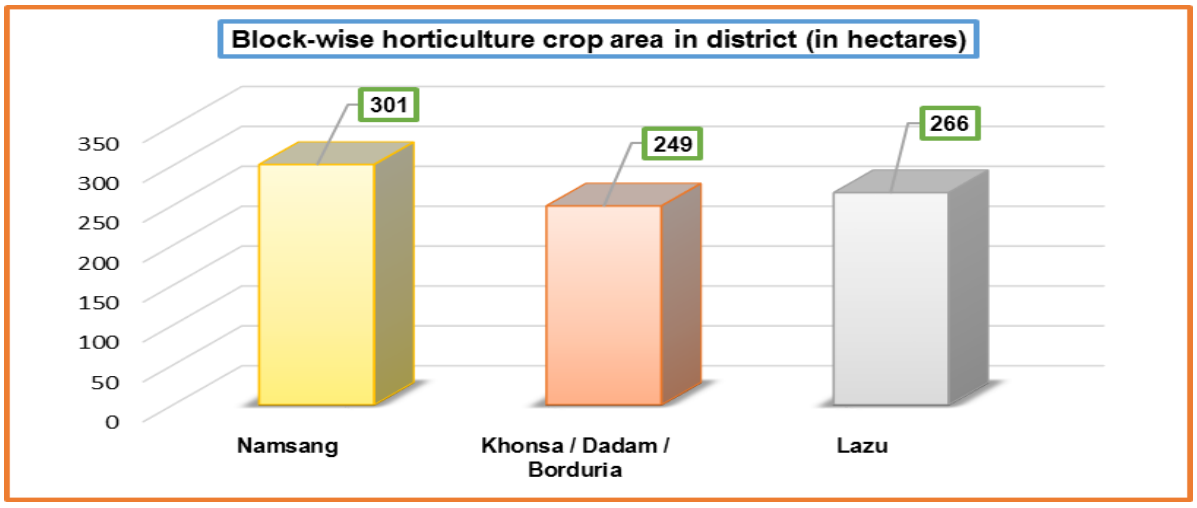
As indicated in table 2.1 a, the total irrigated area in the district under agricultural crops is 1085 Hectare and the rain-fed area is 7956 Hectare. Only the Namsang block has the maximum irrigated area of agricultural crops amounting to 400 Hectare and the majority of the area is shared by Kharif crops which is 330 hectares. Also, in terms of rainfed areas the Namsang block has also covered maximum rain-fed areas of agricultural crops, i.e., 2935 Hectare, out of which a total of 2418 Hectare is covered by Kharif crops, 518 Hectare by Rabi crops. The area-wise agriculture crop distribution of the District is represented graphically as follows.

Figure.2.1.a: District irrigation status of Cropped Area



As regards horticulture crops, the district has covered a total of 817 Hectares of land under horticulture production. All the Horticulture cropped area of the district is rain-fed. No irrigated area is under horticulture crops in the district. Namsang Block has maximum of 301 Hectares Horticulture cropped area followed by Lazu and Khonsa / Dadam / Borduria Block with 266 Hectares and 249 Hectares respectively. The Block-wise horticulture crop area distribution of the district is represented graphically as follows:

Figure.2.1. b: District irrigation status of Cropped Area



2.2 Production and Productivity of Major Crops

The production of the major crop in Tirap district is in an increasing trend in recent years. District is yet to reach its full potential in terms of productivity of its lands. With a proper infrastructure in place for irrigation, Tirap have a prospective future in becoming a major agricultural district in the state.

Table 2.2 Block-wise Area production and Productivity of various Crops in the District

Name of the District : Tirap									
Block	Rainfed			Irrigated			Total		
	Area (ha)	Production (Qtl/yr)	Yield (kg/Ha)	Area (ha)	Production (Qtl/ Yr)	Yield (kg/Ha)	Area (ha)	Production (Qtl/yr)	Yield (kg/Ha)
Namsang	3237	40389	1248	400	6205	1550	3637	46594	1399
Khonsa / Dadam / Borduria	2679	48223	1800	331	5234	1580	3010	53457	1690
Lazu	2857	84120	2944	353	6241	1766	3211	90361	2355
Total	**8773**	**172732**	**1997**	**1085**	**17680**	**1632**	**9858**	**190412**	**1815**

Source: - District Agriculture Department

The total area covered under agriculture crop production in the district is 9858 hectares while under horticulture it is 817 hectares. The total production under various field crops was found to be 190412 Quintal/year with an average productivity of 1815 Kg/ha. The average productivity was found to be lower under irrigated condition i.e., 2500 Kg/ ha while it was lower in rainfed condition and it was found to be 1997 Kg/ha.

2.3 Irrigation Based Classification

In Tirap District, the rain-fed crop covers around 89% of the total cropped area and remaining cropped area is irrigated. The Block-wise details of irrigation based classification of the district is given below: -

Table 2.3: Irrigation Based Classification of the District

Block Name	Gross Irrigated Area	Net Irrigated Area	Un-Irrigated or Totally Rainfed
Namsang	400	374	3237
Khonsa / Dadam / Borduria	331	310	2679
Lazu	353	330	2857
Total	**1085**	**1014**	**8773**

Source: Water Resources Dept., Tirap District (Deomali Division)

From the table above, it is observed that a total of 1014 Hectare land of the district as net irrigated area out of gross irrigated area of 1085 Hectare. The district has totally rain-fed area of 8773 Hectares of land. Thus, there is ample potential to increase the irrigated command area of the district from the gross total area of the district.

Chapter-III

District Water Availability

Tirap is predominantly an agrarian district with high growth potential. The river system of the district is a part of the Brahmaputra river basin. The main river of the district is Dehing River flowing near Tirap Township. The overall drainage pattern of the district is dendritic to sub-parallel. The streams and nallas of the district are of losing nature in the piedmont zone Agriculture is the mainstay of the people of Tirap district. The agriculture of the district mainly depends on monsoon rainfall. However, the Government of Arunachal Pradesh is actively engaged in developing permanent cultivation in the low lying areas along the valleys patches of hill slopes and intermountain areas. It is observed that agriculture is basically monocropped and the farmers depend upon rainfall. However, minor and medium irrigation projects have been implemented in the district in certain areas. Irrigation potential has been created in the available land of foothills and plains. Thus, the district has available surface water in the nature of rain water, rivers, nallas and springs. Surface water is water on the surface of the planet such as in a stream, river, lake, wetland, or pond/tank. It can be contrasted with groundwater and atmospheric water. No saline surface water is replenished by precipitation and by recruitment from ground-water. It is lost through evaporation, seepage into the ground where it becomes ground-water, used by plants for transpiration, extracted by mankind for agriculture, living, industry etc. or discharged to the sea where it becomes saline.

3.1 Status of Water Availability

For creating access to water source either assured or protective to each farmer will require a demand and supply assessment of crop water requirements, effective rainfall and potential source of existing and new water sources considering the geo-hydrological and agro ecological scenario of the block. The master plan will include information on all sources of available water, distribution network, defunct water bodies, new potential water sources both surface and sub surface system, application to conveyance provisions, crops and cropping system aligned to available/designed quantity of water and suitability to local agro ecology. All activities are pertaining to water harvesting, water augmentation from surface ad sub surface sources, distribution and application of water including repair, renovation and restoration of water bodies, major, medium and minor irrigation works, command area development etc. are to be taken up within the frame work of this muster plan. Emphasis is to be given for deriving the potential benefit from low hanging fruits like extending the reach/coverage of water source through effective distribution and application mechanism, reducing the gap between potential created and utilized through more focus on command area development and precision irrigation. Proper integration of creation of diversion head work and water harvesting structures, distribution system like canals and command area development works and precision farming is to be made for best possible use of water resources.

Table.3.1: Status of Water Availability in Tirap District

3.1 Status of Water Availability				(Units in MCM)
S. No.	Sources	Kharif	Rabi	Total
1	Surface Irrigation			
(i)	Canal (Major & Medium Irrigation)	NA	NA	NA
(ii)	Minor Irrigation tanks	NA	NA	NA
(iii)	Lift Irrigation / Diversion	NA	NA	NA
(iv)	Various Water Bodies including Rain Water Harvesting	NA	NA	NA
(v)	Treated Effluent Received from STP	NA	NA	NA
(vi)	Untreated Effluent	NA	NA	NA
(vii)	Perennial sources of water	88.254	43.986	132.24
Total		**88.254**	**43.986**	**132.24**

Source: Water Resources Dept., Tirap District (Deomali Division), IDWG (State)

3.2 Status of Ground Water Availability

India has largest irrigated agriculture with 65 million ha Net irrigated area (21 million ha through surface and 44 million ha through ground water). Methodology adopted for ground water resource estimation of the district is as per GEC 1997 Report, i.e. Ground Water Level Fluctuation and Rainfall infiltration factor Method. Assessment unit can be categorized into 4 categories as SAFE, SEMI-CRITICAL, CRITICAL, and OVER-EXPLOITED. As long-term water level trend does not show any major change so the whole district may be considered as SAFE. The detailed status of ground water, draft, recharge and gaps for the district is given separately in table below.

Table.3.2: Status of Ground Water Availability

Table 3.2 Ground Water Availability					
Status of Block as per Central Ground Water Board Notification			**Ground Water (MCM)**		
Critical	Semi-Critical	Safe	Draft	Recharge	Surplus/Gap
		safe	**0.21**	**83.27**	83.06

Source: - Central Ground Water Resource Board

District ground water resources falls under safe zone.

3.3 Status of Command Area

As per records of the Water Resources Department of the district, the block-wise status of other services command area is not available. However, only the status of other services command area in the form of MIP is available with the dept. The total district details of command area are given below.

Table 3.3: Status of Command Area

Block Name	Number of Village Covered	Information on the other Services Command Area(MIP)			Total Area	
		Total Area	Developed Area	Undeveloped Area	Developed Area	Undeveloped Area
Tirap District Total	**118**	**2087**	**894**	**1193**	**894**	**1193**

Source: - District Agriculture Department and WRD, State IDWG

3.4 Existing Type of Irrigation

As shown in the table 3.4 below, in the district, for surface water, a total of 32 no. s is covered under government canals under Surface Irrigation covering command area of 238 hectares. The existing type of irrigation in the district is summarized in Table: 3.4

Table 3.4: Existing Type of Irrigation

Source of Irrigation	Surface Irrigation (1)					Ground Water (2)						Other Sources i/c Traditional WHS -3	Treated effluent discharged from STP	Water extraction devices/Lift			Total	
	Canal Based		Tanks/Ponds/ Reserviors			Tube wells		Open wells		Bore wells							Irrigation sources (1+2+3)	Water extracting units (4+5+6)
	Govt. Canal	Community/ Private Canal	Community/ ponds i/c small	Individual/ Pvt. ponds	Govt. Reservior /Dams	Govt.	Private	Community/ Govt.	Pvt.	Govt.	Pvt.			Electricity Pump(4)	Diesel Pump(5)	Others(6)		
River /stream	32																32	
Command Area (ha)	238																	

Chapter- IV

Water Requirement/Demand

The foregoing Chapters discussed the General Profile, Water Profile and Water Availability of Tirap District. The present chapter deals with the current (2016) and projected (2021) demand of water for various sectors. The demand for water has been assessed on the basis of data obtained from different departments.

4.1 Domestic Water Demand

Data of Census 2011 and 2001 has been considered to arrive at the growth rate of population of the district. Table 4.1 below indicates the current and projected block-wise population of the district. Projected population has been calculated in similar way by assuming the same growth rate over the period of five years (from 2016-2021).

It has been assumed that per capita daily water requirement of people residing in urban areas of the district is 140 L and for population in rural areas, the per capita daily water requirement is 120 L. Using the same norms domestic water supply demand has been worked out and given in table 4.1. The domestic water demand has been assessed on the basis of census data obtained from Census Handbook of the district. The present and project Water Demand is estimated in Million Cubic Meter (MCM).

Table 4. 1: Domestic water Demand of Tirap District

District	Population as per census 2011	Population in 2016	Present Water Requirement(2016) MCM	Projected Population in 2021(MCM)	Annual Water Requirement in 2021(MCM)
Tirap	55022	58291	2.93	61754	3.01

4.2 Crop Water Requirement

As discussed in Chapter 2, cereals are cultivated on major part of the gross cropped area in the district. Hence, the crop water requirement for major cereals viz. Maize, Paddy, etc. as assumed by State Agricultural University has been taken into consideration. The assumptions are as under: For paddy: 0.6 m per ha, for Maize: 0.045 m per ha, Vegetables: 0.18 m per ha and for Horticulture crops: 0.06 m per ha. The small portion of area under other crops has been taken in category of vegetables and same assumption has been made.

Figure 4. 2: Block-wise Crop Water Requirement of the District

Crop Water Demand							
District	Gross Cropped Area (Ha)	Net Irrigated Area(Ha)	Projected Area	Existing Water Requirement (MCM)	Existing water Potential(MCM)	Water Potential Required in 2021(MCM)	Water Potential to be created (MCM)
Tirap	9858	894	8773	555.13	71.27	576.35	505.08

Water potential required has been derived from water required by crops cultivated under rainfed conditions. Therefore, the existing water potential represents the water requirement of crops cultivated in irrigated areas. It can be concluded from the table that a total water potential of 505.08 MCM is to be created in the district to fulfil the requirement of crops.

4.3 Livestock Water Requirement

The requirement of water by livestock in the district has been derived from two livestock census (2007 & 20012), as discussed in Chapter-2. The table below represents the water requirement as well as total water requirement of the district for livestock. The details of Livestock water demand are represented below:

Table. 4.3 Livestock Water Demand of the District

District-Wise Livestock Water Requirement						
District	Total Livestock (2016)	Present Water Demand (MCM)	Projected Livestock Population (2021)	Water Demand in 2021 (MCM)	Existing Water Potential (MCM)	Water Potential to be Cxreated (MCM)
Tirap	41137	0.02	42372	0.05	0.02	0.03

Since the record of animal population is given district-wise and, hence, the water requirement has to be assessed accordingly, the total animal has been appropriated among the block based on the percentage rate of growth at 1.44% for the projection of animal population in 2021 compared to the estimated population of 2016. Accordingly, it is inferred that the water requirement of livestock in 2021 will be 0.05 MCM rather than the present water demand of 0.02 MCM. The water requirement of the livestock has been estimated considering per capita daily water requirement for cows/buffaloes 65 L, goats/pigs 6 L and Poultry 0.25 L.

4.4 Industrial water Requirement

This includes the quantity of water required to be supplied to offices, factories, different industries, hostels, hospitals etc. This quantity will vary considerably with the nature of city and with the type of industries and commercial establishments present in it. On an average, a provision of 20-25% of the total water consumption is generally made in the design for these uses. In small residential communities, the industrial use may be as low as 45 /litre/day, but in industrial cities, it may be as high as 450 litres/day. Some of the industries may develop their own supplies and may place little or no demand on municipal system. Zoning of the city affects the location of the industries and may help in estimating future industrial demands. Tirap district is an industrially backward area. Due to lack of major infrastructure, hence no major industries have come up in recent years.

Table 4.4 Industrial Water Requirement

District	Type of Industry	No. of Industry	Water Demand (BCM)	No. of Proposed industry in 2020	Water Demand in 2020 (BCM)	Existing Water Potential (BCM)	Water Potential to be Created (BCM)
Tirap	NA	NA	NA	NA	NA	NA	NA

4.5 Water Demand for Power Generation

Water requirement for power generation in the district is not available. However, there are two micro hydropower project in Khonsa block. There is no hydroelectric proposal in the district.

4.6 Total Water Demand for various sector

The total water demand of the district for all the sectors described in 4.1 to 4.5 are given below in table 4.6 a and b which are derived by summing up all the values of water demand for domestic uses, livestock, power and industrial/commercial uses etc. The current water demand has been indicated in Table 4.6.a and the projected water demand has been depicted in Table 4.6.b. Total present water requirement for the district is 558.08 MCM while the total future water requirement for the district is 579.41 MCM.

Table 4.6.a: Present Water Demand of the District for Various Sectors

District	Domestic (MCM)	Crop (MCM)	Livestock (MCM)	Industrial (MCM)	Total (In MCM)
Tirap	2.93	555.13	.02	NA	558.08

Table 4.6.2: Projected Water Demand of the District for Various Sectors During 2021

District	Domestic (MCM)	Crop (MCM)	Livestock (MCM)	Industrial (MCM)	Total (In MCM)
Tirap	3.01	576.35	0.05	NA	579.41

4.7 Water Budget

Water budget reflects the relationship between input and output of water in the district. Thus, we have a direct comparison of supply of water and the natural demand for water. The following data provides current water gaps and projected water gaps for the district during the year 2021.

Table. 4.7 Total Water Budget of Tirap District

District	Existing water availability (MCM)		Total (MCM)	Water Demand (In MCM)		Water Gap/Surplus Water Required from Available Absolute Water	
	Surface water	Ground water		Present	Projected (2021)	Present	Projected (2021)
Tirap	132.24	0.21	132.45	558.08	579.41	425.63	446.96

Table. 4.7 Water Budget for Crop Production of Tirap District

District	Total Existing water availability (MCM)		Total (MCM)	Crop Water Demand (In MCM)		Water Gap/Surplus Water Required from Available Absolute Water	
	Surface water	Ground water		Present	Projected (2021)	Present	Projected (2021)
Tirap	132.24	0.3	132.27	555.13	576.35	422.86	444.08

Chapter-V

Strategic Action Plan for Irrigation in Tirap District under PMSKY

Water is essential for sustaining life and at the same time, it is an important component for almost all sectors of the economy. Obviously the schemes for development of water resources for beneficial use of the society have been taken up since the time immemorial. Considerable progress has been made in respect of water resources development in India after independence through various plans and such development have helped in almost five-fold increase in creation of irrigation potential of the country. There has also been appreciable development in the areas of drinking water supply and other uses. However, growing population, urbanization and rapid industrialization has led to considerable increase in demand of water for various purposes e.g., irrigation, domestic needs, industrial requirements etc. Thus, the water sector has very strong linkages with all other developmental activities. In view of fast changing development scenario, it is emphasized that the key priorities and identified strategies cannot be considered as static and, hence, this need to be reviewed and improved upon from time to time. In this regard a comprehensive **"Strategic Plan for District Irrigation"** for the Tirap district has been prepared in coordination with all line departments of the PMKSY.

Prioritization of Blocks and Activities under Strategic Action Plan

Prioritization of projects is very important for successful implementation of the selected projects. There are several block-wise activities proposed by each line departments under different components of PMKSY in Tirap District. Some of the department has proposed different projects to be implemented within a life cycle of 1 year to 5 year and some other departments has proposed with a life cycle of one year or two. Thus, it is necessary to prioritize the activities based on the irrigation potentials of each block and the nature of benefits to be availed from the particular project after its implementation. Therefore, prioritization of the proposed activities and blocks has been taken into consideration based on the discussion with public representatives of the district, availability of resources, production and productivity of different crops, percentage of small and marginal farmers, cropping intensity, water availability, land use pattern and percentage of irrigated area to gross cropped area in the blocks. The following charts and tables provide the details of strategic action plan for irrigation for each block as well as for whole district along with estimated costs and period of implementation of the proposed individual projects. Further, Annexure-I has given the Block-wise and Component-wise strategic action plan as per DIP Template for all the components of District Irrigation Plan.

5.1 Block-wise Total Plan of the District

The total outlay of the district Irrigation Plan for a period of 5 years is about **Rs. 19651.96 lakh** distributed among different blocks. The Khonsa (*including Ddam, Borduria, Khela-Lamsa and Kapu*) block has the maximum share of total outlay and constitutes about 52.29% (Rs. 10276.74 lakh) followed by Namsang block with 25.97% (Rs. 5103.00 lakh) and Lazu block with 21.74% (Rs. 4272.22 lakh).

Figure.5.1 Block-wise Percentage Distribution of Total Outlay of the District

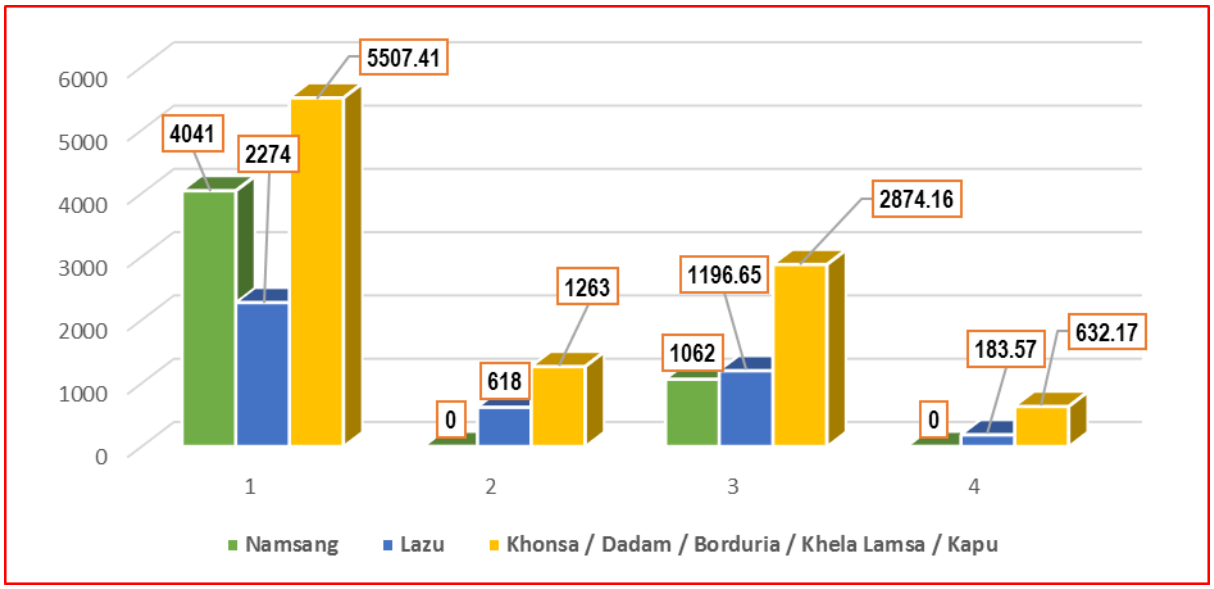


Table 5.1: Block-wise total Outlay of the District

Name of the Block	Name of the Participating Departments				Total
	WRD	Agriculture	RWD (Soil Conservation)	State Plan under PMKSY Watershed Management DRDA (RD)	
Namsang	4041	0	1062	0	**5103.00**
Lazu	2274	618	1196.65	183.57	**4272.22**
Khonsa / Dadam / Borduria / Khela Lamsa / Kapu	5507.41	1263	2874.16	632.17	**10276.74**
Total	**11822.41**	**1881.00**	**5132.81**	**815.74**	**19651.96**

5.2. Share of Participating Departments on Total Outlay

A total of 04 departments has participated in the district Irrigation Plan preparation such as Agriculture, Water Resources Department, DRDA (RD) and Soil Conservation wing of Rural Works Dept. Maximum share of total outlay is contributed by WRD. The total share of the dept. is 60%. RWD under Watershed Component has proposed 26.12% of the total outlay, while agriculture dept. have proposed 9.57% of the total outlay. Remaining 4.15% of the total proposed fund has been proposed under State Plan under PMKSY Watershed Management (IWMP) by RD Department (*State*). The details of percentage share of each depts. are as follows:

Figure.5.2 Percentage Distribution of Department-wise Total Outlay of the District

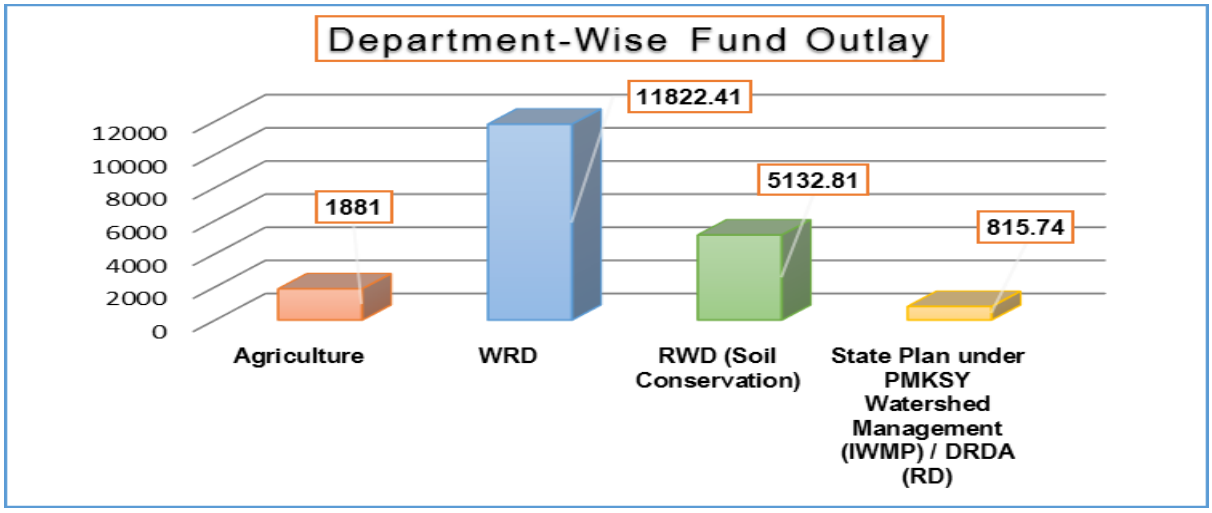


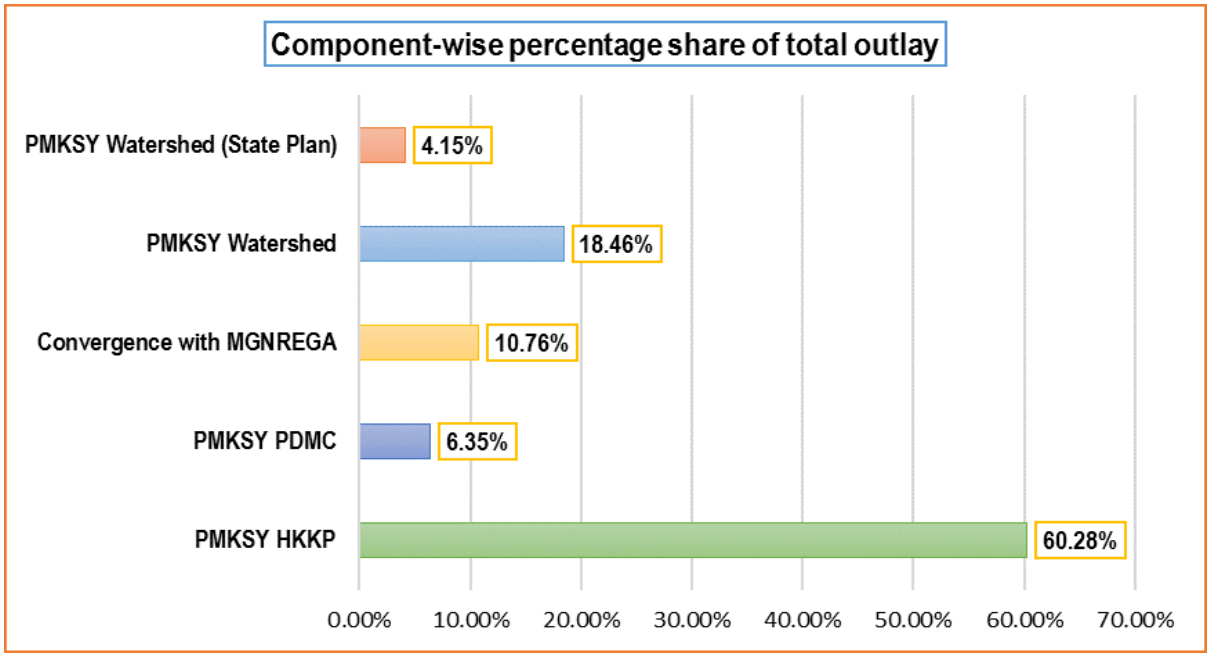
Table 5.2:- Department-wise Proposed Outlay under PMKSY (Rs. In lakh)

Departments	Total Outlay	Percentage Share
Agriculture	1881	9.57%
WRD	11822.41	60.16%
RWD (Soil Conservation)	5132.81	26.12%
State Plan under PMKSY Watershed Management (IWMP) / DRDA (RD)	815.74	4.15%
Total	**19651.96**	**100%**

5.3. Component-wise Plan

The component wise total outlay of the district Irrigation Plan for 5 years is Rs**. 19651.96 lakh**. There is no ongoing project in the district under AIBP component and, hence, no proposal has been proposed under this component by the department of water Resources of the district. Har Khet Ko Pani components is to be executed mainly by Water Resource Department (WRD) and Agriculture. Rs. 11845.41 lakh has been proposed by both Water Resources Dept. and Agriculture Department for projects under Har Khet Ko Pani component out of which WRD has proposed Rs 11822.41 lakh and Agriculture Department has proposed only Rs 23 Lakhs. All the projects proposed under Har Khet Ko Pani Component will be implemented within a period of 5 years. Per drop more crop component will be executed only by Agriculture Department with a proposed amount of Rs.1248.50 lakh to be implemented within a period of 5 years. Under **P**MKSY Watershed component, 03 Departments namely - Agriculture Department, RWD and State RD Department (DRDA) will jointly execute and has proposed a total of Rs.4443.8 lakh covering all the blocks of the district. It is also important to note that Irrigation plan has been proposed by RWD for convergence with MGNREGA under PMKSY for a total amount of Rs 2114.75 lakh. However, all the stakeholders need to have coordination among themselves to have the maximum irrigation efficiency in the district. The percentage share of each component of the district irrigation plan is diagrammatically represented in figure 5.3 as under:

Figure 5.3: Component-wise Percentage Allocation of Total Outlay of District Irrigation Plan



It is observed that maximum share of 60.28% is for PMKSY Har Khet Ko Pani component proposed by WRD and Agriculture Department. All these projects are of high priority proposed by ZP members, MP, MLA and farmers of the District. PMKSY Per Drop More Crop component contributes only 6.35% and PMKSY Watershed component with a share of 18.46% to the total outlay. The component like Convergence with MGNREGA has 10.76% share of total outlay of the Plan. The component-wise breakup of the total proposed amount of the entire district is represented below in table 5.3.

Table.5.3 Component-wise Break-up Total Outlay

Component-wise and Department-wise Total Outlay of the District with year-wise Break-up								
Sr. No.	Name of the Component	Name of Department	Year-wise Break-up of the Total Outlay					Component-wise Total Outlay
			2016-17	2017-18	2018-19	2019-20	2020-21	
1	Accelerated Irrigation Benefit Programme (AIBP)	WRD	0	0	0	0	0	0
	AIBP Total	WRD	**0**	**0**	**0**	**0**	**0**	**0**
2.	**PMKSY Har Khet Ko Pani**	WRD						
2(a)	PMKSY Har Khet Ko Pani	WRD	2364.482	2364.482	2364.482	2364.482	2364.482	11822.41
	PMKSY Har Khet Ko Pani	Agriculture	4.6	4.6	4.6	4.6	4.6	23
2	**PMKSY Har Khet Ko Pani Total**		**2369.082**	**2369.082**	**2369.082**	**2369.082**	**2369.082**	**11845.41**
3.	**PMKSY Per Drop More Crop**							
3(a)	PMKSY Per Drop More Crop	Agriculture	249.6	249.6	249.6	249.6	249.6	1248
3	**PMKSY Per Drop More Crop Total**		**249.6**	**249.6**	**249.6**	**249.6**	**249.6**	**1248**
4.	**PMKSY Watershed**							
4(a)	PMKSY Watershed	Agriculture	122	122	122	122	122	610
4(b)	PMKSY Watershed	RWD	603.612	603.612	603.612	603.612	603.612	3018.06
4(c)	State Plan under PMKSY Watershed Management (IWMP)	State RD Department	163.148	163.148	163.148	163.148	163.148	815.74
4	**PMKSY Watershed Management Component Total**		**888.76**	**888.76**	**888.76**	**888.76**	**888.76**	**4443.8**
5	Convergence with MGNREGRA	RWD	422.95	422.95	422.95	422.95	422.95	2114.75
	Total Convergence with MGNREGA		**422.95**	**422.95**	**422.95**	**422.95**	**422.95**	**2114.75**
Year-wise Total Outlay under PMKSY			**3930.39**	**3930.39**	**3930.39**	**3930.39**	**3930.39**	**19651.96**

5.4 Year Wise Plan of Participating Departments

The strategic action plan proposed under different departments has been further sub-divided based on year wise allocation of the total outlay. The projects proposed under Strategic Action Plan have been divided into four phases starting from project initiation and planning. Under the first stage, resource allocation will be done by each department for different projects running under their purview. The second phase is the implementation stage when the projects will be executed at the ground level and the third stage is the monitoring and evaluation to determine whether the proposed activities are falling under the objectives of PMKSY and also to complete the ongoing projects. The final stage is of review, under which each project to be executed under different departments will be scrutinized for any lacunae and the same will be completed under this stage. As per PMKSY Guidelines, the Strategic Action Plan shall be made for 5-7 Years taking the year 2016-17 as the base year. However, under Tirap district different department has given their plan for 5-7 years and, hence, the total proposed cost of each dept. has been considered as per the yearly fund proposed by each department against different activities under the Irrigation Plan. The details of year-wise break-up of fund proposed by different implementing departments under the District Irrigation Plan is given in Table. 5.4.

Table 5.4 Year-wise Allocation of Outlay of Plan under Different Departments

Component-wise Total Outlay for PMKSY of the District with year-wise Break-up						
Name of the Component	Year-wise Break-up of the Total Outlay					Component-wise Total Outlay
	2016-17	2017-18	2018-19	2019-20	2020-21	
PMKSY HKKP	2369.082	2369.082	2369.082	2369.082	2369.082	**11845.41**
PMKSY PDMC	249.6	249.6	249.6	249.6	249.6	**1248**
Convergence with MGNREGA	422.95	422.95	422.95	422.95	422.95	**2114.75**
PMKSY Watershed	725.612	725.612	725.612	725.612	725.612	**3628.06**
PMKSY Watershed (State Plan)	163.148	163.148	163.148	163.148	163.148	**815.74**
Total	**3930.392**	**3930.392**	**3930.392**	**3930.392**	**3930.392**	**19651.96**

The total estimated outlay for the District Irrigation Plan for the district of Tirap is Rs. 19651.96 lakh. The projected outlay has been proposed by different participating departments phase wise with a target to complete the proposed projects/schemes within a period of 5-7 years. The consolidated year-wise percentage of outlay has been estimated taking into consideration the yearly proposed fund of each participating departments.

5.5 Expected Outcome

As stated earlier the gross irrigated area in the district is 1085 hectares which is around 11% of the gross cropped area of 9858 hectare. Various departments of the district have proposed to bring an additional 28413.27 hectares of land under irrigated cultivation system through PMKSY. Table 5.5 below represents the target proposed by various departments to bring additional land under irrigated cultivation through PMKSY.

Table 5-5: Block wise Proposed Command Area for Assured Irrigation under PMKSY

Area in Hectare

Block	Command Area (in hectares)
Namsang	1852
Lazu	6850.8
Khonsa / Dadam / Borduria	19710.47
Total	**28413.27**

The following expected outcomes are intended from the District Irrigation Plan: -

1. A total of 28413.27 Hectares of Irrigation potential is proposed to be created under the four components of PMKSY. Thus, it would boost up the gross crop intensity more significantly as the farmers would be able to go for multiple cropping throughout the year.

2. The Water Resources Department of the district has proposed to irrigate a total of 10508 hectare of land for a total expenditure of Rs. 11822.41 lakh, while Agriculture department has proposed to irrigate 5088 hectares of area for a proposed cost of Rs. 1881 lakh. RWD and State RD has proposed the amount of Rs. 5132.81.00 lakh and Rs. 815.74 lakh to irrigate a total area of 9259 hectare and 5438.27 Hectare respectively.

3) The strategic action plan envisages providing assured irrigation in a command area of **28413.27** hectares. The watershed component is projected to achieve a culturable command area of 15752.27 Hectare. Under the component Per Drop More Crop, agriculture Department is expected to provide water harvesting structure for developing an area of 2134 hectare of land respectively.

In terms of economic benefit, the assured water supply to the farm land will result in enhancement of production and productivity of the crops. This is likely to generate an additional income to the farmers of the district. This is also likely to increase mandays in non-recurring employment as also create livelihood opportunities in agriculture and allied sectors of the economy of the district through increased acreage under crops. The intervention will also contribute both in agriculture and horticulture production and productivity thereby paving the way of generating direct and indirect employment among the local people. Thus, the overall economy of the district would get better and better in the days to come after the contemplated projects get implemented and yield results in terms of enhanced crop production.

ANNEXURES

5.6 Strategic Action Plan for irrigation in respect of Tirap District, Arunachal Pradesh under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

Annexure-I

Strategic Action Plan of Water Resource Department under PMKSY

Sr. No.	Block	Department	Component	Activity	Village	Years of Implementation	Command Area	Estimated Cost (In Lakh)	Source of Water
1	Namsang	WRD	HKKP	MIP	Aguripathar	5	40	120	Charju river
2	Namsang	WRD	HKKP	MIP		5	20	60	Dihing river
3	Namsang	WRD	HKKP	MIP	Deomali(NT)	5	7	21	Dihing river
4	Namsang	WRD	HKKP	MIP	Hukanjuri	5	10	30	Hukhan Nallah
5	Namsang	WRD	HKKP	MIP	Lamlo	5	70	210	Chanjat Nallah
6	Namsang	WRD	HKKP	MIP	Longkhong	5	80	240	Lonkho Nallah
7	Namsang	WRD	HKKP	MIP	Makat	5	70	210	Lonkho Nallah
8	Namsang	WRD	HKKP	MIP	Mopaya	5	90	270	Phintong Nallah
9	Namsang	WRD	HKKP	MIP	Namsang	5	60	180	Chanjot Nallah
10	Namsang	WRD	HKKP	MIP	NamsangHQ	5	25	75	Chanjot Nallah
11	Namsang	WRD	HKKP	MIP	Natun kheti	5	80	240	Sanjot Nallah
12	Namsang	WRD	HKKP	MIP	New Subang	5	70	210	Subbah Nallah
13	Namsang	WRD	HKKP	MIP	Sipnipathar	5	75	225	Sippu Nallah
14	Namsang	WRD	HKKP	MIP	Subang	5	55	135	Sippu Nallah
15	Namsang	WRD	HKKP	MIP	Wasathong	5	70	210	Sippu Nallah
16	Namsang	WRD	HKKP	MIP	Sumsipathar	5	60	180	Sumsi Nallah
17	Namsang	WRD	HKKP	MIP	Dongrong	5	70	210	Phintong Stream
18	Namsang	WRD	HKKP	MIP	Jumdang	5	40	120	Phintong Nallah
19	Namsang	WRD	HKKP	MIP	Kenon	5	80	240	Phintong Stream
20	Namsang	WRD	HKKP	MIP	Old Phinting	5	90	270	Phintong Stream
21	Namsang	WRD	HKKP	MIP	Thalot	5	70	210	Tellu Nallah
22	Namsang	WRD	HKKP	MIP	Soha	5	60	180	Sonsa stream
23	Namsang	WRD	HKKP	MIP	Turet	5	65	195	Sonsa stream
24	Khonsa	WRD	HKKP	MIP	Vivek	5	24	72	Chongot nallah
26	Khonsa	WRD	HKKP	Ground water Development (5 Deep Tube wells)		5	32	40	
27	Khonsa	WRD	HKKP	90 Dug Masonary wells		5	90	180	
28	Khonsa	WRD	HKKP	Construction of Field Channels		5			
29	Khonsa	WRD	HKKP	Lined Field Channels		5	1381	621.45	

30	Khonsa	WRD	HKKP	Unlined Field Channels		5	1341	80.46	
31	Khonsa	WRD	HKKP	MIP	Khela	5	65	195	
32	Khonsa	WRD	HKKP	MIP	Tupi	5	20	60	
33	Khonsa	WRD	HKKP	MIP	Paniduria	5	15	45	
34	Khonsa	WRD	HKKP	MIP	Bogapani	5	15	45	
35	Khonsa	WRD	HKKP	MIP	Kaimai	5	10	30	
36	Khonsa	WRD	HKKP	MIP	Lapnan	5	40	120	
37	Khonsa	WRD	HKKP	MIP	Pullung	5	10	30	
38	Khonsa	WRD	HKKP	MIP	Bera	5	10	30	
39	Khonsa	WRD	HKKP	MIP	Dadam	5	40	120	
40	Khonsa	WRD	HKKP	MIP	Katang	5	20	60	
41	Khonsa	WRD	HKKP	MIP	Lamsa	5	15	45	
42	Khonsa	WRD	HKKP	MIP	Old Lainwang	5	25	75	
43	Khonsa	WRD	HKKP	MIP	C/o Cluster of MIP scheme at Lokokocha rum WRC at Borduria rumjon Pathar at Khela Sithong pathar at new Paniduria, Tonak pathar at pullong, Tirap pathar at Bogapani, Hochajo pathar, Bosai pathar at Chetjo kaimai, Khawang pathar at paniduria, Longtnynang Jochi pathar at kaimai & sanjah pathar at khela village section-1 under khonsa WR sub-division of deomali WR division	5	59	65	
44	Khonsa	WRD	HKKP	MIP	C/O Cluster of MIP in Bari at Lamsa Rangkhamtheng at Changtheng, Hutam at Lopnam, Dujoi at Tutnu, Chikang at new Lainwang, Kolam, Pajom at old Katang etc. under khonsa section-II khonsa WR sud division of Deomali WR division	5	62	65	
45	Khonsa	WRD	HKKP	MIP	C/O MIP Sumhak Nallah at Lower Chinhan, Nyitcha Nallah at Noglo, Shumra Nallah at Raho, Joncha Longliang at Lower Chinkoi, Rapcha Nallah at Lazu, Tanka pathar at Moktowa, Telam pathar at Laho, Hatantun at Hukan & Tatang pathar at Dadam village under section- III under khonsa WR sub-division of Deomali WR division	5	43	47	
46	Lazu	WRD	HKKP	MIP	Upper Kolam	5	15	45	
47	Lazu	WRD	HKKP	MIP	Lower Kolam	5	15	45	

48	Lazu	WRD	HKKP	MIP	Noglo	5	15	45	
49	Lazu	WRD	HKKP	MIP	Lower Chinhan	5	25	75	
50	Lazu	WRD	HKKP	MIP	Lazu	5	30	90	
51	Lazu	WRD	HKKP	MIP	Tutnu	5	30	30	
52	Lazu	WRD	HKKP	MIP	Thungjang	5	30	30	
53	Lazu	WRD	HKKP	MIP	Nogna	5	8	24	
54	Lazu	WRD	HKKP	MIP	Kothung	5	30	30	
55	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Kheti	5	40	120	
56	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Thinsa	5	20	60	
57	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Khonsa	5	50	150	
58	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	New Lainwang	5	40	120	
59	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Chanyak	5	20	60	
60	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Wathin	5	20	60	
61	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Sikho	5	15	45	
62	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Cuminthong	5	20	60	
63	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Bunting	5	50	150	
64	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Changtheng	5	10	30	
65	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Khela	5	90	270	
66	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Old Kattang	5	25	75	
67	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	New Kattang	5	20	60	
68	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Jadthung	5	20	60	
69	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Lingdongthong	5	15	45	
70	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Luthong	5	135	405	

71	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Noksa	5	100	300	
72	Khonsa / Dadam / Borduria	WRD	HKKP	MIP	Old Paniduria	5	60	180	
73	Lazu	WRD	HKKP	MIP	New Paniduria	5	30	90	
74	Lazu	WRD	HKKP	MIP	Kapu	5	50	150	
75	Lazu	WRD	HKKP	MIP	Chasa	5	20	60	
76	Lazu	WRD	HKKP	MIP	Kothin	5	20	60	
77	Lazu	WRD	HKKP	MIP	Longo	5	80	240	
78	Lazu	WRD	HKKP	MIP	Sanliam	5	20	60	
79	Lazu	WRD	HKKP	MIP	Pongkong	5	30	90	
80	Lazu	WRD	HKKP	MIP	Longliang	5	20	60	
81	Lazu	WRD	HKKP	MIP	Lianchang	5	20	60	
82	Lazu	WRD	HKKP	MIP	Raho	5	20	60	
83	Lazu	WRD	HKKP	MIP	Sinnu	5	10	30	
84	Lazu	WRD	HKKP	MIP	Lazu	5	10	30	
85	Lazu	WRD	HKKP	MIP	Lonyan	5	10	30	
86	Lazu	WRD	HKKP	MIP	Noglo	5	10	30	
87	Lazu	WRD	HKKP	MIP	Upper Chinhan	5	20	60	
88	Lazu	WRD	HKKP	MIP	Lower Chinhan	5	30	90	
89	Lazu	WRD	HKKP	MIP	Old Kuthung	5	10	30	
90	Lazu	WRD	HKKP	MIP	New Kuthung	5	10	30	
91	Lazu	WRD	HKKP	MIP	Nogna	5	80	240	
92	Lazu	WRD	HKKP	MIP	Thungjang	5	10	30	
93	Lazu	WRD	HKKP	MIP	Tutnu	5	10	30	
94	Lazu	WRD	HKKP	MIP	Moktowa	5	50	150	
95	Lazu	WRD	HKKP	MIP	Dadam	5	50	150	
96	Khonsa/Dadam	WRD	HKKP	MIP	Kalagaon	5	36	108	
97	Khonsa/Dadam	WRD	HKKP	Lined Field Chennel	Khonsa, Lazu and Dadam Block	5	2230	1003.5	
98	Khonsa/Dadam	WRD	HKKP	Unlined Field Chennel	Khonsa, Lazu and Dadam Block	5	2000	120	
Total							**10508 Ha**	**Rs 11822.41**	

Annexure-II

Strategic Action Plan of Agriculture Department under PMKSY

Sr. No.	Block	Department	Component	Activity	Village	Years of Implementation	Command Area (In Ha.)	Estimated Cost (In Lakh)
99	Khonsa	Agriculture	PMKSY Watershed	Check Dam	Kheti	5	50	25
100	Khonsa	Agriculture	PDMC	WHS	Kheti	5	30	5
101	Khonsa	Agriculture	PMKSY Watershed	Check Dam	Thinsa	5	20	10
102	Khonsa	Agriculture	PDMC	WHS	Thinsa	5	40	5
103	Khonsa	Agriculture	PMKSY Watershed	Check Dam	Khonsa	5	10	5
104	Khonsa	Agriculture	PDMC	WHS	Khonsa	5	30	5
105	Khonsa	Agriculture	PMKSY Watershed	Check Dam	Kaimai	5	20	10
106	Khonsa	Agriculture	PDMC	WHS	Kaimai	5	30	5
107	Khonsa	Agriculture	PMKSY Watershed	Check Dam	Lapnan	5	200	15
108	Khonsa	Agriculture	PDMC	WHS	Lapnan	5	50	5
109	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Old Lainwnag	5	60	10
110	Khela-Lamsa	Agriculture	PDMC	WHS	Old Lainwnag	5	80	20
111	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	New Lainwnag	5	35	10
112	Khela-Lamsa	Agriculture	PDMC	WHS	New Lainwnag	5	30	10
113	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Chanyak	5	30	15
114	Khela-Lamsa	Agriculture	PDMC	WHS	Chanyak	5	40	10
115	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Lamsa	5	30	15
116	Khela-Lamsa	Agriculture	PDMC	WHS	Lamsa	5	25	5
117	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Wathin	5	20	10
118	Khela-Lamsa	Agriculture	PDMC	WHS	Wathin	5	25	10
119	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Sikho	5	20	10
120	Khela-Lamsa	Agriculture	PDMC	WHS	Sikho	5	20	5
121	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Cuminthong	5	30	15
122	Khela-Lamsa	Agriculture	PDMC	WHS	Cuminthong	5	25	15
123	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Bunting	5	100	25
124	Khela-Lamsa	Agriculture	PDMC	WHS	Bunting	5	10	5
125	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Changthing	5	10	5
126	Khela-Lamsa	Agriculture	PDMC	WHS	Changthing	5	10	5
127	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Khela	5	60	15
128	Khela-Lamsa	Agriculture	PDMC	WHS	Khela	5	80	15
129	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Old Kattang	5	30	10
130	Khela-Lamsa	Agriculture	PDMC	WHS	Old Kattang	5	25	15
131	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	New Kattang	5	25	10

132	Khela-Lamsa	Agriculture	PDMC	WHS	New Kattang	5	20	10
133	Khela-Lamsa	Agriculture	PMKSY Watershed	Check Dam	Jadthung	5	30	15
134	Khela-Lamsa	Agriculture	PDMC	WHS	Jadthung	5	40	20
135	Kapu	Agriculture	PMKSY Watershed	Check Dam	Lingdiongthong	5	10	5
136	Kapu	Agriculture	PDMC	WHS	Lingdiongthong	5	20	5
137	Kapu	Agriculture	PMKSY Watershed	Check Dam	Luthong	5	115	25
138	Kapu	Agriculture	PDMC	WHS	Luthong	5	160	20
139	Kapu	Agriculture	PMKSY Watershed	Check Dam	Noksa	5	80	20
140	Kapu	Agriculture	PDMC	WHS	Noksa	5	400	25
141	Kapu	Agriculture	PMKSY Watershed	Check Dam	Old Paniduria	5	45	10
142	Kapu	Agriculture	PDMC	WHS	Old Paniduria	5	50	10
143	Kapu	Agriculture	PMKSY Watershed	Check Dam	New Paniduria	5	25	15
144	Kapu	Agriculture	PDMC	WHS	New Paniduria	5	20	10
145	Kapu	Agriculture	PMKSY Watershed	Check Dam	Pullong	5	60	20
146	Kapu	Agriculture	PDMC	WHS	Pullong	5	40	20
147	Kapu	Agriculture	PMKSY Watershed	Check Dam	Kapu	5	50	15
148	Kapu	Agriculture	PDMC	WHS	Kapu	5	80	15
149	Kapu	Agriculture	PMKSY Watershed	Check Dam	Chasa	5	10	5
150	Kapu	Agriculture	PDMC	WHS	Chasa	5	20	10
151	Kapu	Agriculture	PMKSY Watershed	Check Dam	Bera	5	10	5
152	Kapu	Agriculture	PDMC	WHS	Bera	5	40	15
153	Kapu	Agriculture	PMKSY Watershed	Check Dam	Kothin	5	10	5
154	Kapu	Agriculture	PDMC	WHS	Kothin	5	50	15
155	Kapu	Agriculture	PMKSY Watershed	Check Dam	Longo	5	80	25
156	Kapu	Agriculture	PDMC	WHS	Longo	5	80	20
157	Kapu	Agriculture	PMKSY Watershed	Check Dam	Tupi	5	150	15
158	Kapu	Agriculture	PDMC	WHS	Tupi	5	70	18
159	Kapu	Agriculture	PMKSY Watershed	Check Dam	Sanliam	5	30	10
160	Lazu	Agriculture	PDMC	WHS	Sanliam	5	20	10
161	Lazu	Agriculture	PMKSY Watershed	Check Dam	Pongkong	5	20	10
162	Lazu	Agriculture	PDMC	WHS	Pongkong	5	10	5
163	Lazu	Agriculture	PMKSY Watershed	Check Dam	Longliang	5	30	15
164	Lazu	Agriculture	PDMC	WHS	Longliang	5	20	5
165	Lazu	Agriculture	PMKSY Watershed	Check Dam	Liangchang	5	10	5
166	Lazu	Agriculture	PDMC	WHS	Liangchang	5	10	5
167	Lazu	Agriculture	PMKSY Watershed	Check Dam	Raho	5	20	10
168	Lazu	Agriculture	PDMC	WHS	Raho	5	20	10
169	Lazu	Agriculture	PMKSY Watershed	Check Dam	Sinnu	5	20	10
170	Lazu	Agriculture	PDMC	WHS	Sinnu	5	10	5
171	Lazu	Agriculture	PMKSY Watershed	Check Dam	Lazu	5	10	5
172	Lazu	Agriculture	PDMC	WHS	Lazu	5	60	20

173	Lazu	Agriculture	PMKSY Watershed	Check Dam	Lonyan	5	30	15
174	Lazu	Agriculture	PDMC	WHS	Lonyan	5	30	10
175	Lazu	Agriculture	PMKSY Watershed	Check Dam	Noglo	5	20	10
176	Lazu	Agriculture	PDMC	WHS	Noglo	5	20	10
177	Lazu	Agriculture	PMKSY Watershed	Check Dam	Upper Chinhan	5	20	10
178	Lazu	Agriculture	PDMC	WHS	Upper Chinhan	5	10	5
179	Lazu	Agriculture	PMKSY Watershed	Check Dam	Lower Chinhan	5	50	25
180	Lazu	Agriculture	PDMC	WHS	Lower Chinhan	5	30	15
181	Lazu	Agriculture	PMKSY Watershed	Check Dam	Old Kuthung	5	10	5
182	Lazu	Agriculture	PDMC	WHS	Old Kuthung	5	10	5
183	Lazu	Agriculture	PMKSY Watershed	Check Dam	New Kuthung	5	50	10
184	Lazu	Agriculture	PDMC	WHS	New Kuthung	5	10	5
185	Lazu	Agriculture	PMKSY Watershed	Check Dam	Nogna	5	80	20
186	Lazu	Agriculture	PDMC	WHS	Nogna	5	20	10
187	Lazu	Agriculture	PMKSY Watershed	Check Dam	Thungjang	5	1010	5
188	Lazu	Agriculture	PDMC	WHS	Thungjang	5	10	5
189	Lazu	Agriculture	PMKSY Watershed	Check Dam	Tutnu	5	10	5
190	Lazu	Agriculture	PDMC	WHS	Tutnu	5	10	5
191	Lazu	Agriculture	PMKSY Watershed	Check Dam	Lower Kolam	5	20	10
192	Lazu	Agriculture	HKKP	Lined Channel	Lower Kolam	5	10	5
193	Lazu	Agriculture	PDMC	WHS	Lower Kolam	5	30	15
194	Lazu	Agriculture	PMKSY Watershed	Check Dam	Upper Kolam	5	20	10
195	Lazu	Agriculture	PDMC	WHS	Upper Kolam	5	10	5
196	Lazu	Agriculture	PMKSY Watershed	Check Dam	Moktowa	5	50	25
197	Dadam	Agriculture	PDMC	WHS	Moktowa	5	50	25
198	Khonsa	Agriculture	PDMC	Drip Irrigation	Kaimai	5	4	30
199	Khonsa	Agriculture	PDMC	Drip Irrigation	Laptang	5	4	30
200	Khonsa	Agriculture	PDMC	Drip Irrigation	Pullung	5	4	30
201	Khonsa	Agriculture	PDMC	Drip Irrigation	Paniduria	5	4	30
202	Khonsa	Agriculture	PDMC	Drip Irrigation	Noksa	5	4	30
203	Khonsa	Agriculture	PDMC	Drip Irrigation	Chasa	5	4	30
204	Khonsa	Agriculture	PDMC	Drip Irrigation	Longo	5	4	30
205	Khonsa	Agriculture	PDMC	Drip Irrigation	Kapu	5	4	30
206	Khonsa	Agriculture	PDMC	Drip Irrigation	Borduria	5	4	30
207	Khonsa	Agriculture	PDMC	Drip Irrigation	Old Tupi	5	4	30
208	Khonsa	Agriculture	PDMC	Drip Irrigation	Kheti	5	4	30
209	Khonsa	Agriculture	PDMC	Drip Irrigation	Thinsa	5	4	30
210	Khonsa	Agriculture	PDMC	Drip Irrigation	Khonsa	5	4	30
211	Khonsa	Agriculture	PDMC	Drip Irrigation	Lamsa	5	2	15
212	Khonsa	Agriculture	PDMC	Drip Irrigation	Lainwang	5	2	15
213	Khonsa	Agriculture	PDMC	Drip Irrigation	Luthung	5	2	15

214	Khonsa	Agriculture	PDMC	Drip Irrigation	Pansumthong	5	2	15
215	Khonsa	Agriculture	PDMC	Drip Irrigation	Bera	5	4	10
216	Khonsa	Agriculture	PDMC	Drip Irrigation	Khela	5	4	10
217	Khonsa	Agriculture	PDMC	Drip Irrigation	New Tupi	5	4	10
218	Lazu	Agriculture	PDMC	Drip Irrigation	Lazu	5	4	30
219	Lazu	Agriculture	PDMC	Drip Irrigation	Chinhan	5	4	30
220	Lazu	Agriculture	PDMC	Drip Irrigation	Pongkong	5	2	15
221	Lazu	Agriculture	PDMC	Drip Irrigation	Sanlian	5	2	15
222	Lazu	Agriculture	PDMC	Drip Irrigation	Noglo	5	4	30
223	Lazu	Agriculture	PDMC	Drip Irrigation	Longliang	5	4	30
224	Lazu	Agriculture	PDMC	Drip Irrigation	Raho	5	4	30
225	Lazu	Agriculture	PDMC	Drip Irrigation	Upper Kolam	5	4	30
226	Lazu	Agriculture	PDMC	Drip Irrigation	Lower Kolam	5	4	30
227	Lazu	Agriculture	HKKP	MIP	Lower Chinhan	5	4	8
228	Lazu	Agriculture	HKKP	MIP	Nyitcha	5	5	10
Total							**5088**	**1881**

Annexure-III

Strategic Action Plan of Soil and Water Conservation Department (RWD) under PMKSY

Sr. No.	Block	Department	Component	Activity	Village	Years of Implementation	Command Area	Estimated Cost (In Lakh)
229	Lazu	RWD	PMKSY Watershed	IWMP		5	2003	210.4
230	Namsang	RWD	PMKSY Watershed	Farm Pond	Namsang	5	10	10
231	Namsang	RWD	PMKSY Watershed	Farm Pond	Mopaya	5	10	10
232	Namsang	RWD	PMKSY Watershed	Farm Pond	Longkhong	5	5	5
233	Namsang	RWD	PMKSY Watershed	Farm Pond	Sipini	5	10	10
234	Namsang	RWD	PMKSY Watershed	Farm Pond	Wasathong	5	10	10
235	Namsang	RWD	PMKSY Watershed	Farm Pond	Makat	5	5	5
236	Namsang	RWD	PMKSY Watershed	Farm Pond	Old Subang	5	5	5
237	Namsang	RWD	PMKSY Watershed	Farm Pond	New Subang	5	5	5
238	Namsang	RWD	PMKSY Watershed	Farm Pond	Natun Kheti	5	5	5
239	Namsang	RWD	PMKSY Watershed	Farm Pond	Old Doidam	5	5	5
240	Namsang	RWD	PMKSY Watershed	Farm Pond	New Doidam	5	5	5
241	Namsang	RWD	PMKSY Watershed	Farm Pond	Turet	5	10	10
242	Namsang	RWD	PMKSY Watershed	Farm Pond	Kenon	5	5	5
243	Namsang	RWD	PMKSY Watershed	Farm Pond	Thalot	5	5	5
244	Namsang	RWD	PMKSY Watershed	Farm Pond	Barak	5	5	5
245	Namsang	RWD	PMKSY Watershed	Farm Pond	Dongrong	5	5	5
246	Namsang	RWD	PMKSY Watershed	Farm Pond	New Phinthing	5	5	5
247	Namsang	RWD	PMKSY Watershed	Farm Pond	Old Phinthing	5	5	5
248	Namsang	RWD	PMKSY Watershed	Farm Pond	Soha	5	5	5
249	Namsang	RWD	PMKSY Watershed	Farm Pond	Lamlo	5	5	5
250	Namsang	RWD	PMKSY Watershed	Check Dams	Namsang	5	15	12.5
251	Namsang	RWD	PMKSY Watershed	Check Dams	Mopaya	5	15	12.5
252	Namsang	RWD	PMKSY Watershed	Check Dams	Longkhong	5	15	12.5
253	Namsang	RWD	PMKSY Watershed	Check Dams	Sipini	5	15	12.5
254	Namsang	RWD	PMKSY Watershed	Check Dams	Wasathong	5	15	12.5
255	Namsang	RWD	PMKSY Watershed	Check Dams	Makat	5	7.5	6.25
256	Namsang	RWD	PMKSY Watershed	Check Dams	Old Subang	5	7.5	6.25
257	Namsang	RWD	PMKSY Watershed	Check Dams	New Subang	5	7.5	6.25
258	Namsang	RWD	PMKSY Watershed	Check Dams	Natun Kheti	5	7.5	6.25
259	Namsang	RWD	PMKSY Watershed	Check Dams	Old Doidam	5	7.5	6.25
260	Namsang	RWD	PMKSY Watershed	Check Dams	New Doidam	5	7.5	6.25
261	Namsang	RWD	PMKSY Watershed	Check Dams	Turet	5	15	12.5

262	Namsang	RWD	PMKSY Watershed	Check Dams	Kenon	5	7.5	6.25
263	Namsang	RWD	PMKSY Watershed	Check Dams	Thalot	5	7.5	6.25
264	Namsang	RWD	PMKSY Watershed	Check Dams	Barak	5	7.5	6.25
265	Namsang	RWD	PMKSY Watershed	Check Dams	Dongrong	5	7.5	6.25
266	Namsang	RWD	PMKSY Watershed	Check Dams	New Phinthing	5	7.5	6.25
267	Namsang	RWD	PMKSY Watershed	Check Dams	Old Phinthing	5	7.5	6.25
268	Namsang	RWD	PMKSY Watershed	Check Dams	Soha	5	7.5	6.25
269	Namsang	RWD	PMKSY Watershed	Check Dams	Lamlo	5	7.5	6.25
270	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Namsang	5	5	6.5
271	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Mopaya	5	10	13
272	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Longkhong	5	5	6.5
273	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sipini	5	10	13
274	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Wasathong	5	5	6.5
275	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Makat	5	5	6.5
276	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Subang	5	5	6.5
277	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Subang	5	5	6.5
278	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Natun Kheti	5	5	6.5
279	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Doidam	5	5	6.5
280	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Doidam	5	5	6.5
281	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Turet	5	10	13
282	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Kenon	5	5	6.5
283	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Thalot	5	5	6.5
284	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Barak	5	5	6.5
285	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Dongrong	5	5	6.5
286	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Phinthing	5	5	6.5
287	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Phinthing	5	5	6.5
288	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Soha	5	10	13
289	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lamlo	5	5	6.5
290	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Mopaya	5	10	6
291	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Turet	5	5	3
292	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sipini	5	10	6
293	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Wasathong	5	5	3
294	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Subang	5	5	3
295	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Subang	5	5	3
296	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Namsang	5	5	3
297	Namsang	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Soha	5	10	6
298	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Namsang	5	10	10
299	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Mopaya	5	10	10
300	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Longkhong	5	5	5
301	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Sipini	5	10	10
302	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Wasathong	5	10	10

303	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Makat	5	5	5
304	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Old Subang	5	5	5
305	Namsang	RWD	Convergence with MGNREGA	Water Conservation	New Subang	5	5	5
306	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Natun Kheti	5	5	5
307	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Old Doidam	5	5	5
308	Namsang	RWD	Convergence with MGNREGA	Water Conservation	New Doidam	5	5	5
309	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Turet	5	10	10
310	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Kenon	5	5	5
311	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Thalot	5	5	5
312	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Barak	5	5	5
313	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Dongrong	5	5	5
314	Namsang	RWD	Convergence with MGNREGA	Water Conservation	New Phinthing	5	5	5
315	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Old Phinthing	5	5	5
316	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Soha	5	5	5
317	Namsang	RWD	Convergence with MGNREGA	Water Conservation	Lamlo	5	5	5
318	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Namsang	5	7.5	12.75
319	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Mopaya	5	7.5	12.75
320	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Longkhong	5	7.5	12.75
321	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Sipini	5	15	25.5
322	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Wasathong	5	7.5	12.75
323	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Makat	5	7.5	12.75
324	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Subang	5	7.5	12.75
325	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Subang	5	7.5	12.75
326	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Natun Kheti	5	7.5	12.75
327	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Doidam	5	7.5	12.75
328	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Doidam	5	7.5	12.75
329	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Turet	5	7.5	12.75
330	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Kenon	5	7.5	12.75
331	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Thalot	5	7.5	12.75
332	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Barak	5	7.5	12.75
333	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Dongrong	5	7.5	12.75
334	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Phinthing	5	7.5	12.75
335	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Phinthing	5	7.5	12.75
336	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Soha	5	15	25.5
337	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lamlo	5	7.5	12.75
338	Namsang	RWD	Convergence with MGNREGA	Land Development	Namsang	5	10	7.5
339	Namsang	RWD	Convergence with MGNREGA	Land Development	Mopaya	5	10	7.5
340	Namsang	RWD	Convergence with MGNREGA	Land Development	Longkhong	5	10	7.5
341	Namsang	RWD	Convergence with MGNREGA	Land Development	Sipini	5	10	7.5
342	Namsang	RWD	Convergence with MGNREGA	Land Development	Wasathong	5	10	7.5
343	Namsang	RWD	Convergence with MGNREGA	Land Development	Makat	5	10	7.5

344	Namsang	RWD	Convergence with MGNREGA	Land Development	Old Subang	5	10	7.5
345	Namsang	RWD	Convergence with MGNREGA	Land Development	New Subang	5	10	7.5
346	Namsang	RWD	Convergence with MGNREGA	Land Development	Natun Kheti	5	10	7.5
347	Namsang	RWD	Convergence with MGNREGA	Land Development	Old Doidam	5	10	7.5
348	Namsang	RWD	Convergence with MGNREGA	Land Development	New Doidam	5	20	7.5
349	Namsang	RWD	Convergence with MGNREGA	Land Development	Turet	5	10	15
350	Namsang	RWD	Convergence with MGNREGA	Land Development	Kenon	5	10	7.5
351	Namsang	RWD	Convergence with MGNREGA	Land Development	Thalot	5	10	7.5
352	Namsang	RWD	Convergence with MGNREGA	Land Development	Barak	5	10	7.5
353	Namsang	RWD	Convergence with MGNREGA	Land Development	Dongrong	5	10	7.5
354	Namsang	RWD	Convergence with MGNREGA	Land Development	New Phinthing	5	10	7.5
355	Namsang	RWD	Convergence with MGNREGA	Land Development	Old Phinthing	5	10	7.5
356	Namsang	RWD	Convergence with MGNREGA	Land Development	Soha	5	20	15
357	Namsang	RWD	Convergence with MGNREGA	Land Development	Lamlo	5	10	7.5
358	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Sipini	5	5	3
359	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Phinthing	5	5	3
360	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lamlo	5	5	3
361	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Dongrong	5	5	3
362	Namsang	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Doidam	5	5	3
363	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Thinsa	5	5	5
364	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Kheti	5	5	5
365	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Khonsa	5	5	5
366	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Kaimai	5	10	10
367	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Borduria	5	10	10
368	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Laptang	5	10	10
369	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Laptang	5	5	5
370	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Pansumthong	5	5	5
371	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Sumsipathar	5	5	5
372	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Terung	5	5	5
373	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Lapnan	5	10	10
374	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Luthong	5	5	5
375	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	NewTupi	5	5	5
376	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Tupi	5	10	10
377	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Chasa	5	10	10
378	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Noksa	5	5	5
379	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Paniduria	5	5	5
380	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Paniduria	5	5	5
381	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Khowathong	5	5	5
382	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Holam	5	5	5
383	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Lindongthong	5	5	5
384	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Pullong	5	5	5

385	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Khela	5	10	10
386	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Lamsa	5	5	5
387	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Bunting	5	5	5
388	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Bunting	5	5	5
389	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Choimuthung	5	5	5
390	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Longbow	5	5	5
391	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Longo	5	5	5
392	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Changthing	5	5	5
393	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Wathin	5	5	5
394	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Sikho	5	5	5
395	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Katang	5	5	5
396	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Katang	5	5	5
397	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Lainwang	5	5	5
398	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Lainwang	5	5	5
399	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Jadthung	5	5	5
400	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Kolagaon	5	5	5
401	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Ngoithong	5	5	5
402	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Kapu	5	10	10
403	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Dadam	5	10	10
404	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Hukan	5	5	5
405	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Laho	5	10	10
406	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Upper Chinkoi	5	5	5
407	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Lower Chinkoi	5	5	5
408	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Bera	5	5	5
409	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	New Kothin	5	5	5
410	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Humroi	5	5	5
411	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Old Kothin	5	5	5
412	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Bokfoam-I	5	5	5
413	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Bokfoam-II	5	5	5
414	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Farm Pond	Moktowa	5	10	10
415	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Thinsa	5	7.5	6.25
416	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Kheti	5	7.5	6.25
417	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Khonsa	5	15	12.5
418	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Kaimai	5	15	12.5
419	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Borduria	5	15	12.5
420	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Laptang	5	7.5	6.25
421	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	New Laptang	5	7.5	6.25
422	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Pansumthong	5	7.5	6.25
423	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Sumsipathar	5	7.5	6.25
424	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Terung	5	7.5	6.25
425	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Lapnan	5	15	12.5

426	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Luthong	5	7.5	6.25
427	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	NewTupi	5	7.5	6.25
428	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Tupi	5	15	12.5
429	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Chasa	5	15	12.5
430	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Noksa	5	7.5	6.25
431	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Paniduria	5	7.5	6.25
432	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	New Paniduria	5	7.5	6.25
433	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Khowathong	5	7.5	6.25
434	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Holam	5	7.5	6.25
435	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Lindongthong	5	7.5	6.25
436	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Pullong	5	7.5	6.25
437	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Khela	5	15	12.5
438	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Lamsa	5	7.5	6.25
439	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Bunting	5	7.5	6.25
440	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	New Bunting	5	7.5	6.25
441	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Choimuthung	5	7.5	6.25
442	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Longbow	5	7.5	6.25
443	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Longo	5	7.5	6.25
444	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Changthing	5	7.5	6.25
445	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Wathin	5	7.5	6.25
446	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Sikho	5	7.5	6.25
447	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Katang	5	7.5	6.25
448	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	New Katang	5	7.5	6.25
449	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Check Dams	Old Lainwang	5	7.5	6.25
450	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Thinsa	5	5	6.5
451	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Kheti	5	10	13
452	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Khonsa	5	10	13
453	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Kaimai	5	5	6.5
454	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Borduria	5	5	6.5
455	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Laptang	5	5	6.5
456	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Laptang	5	5	6.5
457	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Pansumthong	5	10	13
458	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sumsipathar	5	5	6.5
459	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Terung	5	5	6.5
460	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lapnan	5	10	13
461	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Luthong	5	5	6.5
462	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	NewTupi	5	5	6.5
463	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Tupi	5	5	6.5
464	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Chasa	5	5	6.5
465	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Noksa	5	5	6.5
466	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Paniduria	5	5	6.5

467	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Paniduria	5	5	6.5
468	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Khowathong	5	5	6.5
469	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Holam	5	5	6.5
470	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lindongthong	5	5	6.5
471	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Pullong	5	5	6.5
472	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Khela	5	10	13
473	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lamsa	5	5	6.5
474	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Bunting	5	5	6.5
475	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Bunting	5	5	6.5
476	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Choimuthung	5	5	6.5
477	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Longbow	5	5	6.5
478	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Longo	5	5	6.5
479	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Changthing	5	5	6.5
480	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Wathin	5	5	6.5
481	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sikho	5	5	6.5
482	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Katang	5	5	6.5
483	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Katang	5	5	6.5
484	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Lainwang	5	5	6.5
485	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Lainwang	5	5	6.5
486	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Jadthung	5	5	6.5
487	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Kolagaon	5	5	6.5
488	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Ngoithong	5	5	6.5
489	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Kapu	5	5	6.5
490	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Dadam	5	10	13
491	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Hukan	5	5	6.5
492	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Laho	5	10	13
493	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Upper Chinkoi	5	5	6.5
494	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lower Chinkoi	5	5	6.5
495	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Bera	5	5	6.5
496	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Kothin	5	5	6.5
497	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Humroi	5	5	6.5
498	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Kothin	5	5	6.5
499	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Bokfoam-I	5	5	6.5
500	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Bokfoam-II	5	5	6.5
501	Khonsa / Dadam / Borduria	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Dadam/Moktowa	5	10	13
502	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Thinsa	5	5	5
503	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Kheti	5	5	5
504	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Khonsa	5	10	10
505	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Kaimai	5	10	10
506	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Borduria	5	10	10
507	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Laptang	5	5	5

508	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Laptang	5	5	5
509	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Pansumthong	5	5	5
510	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Sumsipathar	5	5	5
511	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Terung	5	5	5
512	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Lapnan	5	10	10
513	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Luthong	5	5	5
514	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Tupi	5	5	5
515	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Tupi	5	10	10
516	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Chasa	5	10	10
517	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Noksa	5	5	5
518	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Paniduria	5	5	5
519	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Paniduria	5	5	5
520	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Khowathong	5	5	5
521	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Holam	5	5	5
522	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Lingdongthong	5	5	5
523	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Pullong	5	5	5
524	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Khela	5	10	10
525	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Lamsa	5	5	5
526	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Bunting	5	5	5
527	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Bunting	5	5	5
528	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Choimuthung	5	5	5
529	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Longbow	5	5	5
530	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Longo	5	5	5
531	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Changthing	5	5	5
532	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Wathin	5	5	5
533	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Sikho	5	5	5
534	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Katang	5	5	5
535	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Katang	5	5	5
536	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Lainwang	5	5	5
537	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Lainwang	5	5	5
538	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Jadthung	5	5	5
539	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Kolagaon	5	5	5
540	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Ngoithong	5	5	5
541	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Kapu	5	10	10
542	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Dadam	5	10	10
543	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Hukan	5	5	5
544	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Laho	5	10	10
545	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Upper Chinkoi	5	5	5
546	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Lower Chinkoi	5	5	5
547	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Bera	5	5	5
548	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	New Kothin	5	5	5

549	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Humroi	5	5	5
550	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Old Kothin	5	5	5
551	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Bokfoam-I	5	5	5
552	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Bokfoam-II	5	5	5
553	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Water Conservation	Dadam/Moktowa	5	10	10
554	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Thinsa	5	15	25.5
555	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Kheti	5	7.5	12.75
556	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Khonsa	5	15	25.5
557	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Kaimai	5	15	25.5
558	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Borduria	5	15	25.5
559	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Laptang	5	7.5	12.75
560	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Laptang	5	7.5	12.75
561	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Pansumthong	5	7.5	12.75
562	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Sumsipathar	5	7.5	12.75
563	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Terung	5	7.5	12.75
564	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lapnan	5	15	25.5
565	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Luthong	5	7.5	12.75
566	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Tupi	5	7.5	12.75
567	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Tupi	5	7.5	12.75
568	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Chasa	5	15	25.5
569	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Noksa	5	7.5	12.75
570	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Paniduria	5	7.5	12.75
571	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Paniduria	5	7.5	12.75
572	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Khowathong	5	7.5	12.75
573	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Holam	5	7.5	12.75
574	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lingdongthong	5	7.5	12.75
575	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Pullong	5	7.5	12.75
576	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Khela	5	15	25.5
577	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lamsa	5	7.5	12.75
578	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Bunting	5	7.5	12.75
579	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Bunting	5	7.5	12.75
580	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Choimuthung	5	7.5	12.75
581	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Longbow	5	7.5	12.75
582	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Longo	5	7.5	12.75
583	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Changthing	5	7.5	12.75
584	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Wathin	5	7.5	12.75
585	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Sikho	5	7.5	12.75
586	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Katang	5	7.5	12.75
587	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Katang	5	7.5	12.75
588	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Lainwang	5	7.5	12.75
589	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Lainwang	5	7.5	12.75

590	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Jadthung	5	7.5	12.75
591	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Kolagaon	5	7.5	12.75
592	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Ngoithong	5	7.5	12.75
593	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Kapu	5	7.5	12.75
594	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Dadam	5	15	25.5
595	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Hukan	5	7.5	12.75
596	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Laho	5	7.5	12.75
597	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Upper Chinkoi	5	7.5	12.75
598	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Lower Chinkoi	5	7.5	12.75
599	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Bera	5	15	25.5
600	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	New Kothin	5	15	25.5
601	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Humroi	5	7.5	12.75
602	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Old Kothin	5	7.5	12.75
603	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Bokfoam-I	5	7.5	12.75
604	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Bokfoam-II	5	7.5	12.75
605	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Minor Irrigation Channel	Dadam/Moktowa	5	7.5	12.75
606	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Thinsa	5	15	11.25
607	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Kheti	5	15	11.25
608	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Khonsa	5	10	7.5
609	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Kaimai	5	15	11.25
610	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Borduria	5	15	11.25
611	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Laptang	5	10	7.5
612	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Laptang	5	10	7.5
613	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Pansumthong	5	10	7.5
614	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Sumsipathar	5	10	7.5
615	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Terung	5	10	7.5
616	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Lapnan	5	15	11.25
617	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Luthong	5	10	7.5
618	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Tupi	5	10	7.5
619	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Tupi	5	10	7.5
620	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Chasa	5	15	11.25
621	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Noksa	5	10	7.5
622	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Paniduria	5	10	7.5
623	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Paniduria	5	10	7.5
624	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Khowathong	5	10	7.5
625	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Holam	5	10	7.5
626	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Lingdongthong	5	10	7.5
627	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Pullong	5	10	7.5
628	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Khela	5	10	7.5
629	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Lamsa	5	10	7.5
630	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Bunting	5	10	7.5

631	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Bunting	5	10	7.5
632	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Choimuthung	5	10	7.5
633	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Longbow	5	10	7.5
634	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Longo	5	10	7.5
635	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Changthing	5	10	7.5
636	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Wathin	5	10	7.5
637	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Sikho	5	10	7.5
638	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Katang	5	10	7.5
639	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Katang	5	10	7.5
640	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Lainwang	5	10	7.5
641	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Lainwang	5	10	7.5
642	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Jadthung	5	10	7.5
643	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Kolagaon	5	10	7.5
644	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Ngoithong	5	10	7.5
645	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Kapu	5	10	7.5
646	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Dadam	5	15	11.25
647	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Hukan	5	10	7.5
648	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Laho	5	15	11.25
649	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Upper Chinkoi	5	10	7.5
650	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Lower Chinkoi	5	10	7.5
651	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Bera	5	10	7.5
652	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	New Kothin	5	10	7.5
653	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Humroi	5	10	7.5
654	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Old Kothin	5	10	7.5
655	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Bokfoam-I	5	10	7.5
656	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Bokfoam-II	5	10	7.5
657	Khonsa / Dadam / Borduria	RWD	Convergence with MGNREGA	Land Development	Dadam/Moktowa	5	15	11.25
658	Lazu	RWD	PMKSY Watershed	Farm Pond	Upper Kolam	5	5	5
659	Lazu	RWD	PMKSY Watershed	Farm Pond	Lower Kolam	5	5	5
660	Lazu	RWD	PMKSY Watershed	Farm Pond	Tutnya	5	5	5
661	Lazu	RWD	PMKSY Watershed	Farm Pond	Thungjang	5	5	5
662	Lazu	RWD	PMKSY Watershed	Farm Pond	Nogna	5	5	5
663	Lazu	RWD	PMKSY Watershed	Farm Pond	Old Kothung	5	5	5
664	Lazu	RWD	PMKSY Watershed	Farm Pond	New Kothung	5	5	5
665	Lazu	RWD	PMKSY Watershed	Farm Pond	Upper Chinhan	5	5	5
666	Lazu	RWD	PMKSY Watershed	Farm Pond	Lower Chinhan	5	5	5
667	Lazu	RWD	PMKSY Watershed	Farm Pond	Noglo	5	5	5
668	Lazu	RWD	PMKSY Watershed	Farm Pond	Lonyan	5	5	5
669	Lazu	RWD	PMKSY Watershed	Farm Pond	Lazu	5	10	10
670	Lazu	RWD	PMKSY Watershed	Farm Pond	Sinu	5	5	5
671	Lazu	RWD	PMKSY Watershed	Farm Pond	Raho	5	5	5

672	Lazu	RWD	PMKSY Watershed	Farm Pond	Pongkong	5	5	5
673	Lazu	RWD	PMKSY Watershed	Farm Pond	Sanliam	5	5	5
674	Lazu	RWD	PMKSY Watershed	Farm Pond	Longliang	5	5	5
675	Lazu	RWD	PMKSY Watershed	Farm Pond	Lianchang	5	5	5
676	Lazu	RWD	PMKSY Watershed	Check Dams	Upper Kolam	5	7.5	6.25
677	Lazu	RWD	PMKSY Watershed	Check Dams	Lower Kolam	5	7.5	6.25
678	Lazu	RWD	PMKSY Watershed	Check Dams	Tutnya	5	15	12.5
679	Lazu	RWD	PMKSY Watershed	Check Dams	Thungjang	5	7.5	6.25
680	Lazu	RWD	PMKSY Watershed	Check Dams	Nogna	5	7.5	6.25
681	Lazu	RWD	PMKSY Watershed	Check Dams	Old Kothung	5	7.5	6.25
682	Lazu	RWD	PMKSY Watershed	Check Dams	New Kothung	5	7.5	6.25
683	Lazu	RWD	PMKSY Watershed	Check Dams	Upper Chinhan	5	7.5	6.25
684	Lazu	RWD	PMKSY Watershed	Check Dams	Lower Chinhan	5	7.5	6.25
685	Lazu	RWD	PMKSY Watershed	Check Dams	Noglo	5	7.5	6.25
686	Lazu	RWD	PMKSY Watershed	Check Dams	Lonyan	5	7.5	6.25
687	Lazu	RWD	PMKSY Watershed	Check Dams	Lazu	5	15	12.5
688	Lazu	RWD	PMKSY Watershed	Check Dams	Sinu	5	7.5	6.25
689	Lazu	RWD	PMKSY Watershed	Check Dams	Raho	5	7.5	6.25
690	Lazu	RWD	PMKSY Watershed	Check Dams	Pongkong	5	7.5	6.25
691	Lazu	RWD	PMKSY Watershed	Check Dams	Sanliam	5	7.5	6.25
692	Lazu	RWD	PMKSY Watershed	Check Dams	Longliang	5	7.5	6.25
693	Lazu	RWD	PMKSY Watershed	Check Dams	Lianchang	5	7.5	6.25
694	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Upper Kolam	5	5	6.5
695	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lower Kolam	5	5	6.5
696	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Tutnya	5	5	6.5
697	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Thungjang	5	5	6.5
698	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Nogna	5	5	6.5
699	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Old Kothung	5	5	6.5
700	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	New Kothung	5	5	6.5
701	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Upper Chinhan	5	5	6.5
702	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lower Chinhan	5	5	6.5
703	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Noglo	5	5	6.5
704	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lonyan	5	5	6.5
705	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lazu	5	5	6.5
706	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sinu	5	5	6.5
707	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Raho	5	5	6.5
708	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Pongkong	5	5	6.5
709	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Sanliam	5	5	6.5
710	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Longliang	5	5	6.5
711	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lianchang	5	5	6.5
712	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Pongkog	5	10	6

713	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Tutnya	5	10	6
714	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Nogna	5	5	3
715	Lazu	RWD	PMKSY Watershed	Fisheries & Cattle Pond	Lower Kolam	5	5	3
716	Lazu	RWD	PMKSY Watershed	Water Conservation	Upper Kolam	5	5	5
717	Lazu	RWD	PMKSY Watershed	Water Conservation	Lower Kolam	5	5	5
718	Lazu	RWD	PMKSY Watershed	Water Conservation	Tutnya	5	5	5
719	Lazu	RWD	PMKSY Watershed	Water Conservation	Thungjang	5	5	5
720	Lazu	RWD	PMKSY Watershed	Water Conservation	Nogna	5	5	5
721	Lazu	RWD	PMKSY Watershed	Water Conservation	Old Kothung	5	5	5
722	Lazu	RWD	PMKSY Watershed	Water Conservation	New Kothung	5	5	5
723	Lazu	RWD	PMKSY Watershed	Water Conservation	Upper Chinhan	5	5	5
724	Lazu	RWD	PMKSY Watershed	Water Conservation	Lower Chinhan	5	5	5
725	Lazu	RWD	PMKSY Watershed	Water Conservation	Noglo	5	5	5
726	Lazu	RWD	PMKSY Watershed	Water Conservation	Lonyan	5	5	5
727	Lazu	RWD	PMKSY Watershed	Water Conservation	Lazu	5	10	10
728	Lazu	RWD	PMKSY Watershed	Water Conservation	Sinu	5	5	5
729	Lazu	RWD	PMKSY Watershed	Water Conservation	Raho	5	5	5
730	Lazu	RWD	PMKSY Watershed	Water Conservation	Pongkong	5	5	5
731	Lazu	RWD	PMKSY Watershed	Water Conservation	Sanliam	5	5	5
732	Lazu	RWD	PMKSY Watershed	Water Conservation	Longliang	5	5	5
733	Lazu	RWD	PMKSY Watershed	Water Conservation	Lianchang	5	5	5
734	Lazu	RWD	PMKSY Watershed	Water Conservation	Lonyan	5	5	5
735	Lazu	RWD	PMKSY Watershed	Water Conservation	Lazu	5	10	10
736	Lazu	RWD	PMKSY Watershed	Water Conservation	Sinu	5	5	5
737	Lazu	RWD	PMKSY Watershed	Water Conservation	Raho	5	5	5
738	Lazu	RWD	PMKSY Watershed	Water Conservation	Pongkong	5	5	5
739	Lazu	RWD	PMKSY Watershed	Water Conservation	Sanliam	5	5	5
740	Lazu	RWD	PMKSY Watershed	Water Conservation	Longliang	5	5	5
741	Lazu	RWD	PMKSY Watershed	Water Conservation	Lianchang	5	5	5
742	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Upper Kolam	5	15	25.5
743	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lower Kolam	5	7.5	12.75
744	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Tutnya	5	15	25.5
745	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Thungjang	5	15	25.5
746	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Nogna	5	15	25.5
747	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Old Kothung	5	7.5	12.75
748	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	New Kothung	5	7.5	12.75
749	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Upper Chinhan	5	7.5	12.75
750	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lower Chinhan	5	7.5	12.75
751	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Noglo	5	7.5	12.75
752	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lonyan	5	15	25.5
753	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lazu	5	15	25.5

754	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Sinu	5	7.5	12.75
755	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Raho	5	7.5	12.75
756	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Pongkong	5	7.5	12.75
757	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Sanliam	5	7.5	12.75
758	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Longliang	5	7.5	12.75
759	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lianchang	5	7.5	12.75
760	Lazu	RWD	PMKSY Watershed	Land Development	Upper Kolam	5	15	11.25
761	Lazu	RWD	PMKSY Watershed	Land Development	Lower Kolam	5	15	11.25
762	Lazu	RWD	PMKSY Watershed	Land Development	Tutnya	5	15	11.25
763	Lazu	RWD	PMKSY Watershed	Land Development	Thungjang	5	15	11.25
764	Lazu	RWD	PMKSY Watershed	Land Development	Nogna	5	15	11.25
765	Lazu	RWD	PMKSY Watershed	Land Development	Old Kothung	5	10	7.5
766	Lazu	RWD	PMKSY Watershed	Land Development	New Kothung	5	10	7.5
767	Lazu	RWD	PMKSY Watershed	Land Development	Upper Chinhan	5	10	7.5
768	Lazu	RWD	PMKSY Watershed	Land Development	Lower Chinhan	5	15	11.25
769	Lazu	RWD	PMKSY Watershed	Land Development	Noglo	5	15	11.25
770	Lazu	RWD	PMKSY Watershed	Land Development	Lonyan	5	15	11.25
771	Lazu	RWD	PMKSY Watershed	Land Development	Lazu	5	20	15
772	Lazu	RWD	PMKSY Watershed	Land Development	Sinu	5	10	7.5
773	Lazu	RWD	PMKSY Watershed	Land Development	Raho	5	10	7.5
774	Lazu	RWD	PMKSY Watershed	Land Development	Pongkong	5	15	11.25
775	Lazu	RWD	PMKSY Watershed	Land Development	Sanliam	5	10	7.5
776	Lazu	RWD	PMKSY Watershed	Land Development	Longliang	5	10	7.5
777	Lazu	RWD	PMKSY Watershed	Land Development	Lianchang	5	10	7.5
778	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Lower Kolam	5	5	3
779	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Tutnya	5	5	3
780	Lazu	RWD	PMKSY Watershed	Minor Irrigation Channel	Old Kothung	5	5	3
781	Khonsa	RWD	PMKSY Watershed	IWMP		5	3016	377.41
Total							**9259 ha**	**Rs 5132.81**

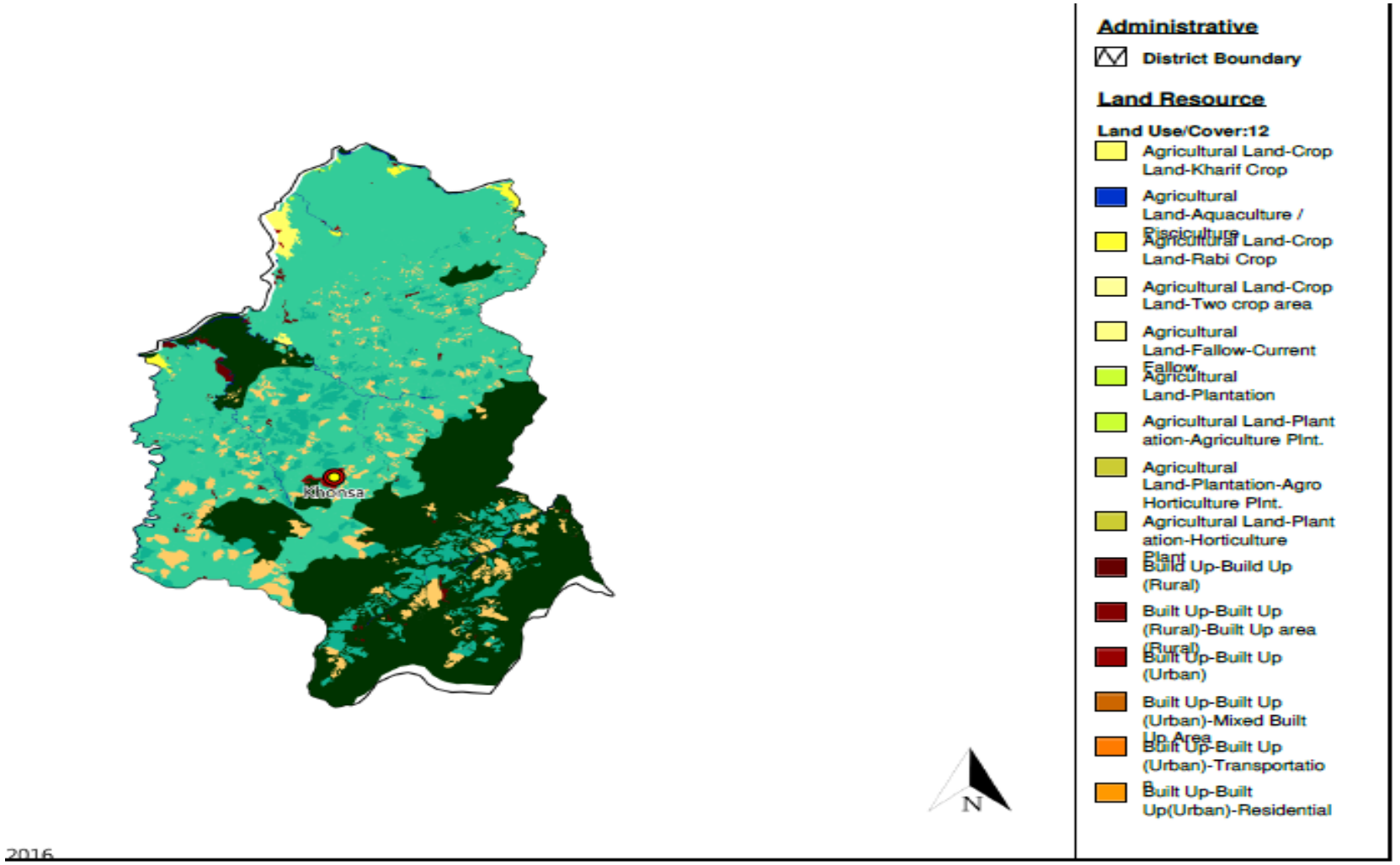
Annexure-IV

Strategic Action Plan of RD (State) / (DRDA) under PMKSY

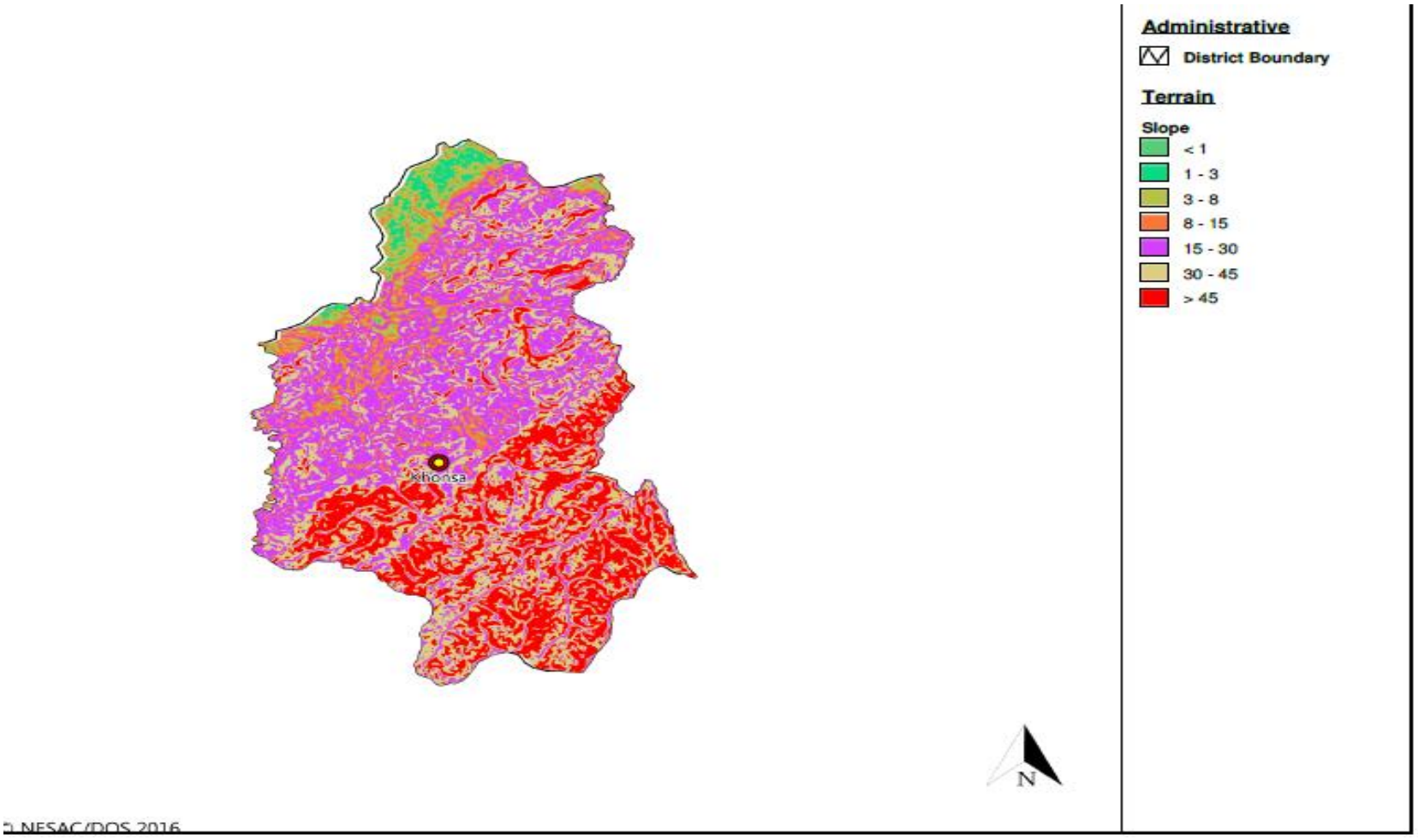
Sl. No.	District	Year of Sanctioned	Batch	Project No.	Block Name	Village Covered under IWMP Projects	Total area for Treatment	Total project Cost	Fund Received		Total Fund Received	Achivement		Area to be covered under PMKSY - WD		Total nos. of Projects
									Central Share	State Share		Physical	Financial	Physical	Financial	
782	Tirap	2010-11	II	IWMP- 1	Lazu	Khinyu at Lazu.	2003	300.45	110.87	6.01	116.88	779.2	116.88	1223.8	183.57	3
783	Tirap	2011-12	III	IWMP - 2	Khonsa	Borduria and Bogapani.	3016	452.4	89.58	9.05	98.63	657.53	98.63	2358.47	353.77	
784	Tirap	2013-14	V	IWMP - 3	Kanubari	Banfera, Chopnu and Kamnu.	2000	300	21.6	0	21.6	144	21.6	1856	278.4	
Sub total							**7019**	**1052.85**	**222.05**	**15.06**	**237.11**	**1580.73**	**237.11**	**5438.27**	**815.74**	

Annexure-VIII

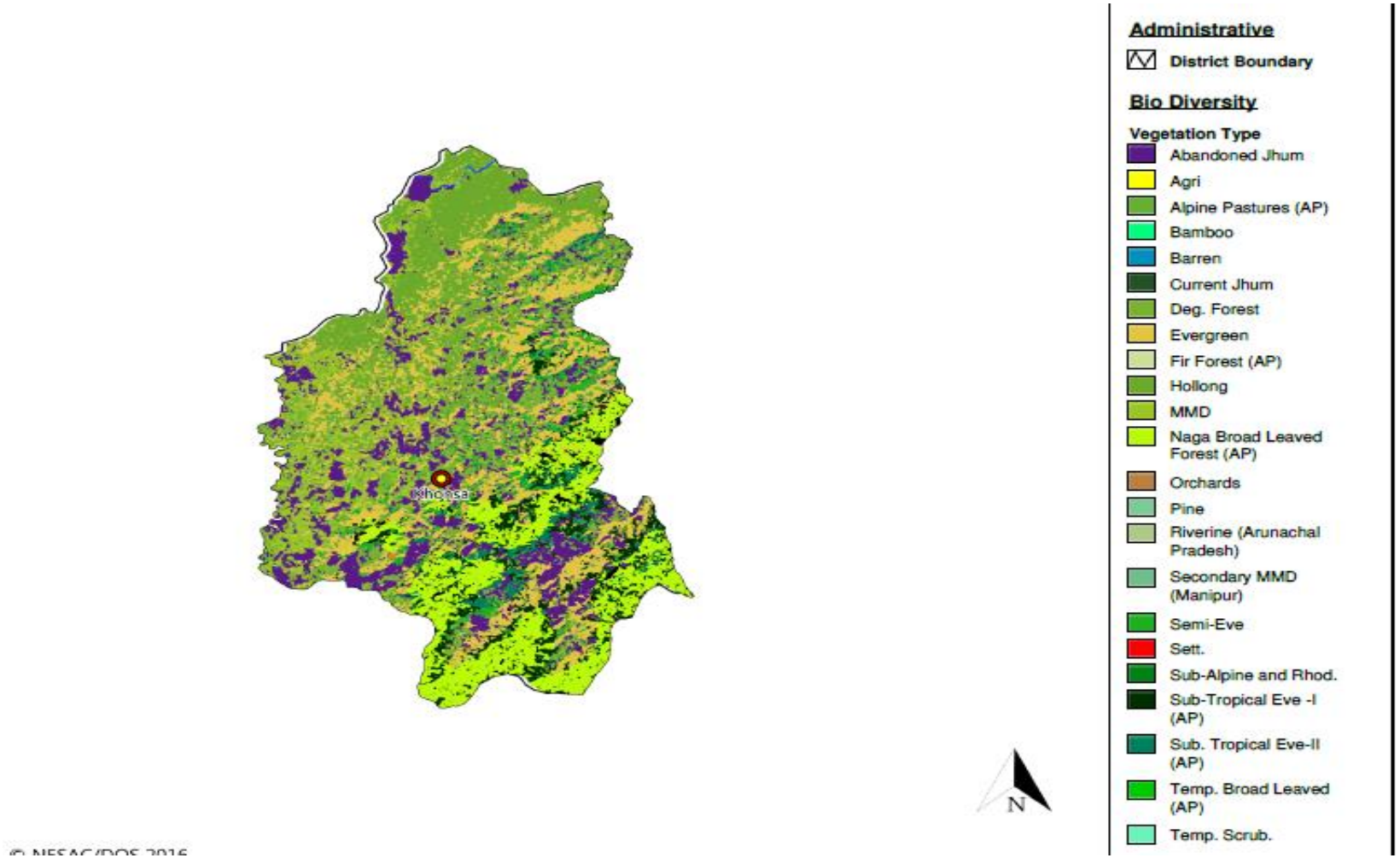
Land-Use Map of Tirap District



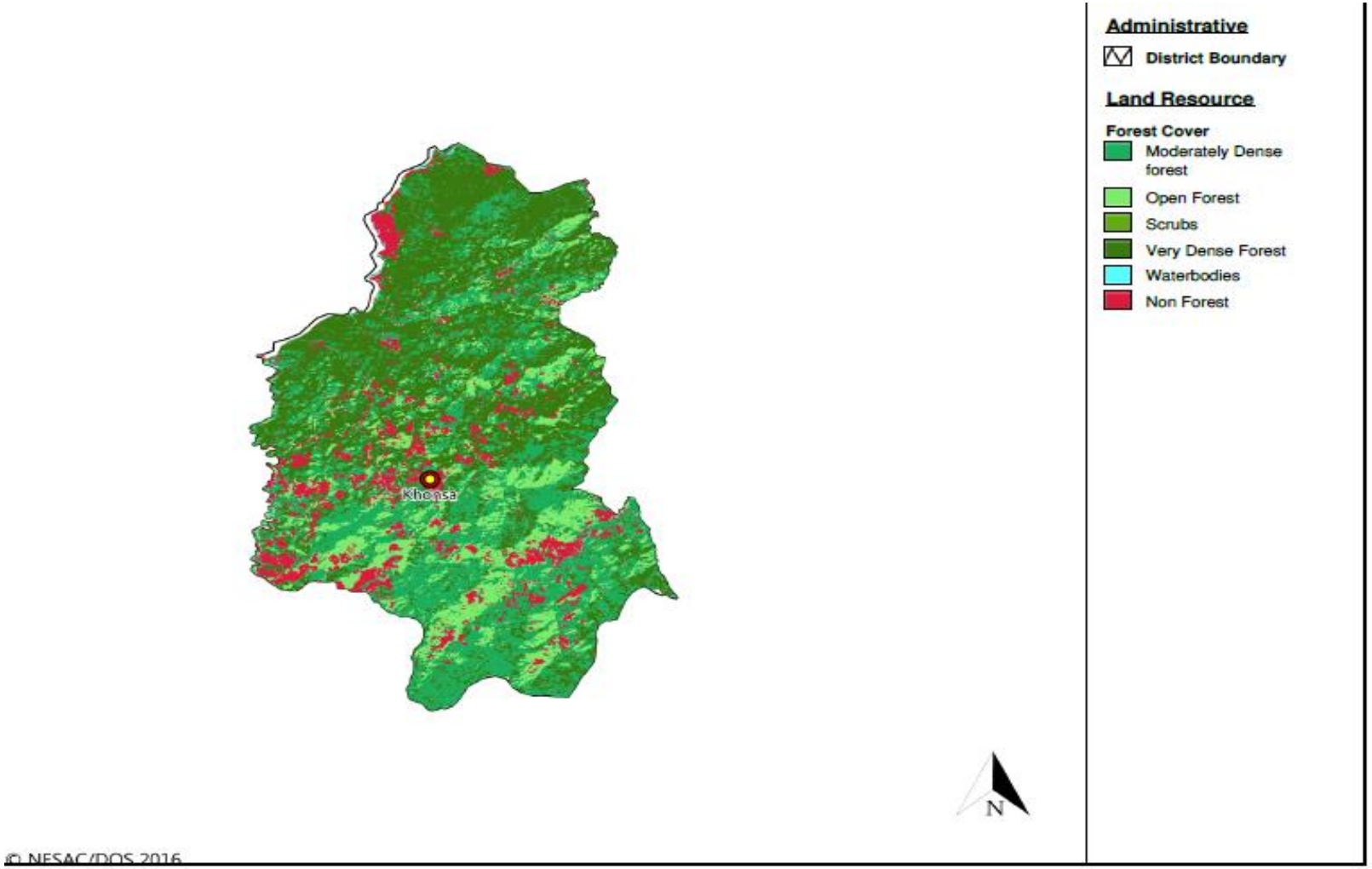
Slope Map of Tirap District



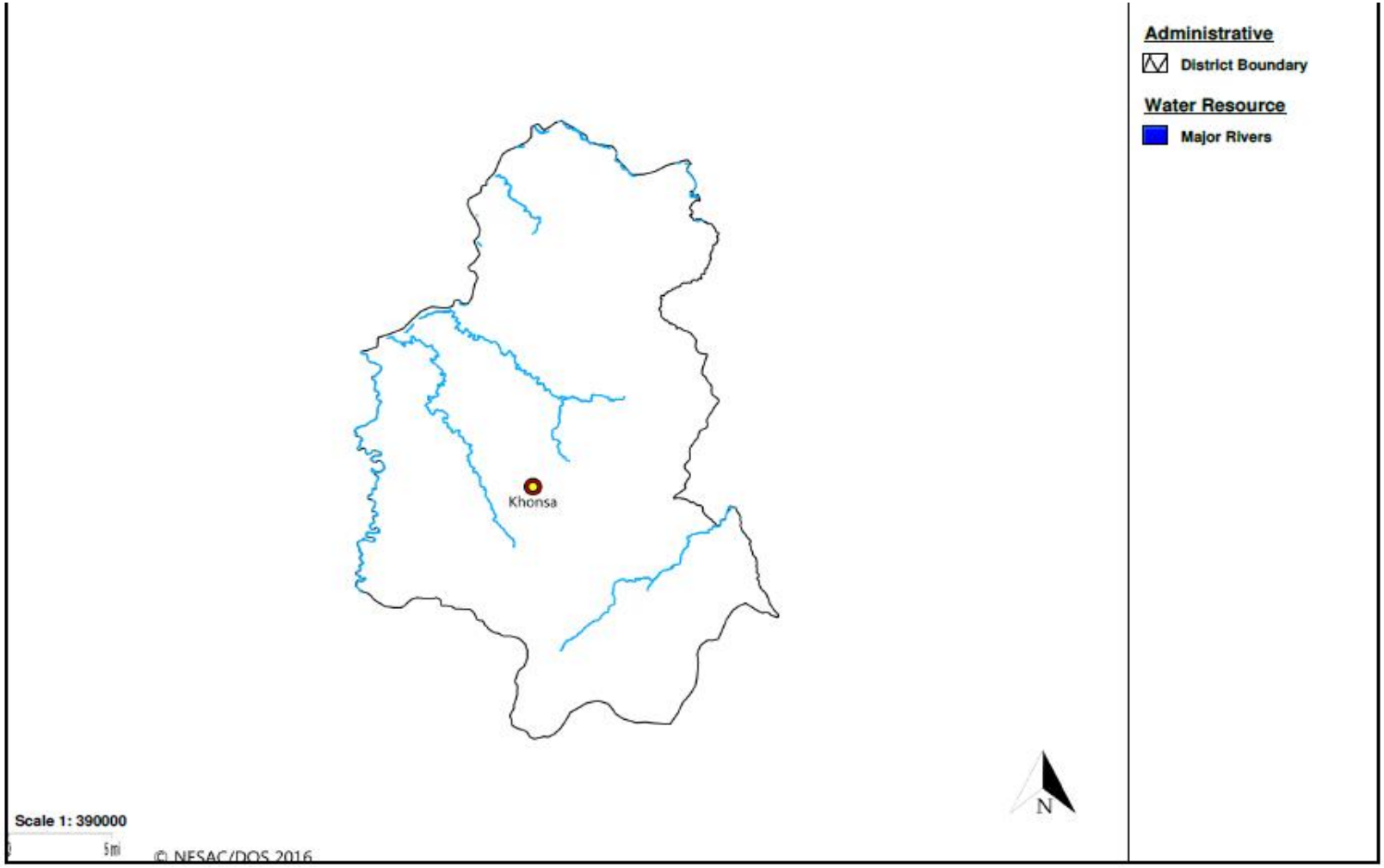
Vegetation type Map of Tirap District



Forest Map of Tirap District



River Map of Tirap District



End

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The views expressed and the conclusions arrived at in this document, including financial, are based on the data and information provided by various Government Departments and agencies at the Block and District levels, overall policy and approach of the State Government, discussions with the stakeholders at various levels as also the observations recorded by NABCONS during the field visits. Being only advisory in nature, such views and conclusions do not represent or reflect, in any way, the policy or views of NABARD.

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    - Impact Assessment Studies
    - Third Party Monitoring of Infrastructural Projects
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    - Capacity Building
    - Accreditation of Rural Godowns
    - Climate Change Issues
    - CSR Facilitation
    - IT in Rural Banks

Pro-Services Rendered by NABCONS

No.	Name of Services	Description
1	Project Management Consultancy (PMC)	Entails provision of end-to-end solution, including assistance in statutory approvals, bid process management, issuing and evaluating tender documents and supervision over infrastructure projects like Mega Food Park, Rural Godowns, Cold Storage, etc. funded by Govt. or private entities.
2	Preparation of Detailed Project Report / Conduct / Techno-economic Feasibility	For various activities under agriculture, horticulture, forestry, fisheries, irrigation, animal husbandry, food processing activities, agri-infrastructure, climate issues, etc.
3	Third Party Monitoring (TPM) of Infrastructure Projects	TPM of various Govt.-funded infra projects to assess the level of compliance followed in execution. This also covers socio-economic impact evaluation.
4	Monitoring and Evaluation (M&E)	M & E is undertaken for various developmental schemes of Govt. of India and State Govts in the areas of agriculture, animal husbandry and all other socio-development sectors.
5	Training and Capacity Building	Training is imparted on forward markets, agriculture market infrastructure, rural godown, agri-financing, treasury and investment management for banks, etc.
6	Studies / Baseline Surveys	Baseline surveys are taken up for measuring impact of community investment made by public and private sector Companies. Studies are conduct on women, children, disadvantaged groups / regions, etc.
7	Livelihood Mapping	Livelihood mapping and analysis is done for identification of potential activities to be taken up by SHGs
8	International Visitors' Programme / International Exposure Visits	Entails organizing study tours / exposure for the visiting foreign delegates to their areas of interest such as watershed, micro-finance, fin-inclusion, cooperatives, projects appraisal, agro-processing, post-harvest technologies, farmers' clubs, etc.
9	Consultancy on Banking and Finance	Designing and execution of priority sector strategies, advisory services on Treasury and Investment Management for Banks, preparation of IT Policy, etc.
10	Transaction advisory	Transaction Advisory for setting up of Agri-mall, Silos & Cold Storages
11	Skills for Livelihood	Skilling of rural BPL youth and placement in the formal sector, monitoring skill initiatives of MORD, Govt. of India, facilitating access to credit for trainees, etc.
12	Accreditation of Godowns	Engaged by WDRA as Accreditation Agency for accrediting rural godowns.