District Irrigation Plan

NABCONS

Longding, Arunachal Pradesh

District Irrigation Plan under PMKSY for 5 YEARS (2016-2021) Longding, Arunachal Pradesh

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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 capture by the 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 are 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 PradhanMantriKrishiSinchayeeYojana (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".

PMKSY has been approved with an indicative outlay of Rs.50,000 crore over a period of five years from 2015-16 to 2019-20. 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 scheme like MahATMA Gandhi National Rural Employment Guarantee Scheme (MGNRES), 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 program will be supervised and coordinated utilizing the existing mechanism and structure available under Rashtriya Krishi Vikas Yojana (RKVY) program 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 (Har Khet Ko Pani), PMKSY (Per drop more crop) and PMKSY (watershed development) will be decided by the respective program ministry/department.

The 5 chapters along with introduction chapter, explains the profile of district, its water requirement for agriculture and allied sector, water availability, assessment of water requirement for various sectors and strategic action plan for augmentation and effective management of available water resources.

District Demography:

Population of the district is 56953 including rural and urban populace of 52719 and 4234 respectively. Decadal population growth rate of the district is 11.61% since 2001 compared to a growth rate of 26.03% for the whole state. Out of a total population of 56953, male population count is 28710, where as female population count is 28243 in the district. The population density is 47 per square kilometre.

Agriculture in Longding:

The economy of Longding district is basically agrarian in nature with more than 70 percent of the population dependent on agriculture. Locals mostly follow shifting cultivation practise also known as jhum cultivation. Rice is the major crop. Other important crops include maize, millets, oil seeds and vegetables etc. The district has a gross cultivable area of 9256 hectares out of which 200 hectares is under irrigation of some sort.

District Water Profile:

Longding district falls in the Luni & Barmer Basins. Major River of the district is Luni, which flows in ENE – WSW direction. It enters Longding district near village Jhak in Bilara tehsil and leaves the district near village Dhundhara. Total length of the Luni River in Longding district is 125 km

Demand for water and the gap:

Block	Total Existing water availability (MCM)		Total (MCM)	Water Demand (MCM)		Present Water Gap/ Surplus(MCM)	Projected Water Gap/ Surplus (MCM)
	Surface Water	Ground Water		Present (2016)	Projected (2021)		
Longding	104.16	0	104.16	569.11	597.07	464.94	492.91

PMKSY Financial Proposal:

Estimated plan for whole district under the scheme for five years works out to be Rs.31,487.74 lakh. Agriculture Department accounts for the maximum share of about Rs. 17,365.44 lakh (55.1%) and is followed by the Water Resources Department with a budget of Rs. 12,384.45 lakh (39.3%). Horticulture department under PMKSY has a share of 4.8% which amounts to Rs 1512.85 lakh. DRDA has a budget of Rs. 225 lakh which amounts to 0.7% of the total district plan.

Department wise Financial Proposal (Amount in INR Lakhs)					
Longding District	WRD	Agriculture	Horticulture	DRDA	Total
Total	12384.45	17365.44	1512.85	225	31,487.74

Expected Outcome:

A plan to develop irrigation potential of 12,470.5 ha has been proposed in the district. It is proposed to create irrigation potential by installing new drip and sprinkler irrigation under the Per Drop More Crop component to increase the water use efficiency. Besides, water harvesting structures have also been proposed which will harvest rainwater

in the region. The Agriculture and horticulture department plan to develop a command area of 4554 ha and 635 ha respectively through installation of sprinkler, drip, farm ponds, water tanks and pipelines. The water resources department has a plan to contribute to the development of 5781.5 hectares of command area which includes schemes under Har Khet Ko pani across the 4 blocks in the district. DRDA has planned an IWMP project in the district which will develop a command area of 1500 hectares covering Niausa, Mintong and Pumao region.

Department wise Block level estimation (Ha)					
Longding District	**WRD**	**Agriculture**	**Horticulture**	**DRDA**	**Total**
Total	5781.5	4554	635	1500	12470.5

INTRODUCTION

1. 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 Panchayats at district and sub district level; local self-government in urban areas; constitution of district planning committee to consolidate the plans prepared at Panchayats 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 will introduce 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 will involve 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 Rainfed Area Authority will, on request, assist States in planning for rainfed 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 will 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) are:

- To prepare a Comprehensive District Agriculture Plan (C-DAP) through participatory process involving various organizations and stakeholders.
- To enable optimum utilization of scarce natural, physical & financial resources.
- To assess and plan for the infrastructure required to support the agriculture development.
- To establish linkages with the required institutional support services, like credit, technology transfer, ICT, research etc.
- 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 term1. 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 meeting the domestic and industrial demands. In a recent studyon 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 Utilised (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 resources2 under an Integrated Water Resource Management framework. The main objectives of water resource management as delineated in National Water Policy 2012 are:

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

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

(i) 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.

(ii) Principle of equity and social justice must inform use and allocation of water.

(iii) 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.

(iv) 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.

(v) Water is essential for sustenance of eco-system, and therefore, minimum ecological needs should be given due consideration.

(vi) 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.

(vii) 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.

(viii) 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.

(ix) 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.

(x) 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 16thLokSabha 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 was continued. An outlay of Rs. 50,000 crore has been approved for 2015-20. The financial assistance provided to the state governments from this centrally sponsored scheme is subject to fulfillment 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.

1. 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 'per drop more crop', thus bringing much desired rural prosperity.

2. Objective

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),
c) Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.
d) Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent,
e) Enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop).
f) Enhance recharge of aquifers and introduce sustainable water conservation practices
g) Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and other NRM activities.

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

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

j) Attract greater private investments in irrigation.

3. 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 JalMandir (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' organisations/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.

4. Programme Components

PMKSY has following four components:

Accelerated Irrigation Benefit Programme (AIBP)

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

PMKSY (Har Khet Ko Pani)

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.

PMKSY (Per Drop More Crop)

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 (Har Khet Ko Pani), 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 pumpsets including water carriage pipes, underground piping system. g) Extension activities for promotion of scientific moisture conservation and agronomic measures including cropping alignment to maximise use of available water including rainfall and minimise irrigation requirement (JalSarankchan); 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. 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.

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 rainfed blocks including renovation of traditional water bodies

1. Rationale / Justification

In reference to the status and need of irrigation, the water resource management including irrigation related priorities was identified for Longding district by the peoples' representatives of district with support from administration and technical experts. For instance the reports of Strategic Research and Extension Plan (SREP) prepared under ATMA program, 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. identified number of irrigation related issues for Longding district including (i) promoting water use efficiency through sprinkler and drip irrigation; (iii) promoting protected polyhouse 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.

2. Methodology

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

- Collection of primary and secondary data from field from various sources including published documents and websites.
- Meetings with various State Government departments and related institutions were held
- Meeting through VC was also held with State Level authorities.
- GIS maps of the area's/clusters were studied to understand the land morphology, topography of the district.

- Focused group discussions and interaction with of agriculture officers, horticulture officers, soil conservation officers, extension officers, rural development department, animal husbandry department, irrigation officers both at blocks and district level for identifying the key issues and focus areas of the region.
- Discussion with NABARD officer of Longding district was also held during the visit.

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 five years from 2016-17 to 2020-21 as detailed in the plan.

Chapter 1 General Information of the District

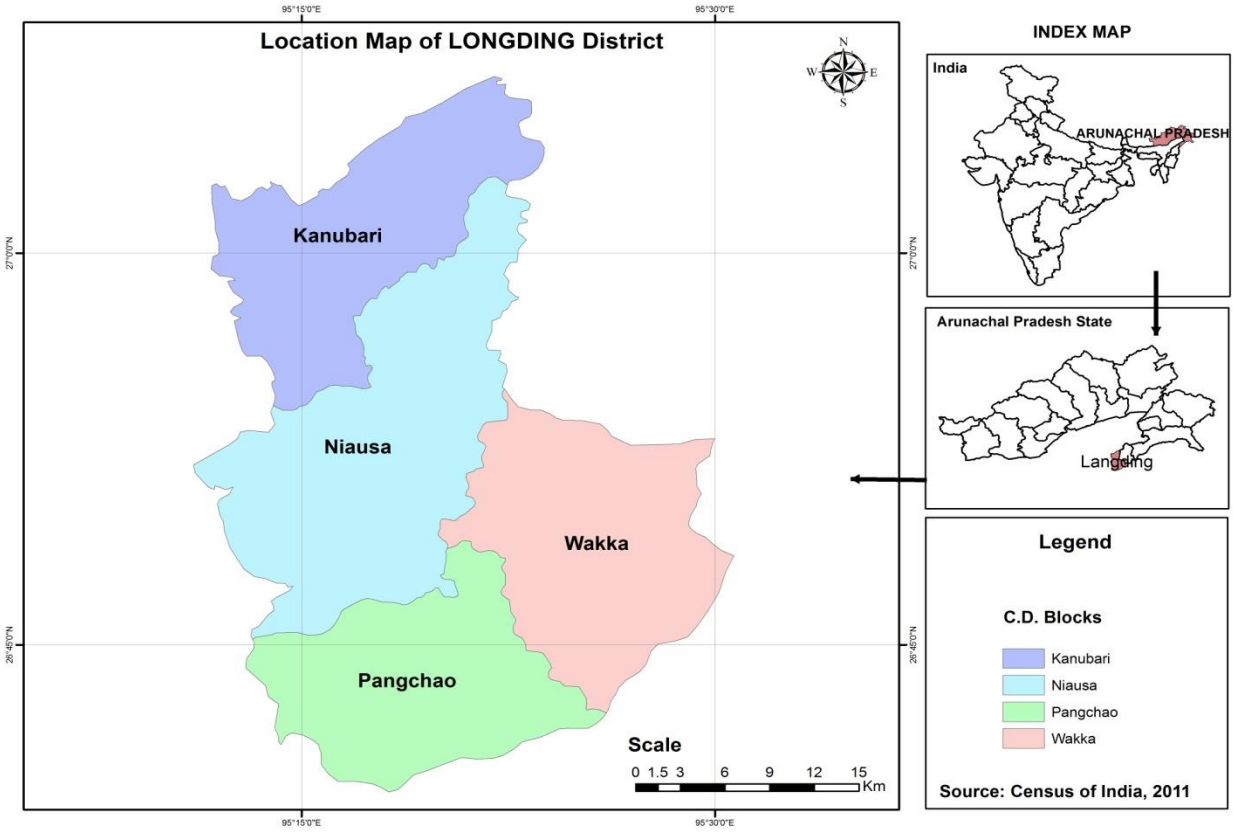
1.1 District Profile

Carved out of Tirap district in 2012, with a population of 56,953, the nascent district covers an area of 1,192 sq km and touches Myanmar on its southern border. With its headquarters at Longding, the district comprises one principal town and 72 census villages, including six administrative circles. The new district comprises the administrative units of Longding (HQ), Kanubari (ADC HQ), Pongchau Circle, Wakka Circle, Pumao Circle and Lawnu Circle.

Location and Geography:

Longding district is located in the southeastern part of the state of Arunachal Pradesh in India. It shares a state border with Konyak area of Nagaland to the west and Assam to the north, an international border with Myanmar to the south and a district border with Tirap to the east. The district occupies an area of 1,192 square kilometres. The district has an average elevation of 886 metres above the sea level.

Figure 1.1.1: District Map of Longding



The district is inhabited by the Wancho tribe one of the major tribes of Arunachal Pradesh. The Wancho community is a bold and spirited community and can rightly be called the abode of rich cultural heritage. They live in their own

independent way by emulating their own ethos, traditional heritage, cultural identity and ethical treasures of immense values. The people are dependent mainly on shifting cultivation also known as jhum cultivation.

The district consists of 2 sub divisions namely Kanubari and Longding and 4 CD blocks- Pongchau, Wakka, Niausa and Kanubari. Total number of census villages in the district is 72. Population of the district is 56953 including rural and urban populace of 52719 and 4234 respectively. Decadal population growth rate of the district is 11.61% since 2001.

Table 1.1: District Profile

District Profile				
Sr. No	**Name of District**	**District Code**	**Latitude**	**Longitude**
1	Longding	2541	95° 32' North	26° 86' East

Source: MSME Industrial Profile Longding

District Background

Arunachal Pradesh got its 17th district Longding when the state assembly passed out 'The Arunachal Pradesh (Re-Organization of Districts) (Amendment) Bill,' 2011 by voice vote on 26th September 2011 and notified on 9th December 2011. Longding which began its journey from a humble village as a part of Tirap district attained the status of a full fledged district of Arunachal Pradesh on 19th March 2012. With the creation of this youngest district, the total number of districts in the state rose to 17.

The land measuring approximately 1192 Sq.Kms surrounded by unique picturesque hills in the southern most part of Arunachal Pradesh is Longding District. The district is bounded on the north by Assam, on the south by Myanmar, on the east by Tirap district and on the west partly by Assam and Nagaland.

The administrative history of the present day Arunachal Pradesh can be traced back to the British India, Scheduled Districts Act of 1874 which results into several Hill Tracts placed under the Chief Commissionership of Assam as Local Government. In 1880, The Assam frontier Tracts Regulation was passed which provided for removal of certain frontier tracts in Assam inhabited or frequented by barbarous or semicivilized tribes from operation of the enactments of British Government to be in force. This power was vested in the Chief Commissioner of Assam. In 1914, the Assam Frontier Tracts Regulation, 1880, has been extended to the hills inhabited or frequented by Abors, Miris, Mishmis, Singphos, Nagas, Khamptis, Bhutias, Akas and Nyshis by the Government of India, Foreign and Political Department, Notifications Nos. 977-979. These notifications also specified the boundaries of the Central and Eastern Section and the Western Section of the North East Frontier Tract. The Indian Penal Code, 1860 was extended to both Sections in 1916. The Central and Eastern Section had its headquarters at Sadiya and it was renamed as

Sadiya Frontier Track in 1919. In 1937, the North East Frontier Tract and Lakhimpur Frontier Tract of Assam came to be collectively known as 'Excluded Areas of Province of Assam' under the provisions of the Government of India Act, 1935 which means the actual administration of the Frontier Tracts was carried out by the Governor of Assam. In 1943, a new administrative unit was created by combining certain areas of Sadiya and Lakhimpur Frontier Tracts and was named as Tirap Frontier Tract and was placed under the charge of a separate Political Officer with its headquarters at Margherita in Assam. In 1951, the plains portions of the Tirap Frontier Tract were transferred to the administrative jurisdiction of the Assam Government and the remaining hill areas of the Frontier Tracts were renamed as North-East Frontier Agency. Under the North- East Frontier Agency (Administration) Regulation, 1954, Tirap Frontier Tract was renamed as Tirap Frontier Division and shifted its headquarters from margherita to Khela inside the district and to the present headquarters at Khonsa in 1956. Finally, the Tirap Frontier Division was renamed as Tirap District and the Political Officer was re-designated as Deputy Commissioner with effect from the year 1965. In 1987, Tirap district was bifurcated into two districts- Tirap and Changlang. Tirap district was further divided into Tirap and Longding districts when the state assembly passed out 'The Arunachal Pradesh (Re-Organization of Districts) (Amendment) Bill,' 2011 to arrive at the present administrative jurisdiction.

Administrative Set-up of Longding

The Deputy Commissioner is the administrative head of the district with its headquarters at Longding. The Deputy Commissioner is assisted by various Officers and head of departments in the district in discharging of duties. For administrative convenience, the district is divided Sub-Divisions (Longding and Kanubari) which is under the charge of Additional Deputy Commissioner or Sub-Divisional officer and Sub-Divisions are divided into Circles (Pongchau Circle, Wakka Circle, Pumao Circle, Longding Circle, Kanubari Circle and Lawnu Circle), which is the lowest unit of administration and is under the control of a Circle Officer. The villages have their own customary administrative system in the form of traditional village councils. The village council consists of the Gaon Burahs/Headman and village members. At the time of Census 2011, there are 2 Sub-Divisions, 6 Circles, 4 Community Development (CD) Blocks and 72 villages in the district.

1.2 Demography

Population of the district is 56,953 including rural and urban populace of 52719 and 4234 respectively. Decadal population growth rate of the district is 11.61% since 2001 compared to a growth rate of 26.03% for the whole state. Out of a total population of 56953, male population count is 28710, where as female population count is 28243 in the district. According to the Indian Government population count of year 2011, this district has total 11404 children in the age group of 0-6 years. In these 11404 children, 5815 are boys and 5589 are girl child. Total working population of Longding district is 25027 and non-working population is 31926. Out of these 25027 working population, 19007

(75.9%) people are totally dependent on agriculture. An overwhelming portion of the population in the district is scheduled tribe which totals up to 54388. The population density is 47 per square kilometre.

Table 1.2: Demography of Longding

Name of the Blocks	Total NHH*	Total NM*	M	F	CH* (1-14 yrs)
Kanubari	2264	12098	6090	6008	2462
Niausa	3629	21831	10914	10917	4586
Pongchau	1786	11808	5928	5880	2090
Wakka	1747	11216	5778	5438	2266
Total	**9426**	**56953**	**28710**	**28243**	**11404**

Source: Census of India, Tirap, 2011

**M- Male, F- Female, CH- Children 0-6 years, NHH- No. of households, NM- No. of members*

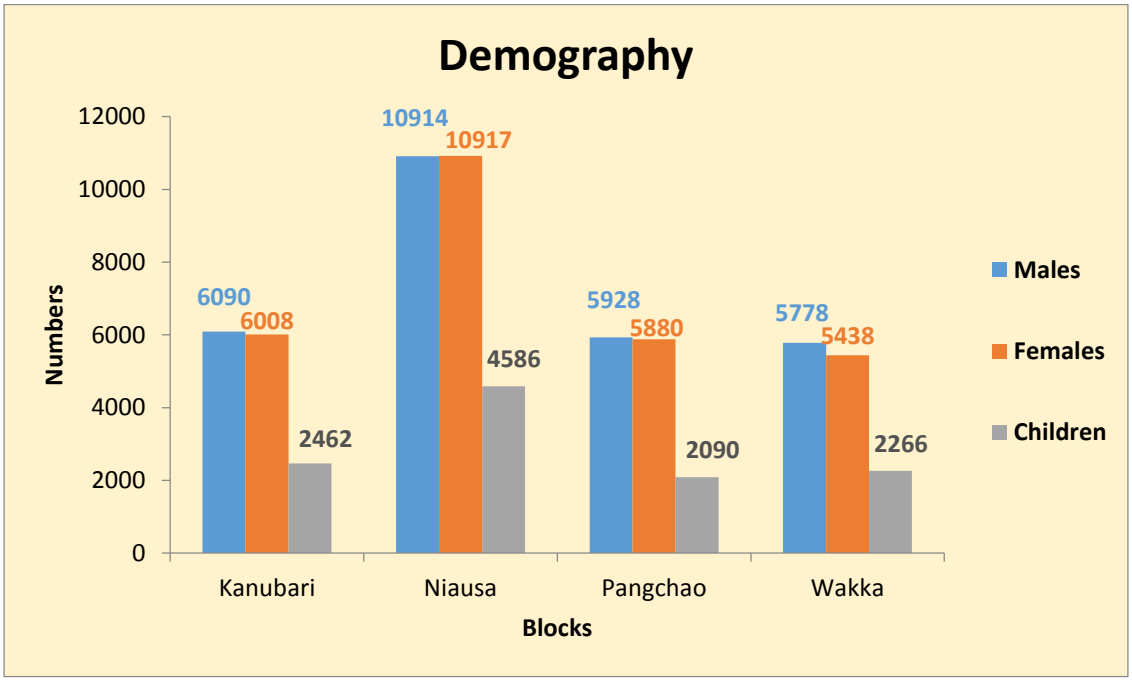


Figure 1.2: Demography of Longding

1.3 Biomass and Livestock

Animal Husbandry is a major economic activity of the rural people in Arunachal. Thus, development of livestock sector can have a significant beneficial impact in generating employment and reducing poverty in rural areas. Besides contributing to food and crop production, livestock and poultry are as important as savings. For many poor households, livestock is a daily source of earning and is an insurance against adversity. Animal traction is still significant in the state because of the limited use of machinery. Livestock production in Arunachal is characterized by rural smallholder production using indigenous cattle, buffalo, pigs, goats and chicken. Livestock in the State is largely fed on crop residues, food waste. Among livestock, cattle, mithun are the main source of livelihood. Although a sizeable number of goat and pig population is also present.

Livestock Population

As per the 19th Livestock census 2012, there is a livestock population of 14,12,666 in the whole of Arunachal Pradesh. (Includes cattle, buffalo, sheep, goat, pig, horses & ponies, mules, donkeys, camels, mithun and yak) and a poultry population of 22,44,231

As for the district of Longding, there is a livestock population of 39,894 (Includes cattle, buffalo, goat, pig and mithun) and a poultry population of 40,092.

Table 1.3: Biomass and livestock of Longding (Small Animals)

Tehsil	Poultry (No.)	Pigs (Nos.)	Goats (Nos.)	Dogs (Nos.)
Kanubari	12497	4678	5083	2516
Niausa	9936	2794	1840	909
Pongchau	8275	4059	2734	1909
Wakka	9384	1948	1864	618
Total	**40092**	**13479**	**11521**	**5952**

Source: 2012 Livestock Census Longding

Table 1.4: Biomass and livestock of Longding (Large Animals)

Tehsil	Cows (Nos.)		Mithun (Nos.)	Buffalo (Nos.)	Draft Animal (Horse//Mule/ others (Nos.)
	Exotic/Crossbred	Indigenous			
Kanubari	0	5296	0	0	0
Niausa	34	568	0	41	0
Pongchau	0	3333	3496	6	0
Wakka	17	76	2027	0	0
Total	**51**	**9273**	**5523**	**47**	**0**

Source: 2012 Livestock Census Longding

1.4 Agro-Ecology, Climate, Hydrology and Topography

Climate

The climate of the district is largely influenced by the terrain which is marked high hills, deep ravines and valleys through which the streams and rivers flow. Generally, the elevation of land varies from about 200 feet above the sea-level in the north-west to about 5000 feet over the mountains. The District Headquarter Longding is situated at an altitude of about 4200 feet. The climate varies considerably from place to place due to the mountainous nature of the terrain. The climate is cool and highly humid in lower elevations and in the valleys. The cold season prevails from the later part of November to February and is followed by frequent thunderstorms in the pre-monsoon season from March to May. Very heavy and frequent monsoon showers continue from May to about the middle of October. There is hardly a day during this period when it does not rain

Low temperatures coupled with high relative humidity are distinctive of the district's climatic profile. The vegetation of Longding comprises mainly of tropical and subtropical evergreen forests with inter spread grasslands and temperate forests in the higher altitudes. This district is also home to several rare species of flora and fauna.

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.

Hydrogeology

The water bearing formations of Longding district can be divided into two groups.

a) Unconsolidated formation: This covers Alluvium zone, a linear stretch in NESW 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 4 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 consists 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.

Table 1.5: Agro Ecology, Climate, Hydrology and Topography of Longding

S. No	Agro Ecological Zone Type	Type of Terrain	District Area (ha)	Normal Annual Rainfall (mm)	Avg. Monthly Rainfall (mm)	No. of Rainy Days	Maximum Rainfall Intensity (mm)		
							Up to 15 min	Beyond 15 but upto 30 min	Beyond 30 but upto 60 min
1	Meghalaya Plateau and Nagaland Hill, warm to hot, moist humid to perhumid eco-subregion	At an average elevation of 886 metres above the sea level	110200	2520	210	139	-	-	-

Source: CGWB Report 2011; Agriculture Contingency Plan for Tirap District

*amsl: above mean sea level

Average Weekly Temperature (^{0}C)									Potential Evapo-Transpiration (PET)			
Period									Period			Cumulative total
Summer (Apr-June)			Winter (Nov- Mar)			Rainy (Jul-Oct)			Summer	Winter	Rainy	
Min	Max	Mean	Min	Max	Mean	Min	Max	Mean				
17.5	32	24.75	13	28	20.5	18	30	24	-	-	-	-

Source: Branch MSME-Development Institute

1.5 Soil Profile

Longding district falls in the Tissa river valley. This valley forms a part of Patkai ranges. It covers an area of about 1214 sq. km. The region spreads over Kanubari, Longding, Pongchau and Wakka circles It is bound by Assam in the north, Myanmar in the south, Nagaland in the west and by Lazu, Deomali and Lower Siwaliks (Surmas) group classification. The main soils in the region are red loamy, red sandy, alluvial and shallow black and brown. The entire area is covered with dense tropical ever-green forests. The area has motorable road up to Pongchau.

At the top of the hills, the soil is generally shallow and well drained, brown to reddish in colour and comparatively coarse in structure. In the middle portion of the slope, it is loamy and better developed, having slightly deeper structure. At the lower levels, the soil ranges from loamy to clayey loamy.

Table 1.6: Agro ecological situations of Longding

Sr. No.	Major Soils	Area (000'ha)	Percentage of total land (%)
1	Black Soil	NA	-
2	Alluvial Soil	Exact data not available	Present in river valley and other pockets of lying area
3	Sandy Soil	Exact data not available	A considerable portion of soils belong to sandy soil
4	Acid Soil	Exact data not available	Most soils are acidic in reaction
5	Red Soil	NA	-
Total		**119.2**	**-**

Source: Agriculture contingency plan, Tirap

Table 1.7: Land Slope of Longding

District		Land Slope			
	Area (ha)	0-3% (ha)	3-8% (ha)	8-25% (ha)	>25% (ha)
Longding	110200	2204	8816	27550	71630

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.

The rainy season in Arunachal Pradesh lasts from April to October during which extensive damages are caused to the road network/ crops/ assets created of the state in the form of washing away by landslides causing risk to life & properties. Inadequate availability of soil conservation measures in the blocks hinder the poverty- alleviation, economic development, creation of employment avenues in this strategically located state.

In Longding district, the main problem of the area is high intensity and erratic rainfall. Hill slopes in the district are prone to sheet erosion and rill erosion. The amount of hill slope erosion largely depends on how the land is used. The conservation measures focus on reducing sheet erosion. The important factors whjle planning measures for proper conservation of water and reduce soil erosion are increasing the time of concentration and thereby allowing more

water to be absorbent, intercepting the long slopes into short ones and protecting against damage and excessive runoff.

Bunding is the most effective and widely practised field measure for controlling or preventing erosion. In broader way it can be defined as series of mechanical barriers to reduce the slope percentage. Different types of bunds are contour bund, sidebunds, lateral bund, and graded bunds.

Data of soil erosion is not available for this district there is no sedimentary monitoring station in place.

1.7 Landuse

1.7.1. Concept of Landuse

Landuse 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 also 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 landuse 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 utilisation of his accomplishments.

Over a period, geographic pattern of agricultural landuse are the outcome of concurrent interaction between the variable combinations of natural condition and human circumstances. Primarily, these are influenced by natural condition and thereafter affected by human circumstances because of their colonizing capability. The human circumstances are mainly responsible for dynamism in agriculture landuse or changing cropland occupancy. Therefore, efficient cropland occupancy, say cropping pattern, implies the most successful use of agriculture land, consequent upon development of irrigation facilities and application of modern methods of farm technology. The key to the most important aspect of landuse lies in the relation of population to land. The crux of the review, therefore, refers to the study of the problems in use of land by man. According to R.H. Best, the term land use deals with the spatial aspects of human activities on the Land and with the way in which the land surface is adapted or could be adapted, to serve human needs. This leads one back to the village farm and farmer, to the fields, gardens, pastures, fallow land, forest and to the isolated farmstead (Freeman, 1960). The land use shifts from agricultural uses to

residential, industrial, transportation, neighbourhood retail and service activities due to urbanization. A true nature of these dynamic qualities in land use emerges from a historical survey designed to reveal the successive development of inherent characteristics of land because 'some changes are short lived whereas others represent a more constant demand' (Jackson, 1963).

1.7.2. 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.

World Land Use Classification mainly recognizes nine categories. These are Settlement and Associated Non Agricultural Land, Horticulture, Tree and Permanent Crops, Crop Land, Improved Permanent Pasture, Improved Grazing Land, Wood Land, Swamps and Marshes, Unproductive Land.

In India, a standard classification system is yet to develop.

The analysis of land use in the present study is based on district statistical magazine, data available at block level and revenue office. Following categories of land use have been recognised in the study area. In the analysis of land use pattern study has been adopted at block level: Forest Cover, Barren and cultivable waste land, Current Fallow land, Other Fallow land, Barren & uncultivable Land, Land put to non-agricultural Use, Pastures and Grazing Land, Area under bush, forest & garden, Net area sown.

1.7.3 Land use Pattern of Longding

Total reported area for land utilization statistics in the district is 1,10,200 hectares and 7,876 hectares out of the total area is being cultivated. Out of the total geographical area (TGA) of 1,10,200 hectare, the largest Block of the district is Pongchau while Kanubari is the block with the least geographical area.

Agriculture is the main occupation of the rural population. Gross and Net cultivable area of the district stand at 8,500 and 7,876 hectares respectively whereas non agriculture land area including area under waste land and other usesstands at hectares. Maximum net sown area in absolute terms lies in Kanubari block followed by Luni and Bapini blocks respectively. Maximum gross cropped area also lies in the Kanubari block followed by Pongchau and Wakka

blocks respectively. The cropping intensity in the district stands at an average of 108% with the maximum cropping intensity in blocks Pongchau followed by Niausa.

Table 1.8: Land use pattern in Longding District

Name of the Blocks	Total Geographical Area (in ha.)	Area under Cultivation					Area under Non-cultivation		
		Area under Agriculture (in Ha)			Area under Horticulture & Other Plantation Crops (Ha)	Total Gross Cropped Area	Area under Forest (Ha)	Area Under Wasteland / degraded	Area under other uses
		Gross Cropped Area	Net Sown Area	CI (%)					
Kanubari	21,200	3448	3345	103%	307	3755			
Niausa	28,600	1600	1399	114%	142	1742			
Pongchau	30,400	1919	1599	120%	171	2090			
Wakka	30,000	1533	1533	100%	136	1669	NA	NA	NA
Grand Total	**110200**	**8500**	**7876**	**108%**	**756**	**9256**	**71,014**	**470**	**30,085**

Source: Agriculture Department & Horticulture Department, Longding

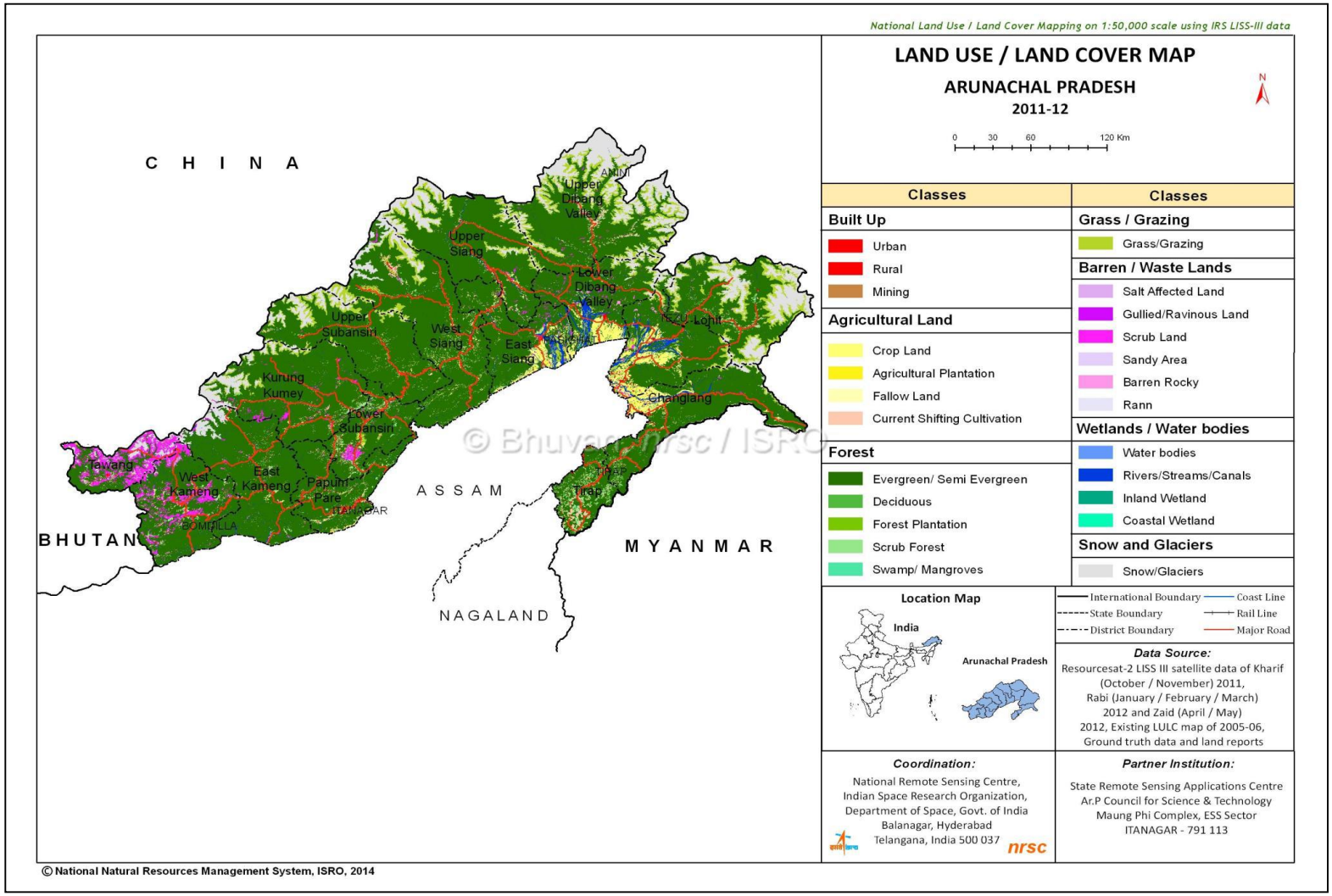


Figure 1.3: LANDUSE MAP OF ARUNACHAL PRADESH

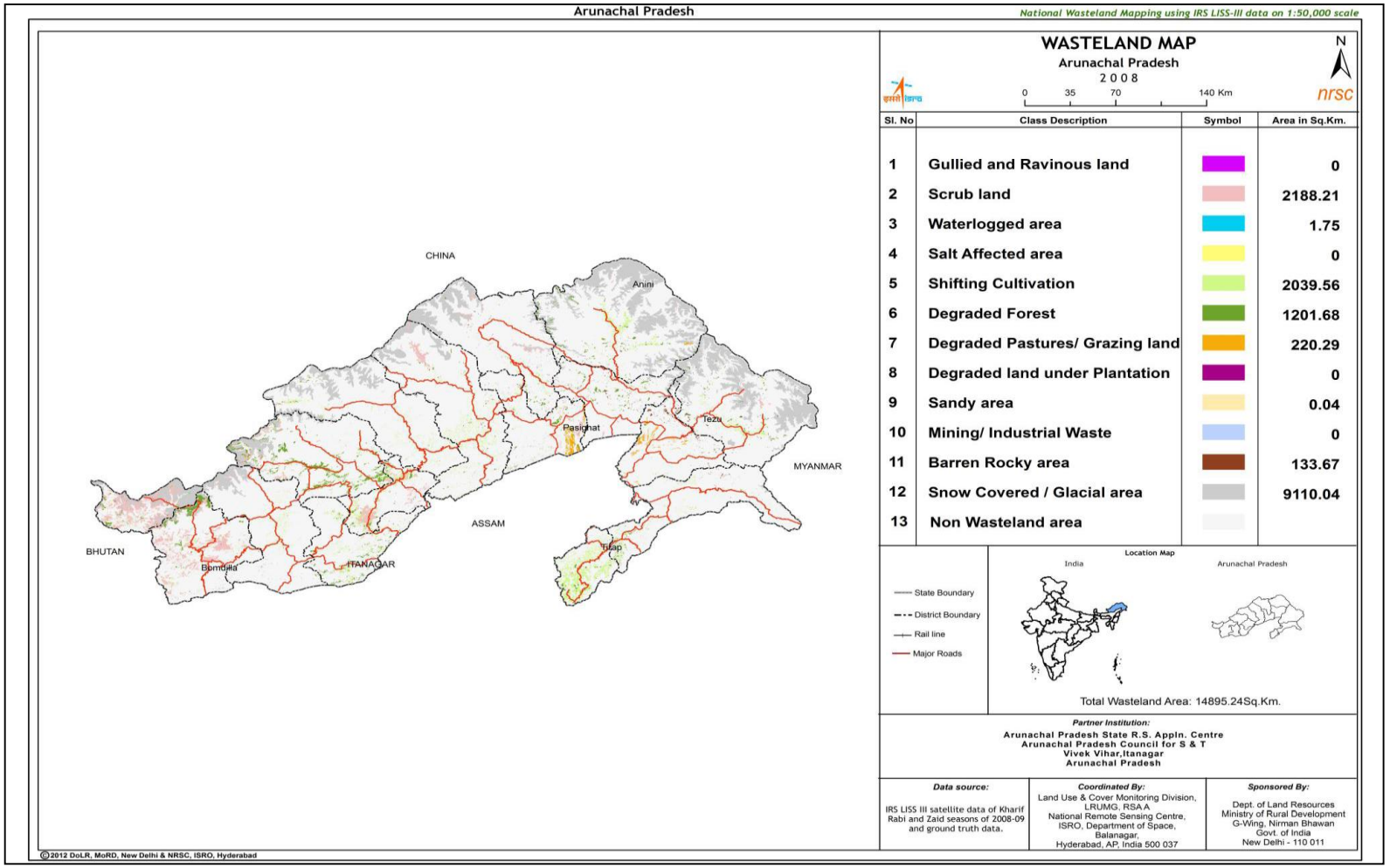


Figure 1.4: WASTELAND MAP OF ARUNACHAL PRADESH

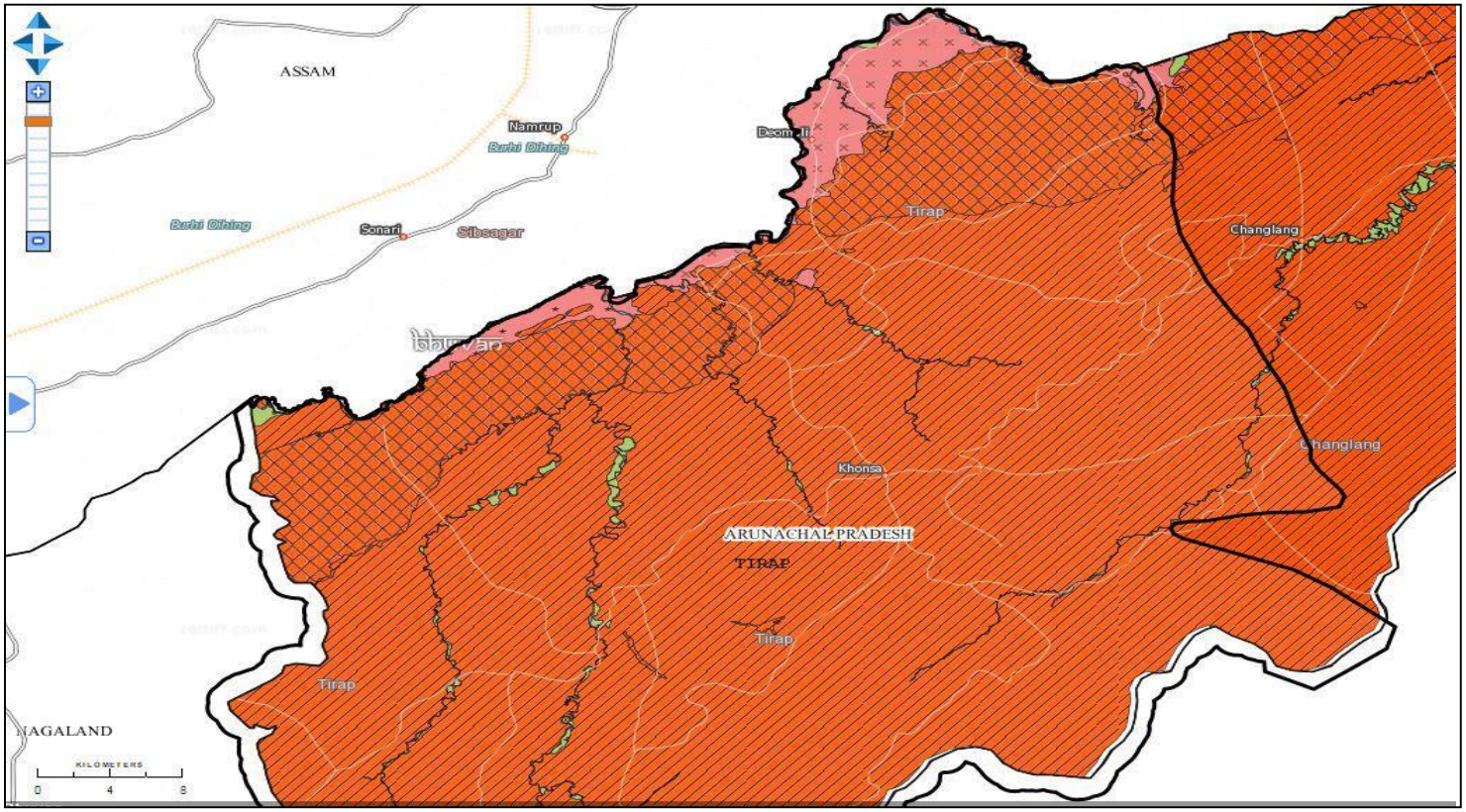


Figure 1.5: GEO MORPHOLOGICAL MAP OF ERSTWHILE TIRAP DISTRICT, DOWNLOADED FROM BHUVAN, GEO PLATFORM OF ISRO

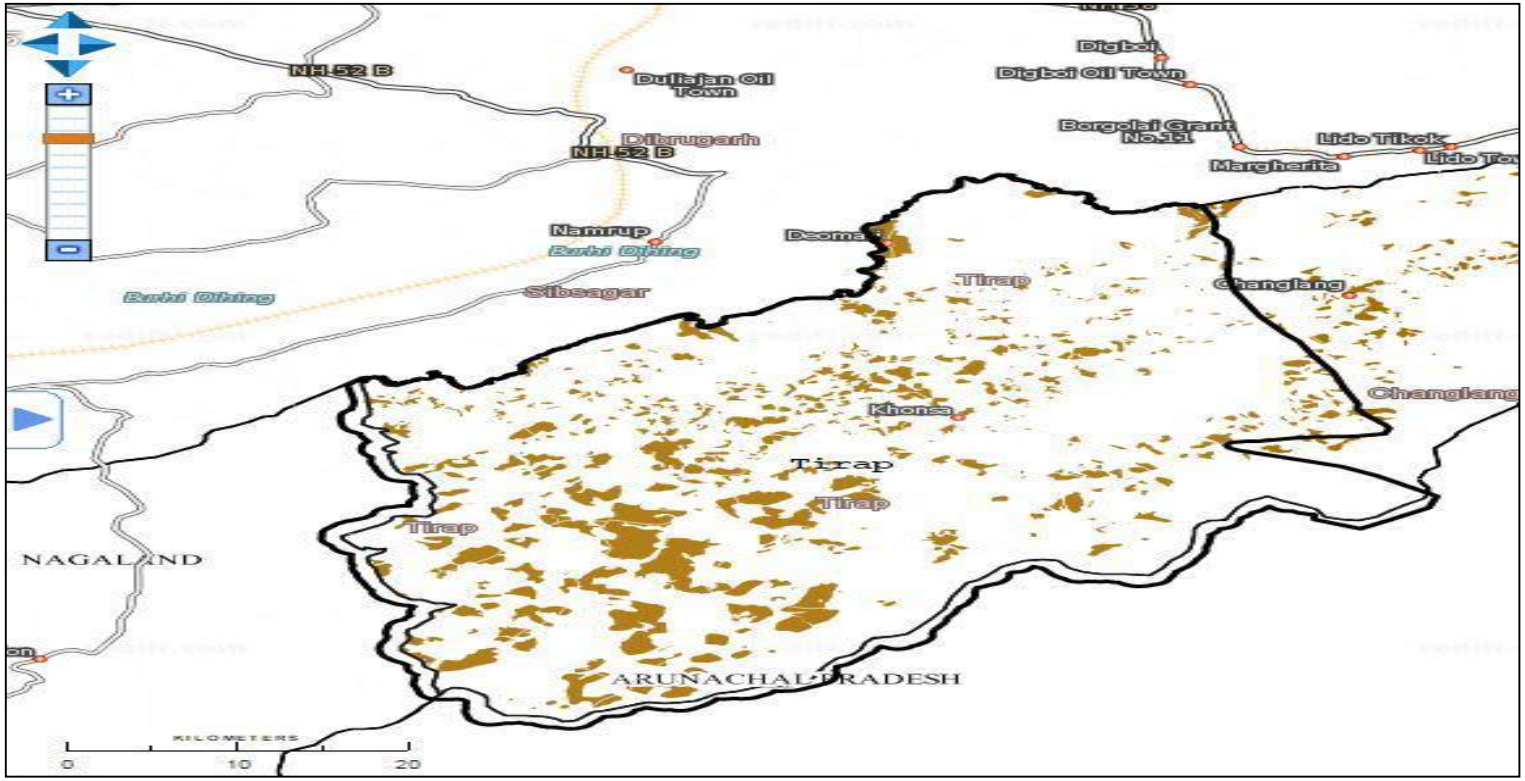


Figure 1.6: EROSION MAP OF ERSTWHILE TIRAP DISTRICT, DOWNLOADED FROM BHUVAN, GEO PLATFORM OF ISRO

Chapter 2 District Water Profile

2.1 Area Wise, Crop-Wise Irrigation Status

The economy of Longding district is basically agrarian in nature with more than 70 percent of the population dependent on agriculture. Locals mostly follow shifting cultivation practise also known as jhum cultivation. Rice is the major crop. Other important crops include maize, millets, oil seeds and vegetables etc. Agriculture in the district is characterized by dependence on rainfall, predominance of seasonal crops and traditional methods of cultivation. Area under horticulture crops in the district is 756 ha.

Table 2.1: Area wise, crop wise irrigation status

Crop Type	Kharif (Area in ha.)			Rabi (Area in ha.)			Summer (Area in ha.)			Total (Area in ha.)		
	Irrig.	Rainfed	Total	Irrig.	Rain.	Total	Irrig.	Rainfed	Total	Irrig.	Rainfed	Total
A) Cereals	200	2795	2995	0	0	0	_	_	_	200	2795	2995
B) Coarse Cereals	0	3990	3990	0	0	0	_	_	_	0	3990	3990
C) Pulses	0	195	195	0	0	0	_	_	_	0	195	195
D) Oil Seeds	0	0	0	0	164	164	_	_	_	0	164	164
E) Fibre	0	0	0	0	0	0	_	_	_	0	0	0
F) Vegetables	0	588	588	0	477	477	_	_	_	0	1065	1065
G) Any other crop	0	50	50	0	41	41	_	_	_	0	91	91
Total	**200**	**7618**	**7818**	**0**	**682**	**682**	**0**	**0**	**0**	**200**	**8300**	**8500**

Source: Agriculture Department, Longding

2.2 Production and Productivity of Major Crops

Majority of the net sown area in the district is under shifting (Jhum) cultivation. Out of the total net sown area, cereals (rice, wheat, maize and millets) hold a predominant share. Agriculture in the district is subsistence in nature and modernisation of farm practices has mostly eluded the state as is evident by poor yield rates, low consumption of fertilizers and wide scale practiced mono cropping. Moreover the key infrastructure facilities like irrigation, supply of input, marketing, institutional credit and extension services are inadequate.

All agriculture activities in the district are specially based on monsoon. Due to the undulating land in majority of the district, agriculture productivity of the crops is very less and falls behind the state average in almost all crops. Farmers don't use proper farming pattern in their field. There is hardly any irrigation facility for the cultivation of the crops which directly affects the crop yield.

Fertiliser consumption in the district like the state as whole is scanty.Total fertilizer consumption in the erstwhile Tirap district during the year 2005-06 was 20 MT. To this per hectare consumption of fertilizer in the district is just 1.5 kg compared to the state average of 6.6 kg per hectare.

Table 2.2: Crop Production and Productivity

District	Rainfed-Agricultural Crops			Irrigated-Agricultural Crops			Total- Field Crops		
	Area (ha)	Production (Qtl/yr)	Yield (Kg/Ha)	Area (ha)	Production (Qtl/yr)	Yield (Kg/Ha)	Area (ha)	Production (Qtl/yr)	Yield (Kg/Ha)
Longding	8300	153646	1851	200	4006	2003	8500	157652	1855

Source: Agriculture Department, Longding

2.3 Irrigation Based Classification

Most of the cultivated area in the district is rainfed. A handful of diversion schemes run through the district amounting to a net irrigated area of 180 hectares and a gross irrigated area of 200 hectares. The irrigated area could be attributed to Kanubari block as the rest of the three blocks have negligible area under irrigation.

Out of the gross cropped area of **9256** ha, the extent of irrigated land is to the tune of **200** ha. A total of **9056** ha of area is under rainfed cultivation while **200** ha of area is under irrigation of some sort.

Table 2.3: Irrigation Based Classification

Sr. No.	Name of Block/ Taluka	Irrigated (Area in ha)		Rainfed (Area in ha)
		Gross Irrigated Area	Net Irrigated Area	Un-Irrigated or Totally Rainfed
1	Kanubari	200	180	3544
2	Niausa	0	0	1746
3	Pongchau	0	0	2094
4	Wakka	0	0	1673
Total		**200**	**180**	**9056**

Source: Agriculture Department, Longding

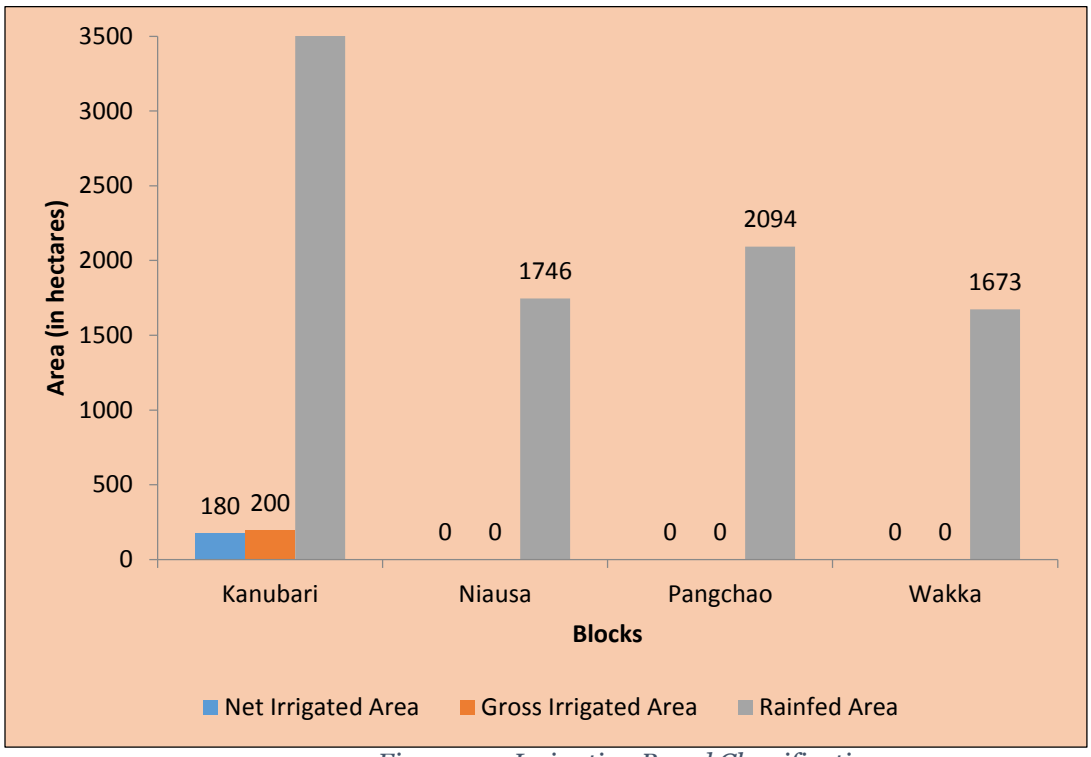


Figure 2.1: Irrigation Based Classification

Chapter 3 Water Availability

3.1 Status of Water Availability

Longding district falls in the Tissa river valley. This valley forms a part of Patkai ranges and covers an area of about 1214 sq. km. The region spreads over Kanubari, Longding, Pongchau and Wakka circles It is bound by Assam in the north, Myanmar in the south, Nagaland in the west and by Lazu, Deomali and Lower Siwaliks (Surmas) group classification. Major rivers in the district apart from Tissa are Tissing, Tiwai and Chetum. Drainage pattern is sub-dendritic to sub- angular

Agriculture is the mainstay of the people of Longding 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.

Table 3.1: Water availability in Longding

District	Surface Water Availability for Irrigation (MCM)	Absolute Surface Water Availability (MCM)
Longding	104.16	2000

Water Resource Department, Longding

*Absolute Water Availability: It is the total unutilised water available in the State through large number of rivers, rivulets and streams.

3.2 Status of Ground Water Availability

The tapping of ground water source in the district is very cumbersome and even uneconomic. The high and undulating hills and lack of proper roads impede transportation of high end machinery required for drilling. The shifts in minor streams due to erosion and other factors also influence the tapping of ground water. The scattered villages in the district also make tapping ground water in large numbers unviable.

Ground water development in the district is negligible. Combined with it is the undulating soil and lack of surface water source. PHED, Govt. of Arunachal Pradesh is supplying water in the district by tapping surface or spring water sources. Excluding the foot hill part of the district bordering Assam, rest of the area of the district is not much feasible for ground water extraction.

Because of the paucity of block/circle wise hydrological data, data regarding ground water is not available for Longding district.

Table 3.2: Ground water availability in Longding

District	Net Annual ground Water Availability (MCM)	Existing Ground Water for Irrigation (MCM)	Existing Ground Water for Domestic & Industrial Supply (MCM)	Existing Ground Water for all Uses (MCM)	Surplus (MCM)	Stages of Ground Water Development (%)
Longding	NA	NA	NA	NA	NA	NA

3.3 Status of Command Area

Table 3.3 summarizes the status of command area in the district for each block in the district. As depicted therein, a total of only 180 hectares out of a total command area of 1184 hectares has been reported to be developed through diversion schemes across the Longding district

Table 3.3: Status of command area (in hectares)

Name of Block	Information of Canal Command			Information on the other Services Command			Total		
	Total	Developed	Undeveloped Area	Total	Developed	Undeveloped Area	Total	Developed Area	Undeveloped Area
Kanubari	0	0	0	1184	180	1004	1184	180	1004
Niausa	0	0	0	0	0	0	0	0	0
Pangchau	0	0	0	0	0	0	0	0	0
Wakka	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**1184**	**180**	**1004**	**1184**	**180**	**1004**

Source: Water Resource department, Longding

3.4 Existing Type of Irrigation

As informed by District Water Resoursce Department, headworks/ diversion channels total upto 180 hectares of command area in the Longding district across the 4 blocks.There is hardly any groundwater development in the district and thus open well, tube wells and borewell sources are not operating in the district.

Table 3.4: Existing type of surface irrigation sources (Command Area in hectares)

Name of the Block	Surface Irrigation (1)					Ground Water (2)					
	Canal Based		Tanks / Ponds / Reservoirs			Tube Wells		Open wells/DCB		Borewell	
	Govt. Canal	Pvt. Canal	Community Ponds	Pvt. Ponds	Diversion Scheme	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.
Kanubari	0	0	0	0	180	0	0	0	0	0	0
Niausa	0	0	0	0	0	0	0	0	0	0	0
Pangchau	0	0	0	0	0	0	0	0	0	0	0
Wakka	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**180**	**0**	**0**	**0**	**0**	**0**	**0**

Source: Water Resource department, Longding

Chapter 4 Water Requirement/Demand

4.1 Domestic Water Demand

The earlier chapters dealt with the general profile, water profile and water availability of Longding 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.

As per Census 2011, the district has shown adecadal growth rate of 11.61%. Table 4.1 below indicates the block-wise population of the district. Projected population (2021) has been calculated by assuming a growth rate of 11.61% over the period of ten years (from 2011-2021).

It has been assumed that per capita daily water requirement of people residing in urban areas of the district is 70 Litres and for population in rural areas, the daily per capita daily water requirement is 50 Litres after discussions with the Public Health Engineering Department. Using the same norms, annual domestic water supply demand has been worked out and given in table 4.1 below.

Table 4.1: Existing type of surface irrigation sources (Command Area in hectares)

Blocks	Population in 2011	Population in 2016	Gross Water Demand in 2016 (MCM)	Projected Population 2021	Gross Water Demand 2021 (MCM)
Kanubari	12098	12800	0.3270	13362	0.3414
Niausa	21831	23098	0.6229	24112	0.6502
Pangchau	11808	12493	0.3192	13042	0.3332
Wakka	11216	11867	0.3032	12388	0.3165
Total	**56953**	**60259**	**1.57**	**62904**	**1.6413**

Source: Census 2011

4.2 Crop Water Requirement

Crop water requirement is the water required by the plants for its survival, growth, development and to produce economic parts. This requirement is applied either naturally by precipitation or artificially by irrigation. Hence the crop water requirement includes all losses like: a) Transpiration loss through leaves (T) b) Evaporation loss through soil surface in cropped area (E) c) Amount of weather used by plants (WP) for its metabolic activities which is estimated as less than 1% of the total water absorption. These three components cannot be separated so easily. Hence the ET loss is taken as crop water use or crop water consumptive use. d) Other application losses are conveyance loss, percolation loss, runoff loss, etc., (WL). e) The water required for special purposes (WSP) like puddling operation, ploughing operation, land preparation, leaching, requirement, for the purpose of weeding, for dissolving fertilizer and chemical, etc. Hence the water requirement is symbolically represented as:

WR = T + E + WP + WL + WSP

(The other application losses and special purposes are mostly indented for wet land cultivation. Hence for irrigated dry land crop the ET loss alone is accounted for crop water requirement). The estimations of the water requirement of crop are one of the basic needs for crop planning on the farm and for the planning of any irrigation project.

As discussed in Chapter 2, crops like Paddy, Maize, Millets, some vegetables and pulses are cultivated on major part of the gross cropped area in the district. Hence, the crop water requirement for major crops viz. Rice, Maize, Millets, Sugarcane etc as given by the Agricultural department has been taken.

The small portion of area under other crops has been taken in category of vegetables and same assumption has been made. Some of the assumptions are given below

- For Rice: 0.010 MCM per ha
- For Millet: 0.0065 MCM per ha
- For Maize: 0.0098 MCM per ha
- For Sugarcane: 0.018 MCM per ha
- For Pulses: 0.007 MCM per ha
- For Vegetables: 0.0061 MCM per ha

Table 4.2: Crop Water Demand

District/State	Gross Cropped Area (Ha)	Net Irrigated area (ha)	Projected Area (Ha)	Existing Water Requirement (MCM)	Existing Water Potential (MCM)	Water Potential Required in 2021 (MCM)	Water Potential to be created (MCM)
Longding	9256	180	9056	567.11	13.15	594.99	581.84

Water potential required has been derived from water required by crops cultivated under rainfed conditions while the existing water potential represents the water requirement of crops cultivated in irrigated areas. Longding has a crop water requirement of 567.11 MCM out of which only 13.15 MCM is met through current irrigation infrastructure in place.

It can be concluded from the table that a total water potential of 581.84 MCM of irrigation capacity is to be created in the district to fulfill the requirement of crops.

4.3 Livestock Water Requirement

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 Stienfeld 1996). Estimate of the current demand of 1.7 billion tons of cereals and 206 million tones of meat in developing countries could rise by 2020 to 2.5 to 2.8 billion tones 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 25^0 C can sometimes double the water consumption of animals.
- Water quality - palatability and salt content.

The total livestock population consisting of Cattle, Buffalo, Sheep, Goat, pig, Horses & Ponies, Mules, and Donkeys are divided into the three main categories on the basis of requirement of water

Table 4.3: Water Requirement Range and Daily Water Use for livestock

Sr.No.	Livestock Category	Water Requirement Range	Average water Use L/day
1	Poultry	0.l6-0.24	0.20
2	Small Animals	13-20	16.50
3	Large Animals	39-59	49

Source: Adapted from Nutrient Requirements of poultry, sheep, and cattle. (9th edition). Washington D.C.: National Research Council, 1994

The requirement of water by livestock in the district has been derived from livestock census 2012. The following growth rates in the animal population have been used to arrive at the livestock population in the year 2020. Negative growth rates were considered to be zero.

Table 4.4: Livestock Growth rates

Classification	Growth Rate 2007-2012	Growth Rate Considered 2012-2021
Indigenuos Cattle	-8.94%	*0%
Exotic/Crossbred Cattle	20.18%	32.29%
Buffalo	3.19%	5.10%
Poultry	12.39%	19.82%
Pigs	-7.54%	0%
Goat	-3.82%	0%
Sheep	-9.07%	0%
Mithun	12.88%	20.61%

*Negative growth rates considered to be 0.

Table 4.5 below indicates the block-wise livestock population and water demand/consumption in the district. Projected livestock population (in 2021) has been calculated by assuming the annual growth rates over a period of eight years (from 2012-2016) as shown in table 4.4.

The total potential which has to be created for livestock in 2021 is 0.01164 MCM. This has been assessed on the terms of the following:

- Per capital daily water requirement for cows/buffaloes 65 litres, sheep/goats/pigs 6 litres and Poultry 0.25 liters.
- For projecting the water demand of livestock, growth rate as deduced from census has been considered during calculations. In case of livestock with decreasing growth rate of population, the present population has been considered. It is assumed that present water requirement of livestock is met from existing water usage and hence existing potential is equal to existing demand.

As observed above, the potential to be created for meeting the water demand for livestock is slightly more than existing potential. The present water demand for cattle has been estimated at 0.420 MCM while the 2021 livestock water demand comes out to be 0.441 MCM, thus indicating a gap of 0.021 MCM.

Table 4.5: Livestock water requirement

Tehsil	Total No. of livestock	Present water demand (MCM)	Water Demand in 2021 (MCM)	Existing water potential (MCM)	Water potential to be created (MCM)
Kanubari	27554	0.154	0.155	0.154	0.001
Niausa	15213	0.040	0.041	0.040	0.001
Pangchau	21903	0.164	0.177	0.164	0.013
Wakka	15316	0.062	0.069	0.062	0.007
Total	**79986**	**0.42**	**0.441**	**0.42**	**0.021**

4.4 Industrial Water Requirement

No medium or large industry exists in the district and hence the industrial water demand is based on water consumption from small industry units such as tea, timber and veneer etc. The total yearly water demand from such units in the district at present comes out to be 0.00146 MCM, which is expected to increase to 0.00154 MCM by 2021, an increase of 0.00008 MCM (equivalent to an increase in consumption of 219 litres a day).

Table 4.6: Industrial water requirement

Block	Name of the Industry	Water Demand (MCM)	Water Demand in 2021 (MCM)	Existing Water Potential (MCM)	Water Potential to be created (MCM)
Kanubari	Rangula Industries Products Ltd. (Timber & Veneer)	0.00037	0.00039	0.00037	0.00002
	Hasai Forest Products Ltd.	0.00037	0.00039	0.00037	0.00002
	Chattong Forest Products Ltd.	0.00037	0.00039	0.00037	0.00002
	Kanubari Tea Estates	0.00037	0.00039	0.00037	0.00002
Total		**0.00146**	**0.00154**	**0.00146**	**0.00008**

Source: DICC, Longding

4.5 Water Demand Power Generation

Power is not generated in the district and hence, water requirement has been indicated to be zero. The power requirement of district is met through common grid system of the state.

Table 4.7: Water demand for power generation

Block	Power requirement, MW	Water demand (MCM)	Water demand in 2021 (MCM)	Existing Water potential (MCM)	Water potential to be created (MCM)
Kanubari	Nil	Nil	Nil	Nil	Nil
Niausa	Nil	Nil	Nil	Nil	Nil
Pangchau	Nil	Nil	Nil	Nil	Nil
Wakka	Nil	Nil	Nil	Nil	Nil

4.6 Total Water Demand of the district for various sectors

This section presents the total water demand of the district and has been calculated by summing up all major sectors consuming water.

Table 4.8: Total sector wise present water demand

District	Sector-wise water demand (2016)					Total (MCM)
	Domestic (MCM)	Crop (MCM)	Livestock (MCM)	Industries (MCM)	Power Generation (MCM)	
Longding	1.57	567.11	0.42	0.00	0.00	569.11

Table 4.9: Total sector wise projected (2021) water demand

District	Sector-wise water demand (2021)					Total (MCM)
	Domestic (MCM)	Crop (MCM)	Livestock (MCM)	Industries (MCM)	Power Generation (MCM)	
Longding	1.64	594.99	0.44	0.00	0.00	597.07

4.7 Water budget

Water budget reflects the relationship between input and output of water through a region. Thus we have a direct comparison of supply of water and the natural demand for water.The following data provides current water gap and projected water gap for the year 2021.

Table 4.10: Water Budget

Block	Total Existing water availability (MCM)		Total (MCM)	Water Demand (MCM)		Present Water Gap/ Surplus(MCM)	Projected Water Gap/ Surplus (MCM)
	Surface Water	Ground Water		Present (2016)	Projected (2021)		
Longding	104.16	0	104.16	569.11	597.07	464.94	492.91

Chapter 5 Strategic Action Plan for Irrigation

The vision of the scheme PMKSY is to ensure access to some means of protective irrigation to all agricultural farms in the country, to increase water use efficiency by its 'per drop more crop' subcomponent, thus bringing much desired rural prosperity. The need of the hour is to have well managed watershed resources which not only enhances the ecological resource base of a rural economy but will also create sustainable livelihood opportunity.

5.1 Strategic Plan for irrigation in PMKSY

At present, the schemes implemented by all the departments are broadly based and are required to be specific and location/ problem based. A systematic integrated approach having full participation of the users in the planning process is the need of the hour and extension facilitation should be inter-disciplinary. On the basis of methodology described above, a strategic plan for five years has been prepared starting from 2016-17 to 2020-21.

The schemes have been prepared by the proper consultation with the actual beneficiaries. The plan in brief is detailed below.

5.2 Department wise total Plan of the district

Estimated plan for whole district under the scheme for five years works out to be Rs.31,487.74 lakh. Agriculture Department accounts for the maximum share of about Rs. 17,365.44 lakh (55.1%) and is followed by the Water Resources Department with a budget of Rs. 12384.45 lakh (39.3%). Horticulture department under PMKSY has a share of 4.8% which amounts to Rs 1512.85 lakh. DRDA has a budget of 225 lakh which amounts to 0.7% of the total district plan. While working out the plan, phasing of ongoing irrigation projects has been considered. However, from the proposal of departments, eligible activities under RIDF will be covered as per the funds requirement of the State. Capacity building, extension and training are important components for successful execution of the plan. Department wise plan for 2016-17, 2017-18, 2018-19, 2019-20 and 2020-21 has been proposed.

Table 5.1: Department-wise Planned Outlay

Department	No/Estimated Amount of Scheme (in INR Lakhs)				Total
	Kanubari	Niausa	Pongchau	Wakka	
WRD	4867.8	4797.5	1779.95	939.2	**12384.45**
Agriculture	4090.23	2337.21	5171.50	5766.5	**17365.44**
Horticulture	312.15	425.25	493.65	281.8	**1512.85**
DRDA	0.00	225.00	0.00	0.00	**225.00**
Total	**9270.18**	**7784.96**	**7445.10**	**6987.50**	**31487.74**

Source: Department of Agriculture, Horticulture, Water Resources and DRDA

Table 5.2: Department-wise plan (Command Area)

Dept.	Command Areat of Scheme (in Hectares)				Total
	Kanubari	Niausa	Pongchau	Wakka	
WRD	2250	2332.5	792	407	**5781.5**
Agriculture	1162	1043	1009	1340	**4554**
Horticulture	132	180	204	119	**635**
DRDA	0	1500	0	0	**1500**
Total	**3544**	**5055.5**	**2005**	**1866**	**12470.5**

Source: Department of Agriculture, Horticulture, Water Resources and DRDA

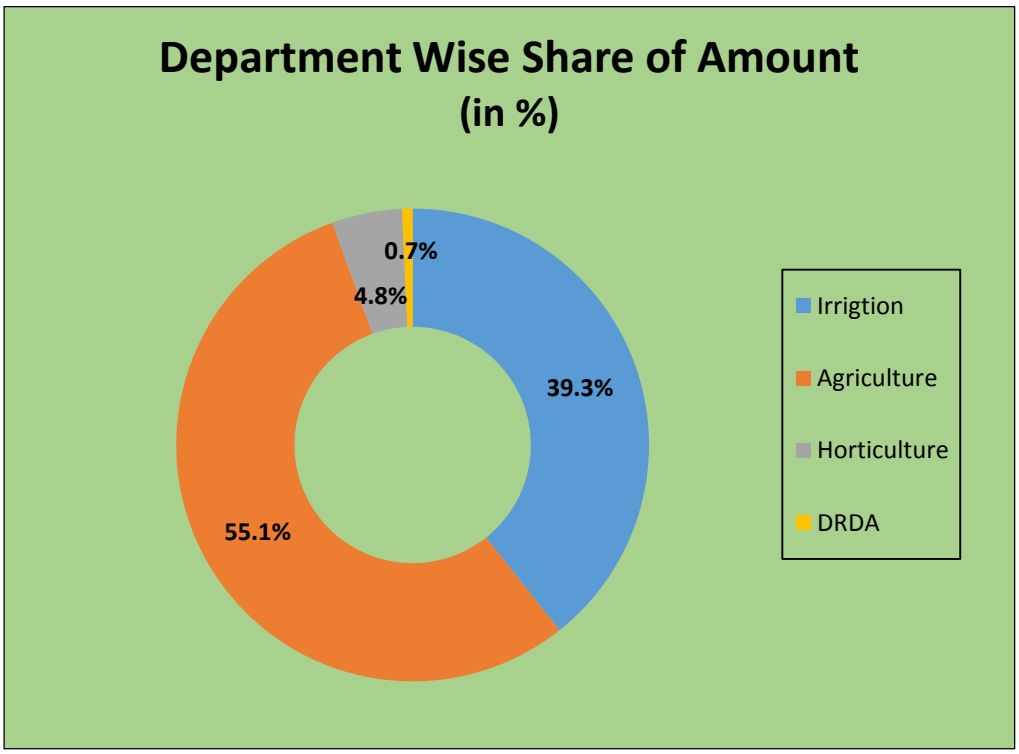


Figure 5.1: Department-wise share under PMKSY

Table 5.3: Department-wise year wise plan (Amount)

Department	No/Estimated Amount of Scheme (in INR Lakhs)					
	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**
WRD	1677.5	4851.4	4851.4	577.8	426.3	**12384.45**
Agriculture	2478.81	3575.02	3785.08	4006.04	3520.49	**17365.44**
Horticulture	215.95	311.45	329.75	349.00	306.7	**1512.85**
Watershed	225.00	0.00	0.00	0.00	0.00	**225**
Total	**4597.26**	**8737.87**	**8966.23**	**4932.84**	**4253.49**	**31487.74**

Source: Department of Agriculture, Horticulture, Water Resources & DRDA

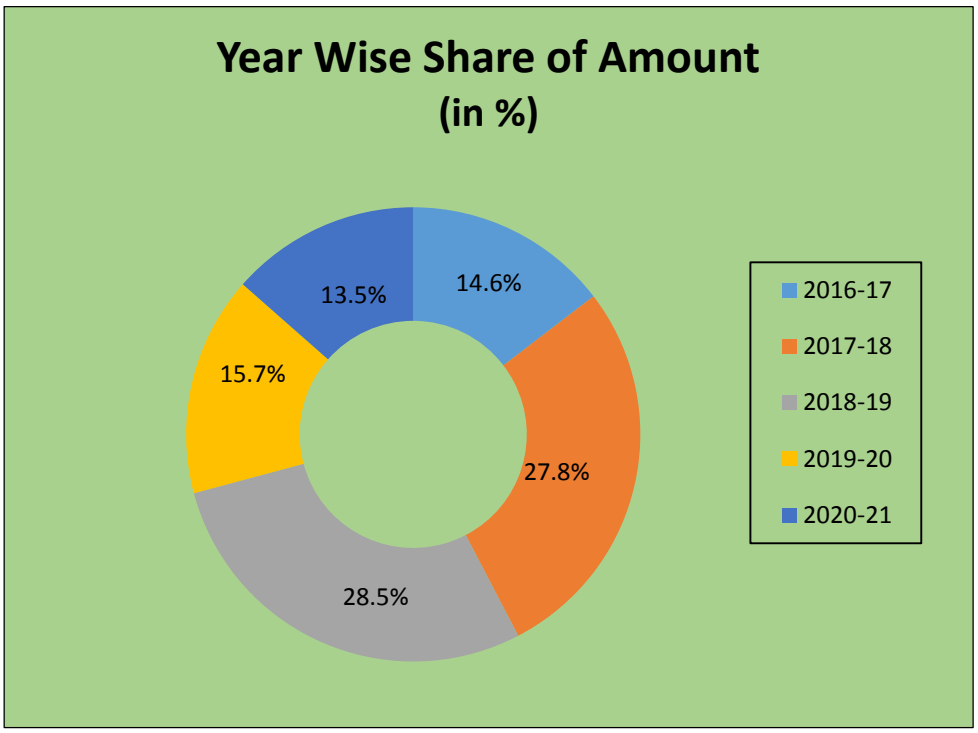


Figure 5.2: Department-wise year wise plan under PMKSY

Table 5.4: Component-wise year wise plan (Amount)

Component	No/Estimated Amount of Scheme (in INR Lakhs)					
	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**
AIBP	0.00	0.00	0.00	0.00	0.00	**0.00**
Har Khet Ko Pani	1677.5	4851.4	4851.4	577.8	426.3	**12384.45**
Per Drop More Crop	2694.76	3886.47	4114.83	4355.04	3827.19	**18878.29**
Watershed	225.00	0.00	0.00	0.00	0.00	**225**
Total	**4597.26**	**8737.87**	**8966.23**	**4932.84**	**4253.49**	**31487.74**

Source: Department of Agriculture, Horticulture, Water Resources & DRDA

5.3 Component-wise Plan

The plan is prepared component wise also. Table 5.5 shows component wise plan for 5 years starting from 2016-17 to 2020-21. AIBP and Har Khet Ko Pani component has to be executed mainly by Water Resources Department. Per Drop More Crop components will be executed by Agriculture and Horticulture department mainly. Watershed component will be taken care of by the District Rural Development Department. Extension & training component will be executed by ATMA under the Per Drop More Crop component. However, all the stakeholders need to have coordination among themselves to have the maximum irrigation efficiency and to avoid duplicity. Figure 5.3 is the graphical representation of various components of PMKSY. It is observed that maximum share of 60% for Per Drop More Crop followed by Har Khet Ko Pani which has a 39.3% share of all the funds. Watershed has a 0.7% contribution in the district plan under which one IWMP scheme in Niausa is to be executed. ATMA has a plan for capacity building, farmer traininig, extension etc which has been included under the Per Drop More Crop component in the district plan.

Table 5.5: Component-wise plan (Amount in INR Lakhs)

Block	AIBP	Har Khet ko Pani	Per Drop More Crop	Watershed	Total
Kanubari	0	4867.8	4402.38	0	9270.18
Niausa	0	4797.5	2762.46	225	7784.96
Pongchau	0	1779.95	5665.15	0	7445.1
Wakka	0	939.2	6048.3	0	6987.5
Total	**0**	**12384.45**	**18878.29**	**225**	**31487.74**

Source: Department of Agriculture, Horticulture, Water Resources & DRDA

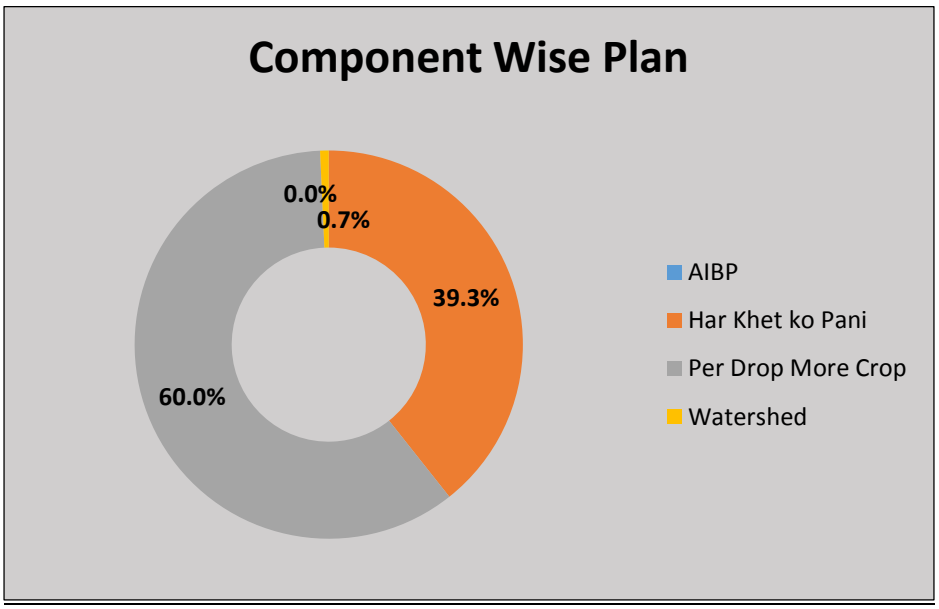


Figure 5.3: Component-wise share under PMKSY

5.4 Block-wise Plan under PMKSY

Out of the total plan of Rs 31487.74 lakhs, 29.4% is pertaining to Kanubari block while Niausa block has a share of 24.7%. The share of Pongchau Block is to the tune of 23.6% in the total plan. Table below describes block and department wise share in plan.

Table 5.6: Block wise plan under PMKSY

Department wise Block level estimation (Amount in INR Lakhs)					
Block	**WRD**	**Agriculture**	**Horticulture**	**DRDA**	**Total**
Kanubari	4867.8	4090.23	312.15	0	9270.18
Niausa	4797.5	2337.21	425.25	225	7784.96
Pangchau	1779.95	5171.5	493.65	0	7445.1
Wakka	939.2	5766.5	281.8	0	6987.5
Total	**12384.45**	**17365.44**	**1512.85**	**225**	**31,487.74**

Source: Department of Agriculture, Horticulture, Water Resources & DRDA

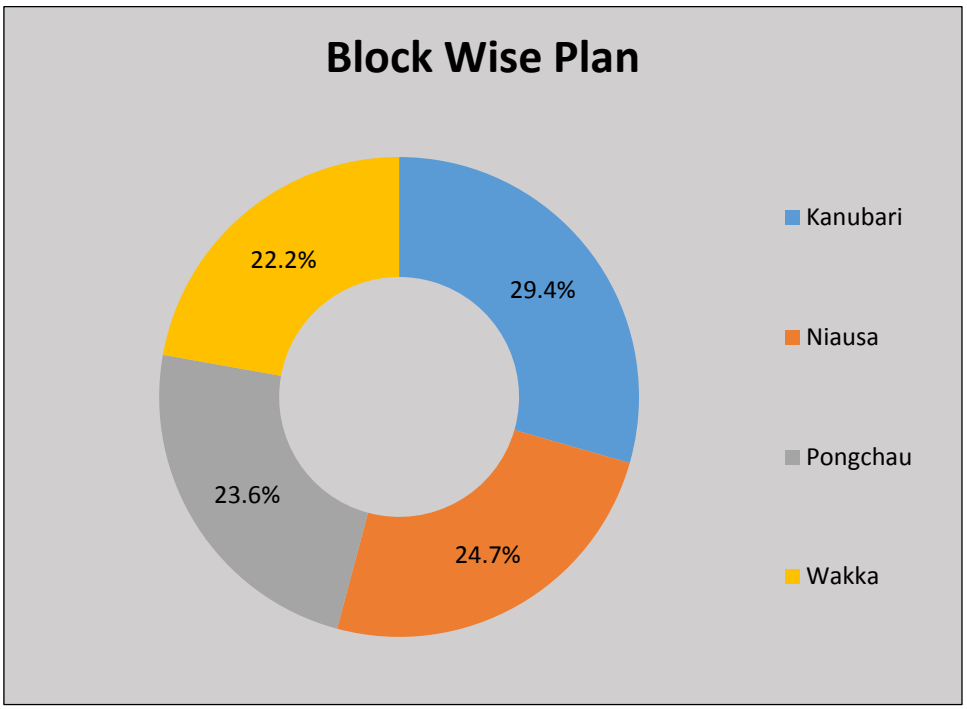


Figure 5.4: Block-wise share under PMKSY

5.5 Suggestions

For successful implementation of PMKSY plan in the district of Longding, it is suggested that:

- Use of micro irrigation techniques like drip for the cultivation of water intensive crops to increase the water use efficiency
- All the stakeholders should convene meeting of Panchayat Samities and then finalize the village plan and prepare DPRs.
- There should not be any duplicity of project.
- The Department should supplement each other so that the maximum irrigation efficiency is achieved.
- Agriculture and Horticulture Department should take micro irrigation projects in the command of minor irrigation projects which are either completed or likely to be completed in near future.
- All the irrigation projects should have a component of water conveyance so that the each drop of water is judiciously utilized.
- Where ever feasible, solar pumpsets should be installed.

- All the structures planned should be geo tagged and marked on map, so that social monitoring of the projects can be conducted. This will also avoid the duplicity.
- Priority should be given to projects to minimize the gap in potential created and potential utilized.
- Wherever sites with low head LIS have already been exhausted, higher per hectare norms should be allowed.
- Execution of the scheme should be expeditiously completed.
- There should be smooth fund flow for timely completion of the project and to avoid cost escalation.

5.6 Expected Outcome

It will not be feasible to create irrigation potential to the extent of 100% as the construction of irrigation project may not be economically viable and technically feasible due to the large geographical area, scant rainfall and fewer irrigation sources in the region. In aridregion due to tough terrain, small and fragmented land holdings, per hectare cost may be very high. Moreover it may not be feasible to develop all the sources within a short spell of five years for which the plan is being prepared.

Keeping in view the above constraints a plan to develop irrigation potential of **12,470.5 ha** has been proposed. It is proposed to create irrigation potential by installing new drip and sprinkler irrigation under the Per Drop More Crop component to increase the water use efficiency. Besides, water harvesting structures have also been proposed which will harvest rainwater in the region. The Agriculture and horticulture department plan to develop a command area of 4554 ha and 635 ha respectively through installation of sprinkler, drip, farm ponds, water tanks and pipelines. The water resources department has a plan to contribute to the development of 5781.5 hectares of command area which includes schemes under Har Khet Ko pani across the 4 blocks in the district. DRDA has planned an IWMP project in the district which will develop a command area of 1500 hectares covering Niausa, Mintong and Pumao region.

The scheme also includes convergence with MGNREGA for creation of water sources to full potential in identified backward rainfed blocks including renovation of traditional water bodies, creation of new water conservation and water harvesting structures, irrigation canals and drains, land development, etc but the plan of convergence schemes has not been prepared as there were no such convergence scheme going on in the Longding district as of date.

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

- Boosting up the cropping intensity significantly as the farmers would be able to go for multiple cropping throughout the year.
- Increase in Gross Irrigated Area of the district due to irrigation potential created in the district under PMKSY.

- Enhance farm level access and lower risk to agriculture practices which in turn will increase productivity level of agriculture and allied sectors.
- Enhance precision irrigation through use of Micro Irrigation like sprinkler and drip irrigation in the district.
- Integrate water sources and distribution channels, hence, increase water use efficiency.

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 maydays 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 & 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

ANNEXURE – 1: Strategic Action Plan of Water Resource Department (Schemes under Har Khet Ko Pani)

Longding District 5 year plan for Water Resource Department

S.No	Name of the Block	Component	Activity	Total Number/ Capacity (Cum)	Command Area (Ha)	Period (Yrs)	Cost (in Lakhs)	Yearwise Estimated Cost (in Lakhs) , Command Area (in Ha.)									
								Year 16-17		Year 17-18		Year 18-19		Year 19-20		Year 20-21	
								Area	Amt	Area	Amt	Area	Amt	Area	Amt	Area	Amt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Kanubari	Har Khet ko Pani	Surface Minor Irrigation	32.5	1266	3	3165.0	253.2	633.0	506.4	1266	506.4	1266	-	-	-	-
2	Niausa			39.99	1223	3	3057.5	244.6	611.5	489.2	1223	489.2	1223	-	-	-	-
3	Pongchau			18.84	576	3	1440	115.2	288	230.4	576	230.4	576	-	-	-	-
4	Waka			32.5	233	3	582.50	46.6	116.5	93.2	233	93.2	233	-	-	-	-
5	Kanubari	Har Khet ko Pani	Repair, Renovation & Restoration	16.3	436.00	2	784.80	-	-	218	392.4	218	392.4	-	-	-	-
6	Niausa			18.13	490.0	2	735.0	-	-	245	367.5	245	367.5	-	-	-	-
7	Pongchau			3.996	108.00	2	178.20	-	-	54	89.1	54	89.1	-	-	-	-
8	Waka			16.3	87.00	2	139.20	-	-	43.5	69.6	43.5	69.6	-	-	-	-
9	Kanubari	Har Khet ko Pani	Ciommand Area Development	32	376	4	564.00	-	-	94	141	94	141	94	141	94	141
10	Niausa			43.69	508	4	762			127	190.5	127	190.5	127	190.5	127	190.5
11	Pongchau			9.29	108	4	161.75	-	-	27	40.44	27	40.44	27	40.44	27	40.44
12	Waka	Har Khet ko Pani	Ciommand Area Development	32	87	4	217.50	-	-	21.75	54.37	21.75	54.37	21.75	54.37	21.75	54.37
13	Kanubari	Har Khet ko Pani	Ground Water Development	11	152.00	4	304.00	7.5	15	53	106	53	106	38.5	77	-	-
14	Niausa			7	71.5	4	143.00	3	6	25	50	25	50	18.5	37	-	-
15	Kanubari	Har Khet ko Pani	Water Harvesting Structures	5	20	4	50.00	1	2.5	7	17.5	7	17.5	5	12.5	-	-
16	Niausa			7	40	4	100.00	2	5	14	35	14	35	10	25	-	-
Total				**325.54**	**5781.50**	**44.00**	**12384.45**	**673.1**	**1677.5**	**2248.45**	**4851.4**	**2248.45**	**4851.4**	**341.75**	**577.8**	**269.75**	**426.3**

1) **Name of Block: Kanubari**

Surface Minor Irrigation under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	MIP at Kamchang at Ranglua	Ranglua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
2	MIP at Hamaksa at Naitong	Naitong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
3	MIP for Yaso A/F at Otongkhua village	Otongkhua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
4	MIP at Rechahpong at Nokfan	Nokfan	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	35	87.50
5	MIP at Shualo Nallah to Mahuban kheti at Chopsa	Chopsa	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
6	MIP at Ajaai Shah in Tiwai at Chopnu village	Chopnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
7	MIP at Ozah in Tissing at Chopnu village	Chopnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
8	MIP from Humsin Nallah to Benefera	Benfera	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
9	MIP at Luaksim Agri-Field	Luaksim	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
10	MIP at Simshua A/F at Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	16	40.00
11	MIP at Olingtong	Olingtong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
12	MIP for Longlam A/F at Longkhojan.	Longkhojan	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
13	C/o MIP from Saitong stream to Saitong A/F at Banefera.	Benefera	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
14	C/o MIP from Chaksiak stream to Lorosong A/F at Olingtong	Olingtong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
15	C/o MIP at Sanphat A/F at Ranglua-Rusa	Ranglua-Rusa	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
16	C/o MIP at Khamchun A/F at Ranglua-Rusa	Ranglua-Rusa	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
17	C/o MIP at Kamkuh Rusa A/F	Kamkuh-Rusa	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
18	C/o MIP at Teru Rusa A/F	Tiru-Rusa	Kanubari	WRD	Har Khet ko Pani	Surface Minor	30	75.00

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
						Irrigation		
19	C/o MIP from Tichah stream to Sangsatham A/F	Sangsatham	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
20	C/o MIP from Tiwai stream to Wanu A/F	Wanu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	45	112.50
21	MIP for Ruanua A/F at Otongkhuwa village	Otongkhua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
22	MIP for Khahsachai A/F at Nokfan village	Nokfan	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	35	87.50
23	C/o MIP from Tising river to Banfera A/F	Banfera	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
24	C/o MIP from Tinganshi stream to Longnakshi A/F	Longnakshi	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
25	MIP for Shiahnu A/F at Chopnu	Chopnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
26	MIP for Orahshia A/F at Chopnu village	Chopnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
27	C/o MIP in Teshomjen at Olingtong village	Olingtong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
28	C/o MIP at Laonu A/F at Laonu village	Lawnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
29	MIP for Kukpai A/F at Otongkhua village	Otongkhua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
30	C/o MIP at Orok	Orok	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
31	C/o MIP from Tishomjan stream to Luaksim A/F	Luaksim	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
32	C/o MIP from Jansalisho stream to Longnakshi A/F	Longnakshi	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
33	C/o MIP from Fizaze stream to Luaksim A/F	Luaksim	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
34	C/o MIP at Dasatong A/F	Dasatong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
35	C/o MIP at Opha A/F at Laonu village	Lawnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
36	C/o MIP at Chapdaw A/F at Lawnu village	Lawnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	35	87.50
37	C/o MIP from Tiwai stream to Wanu A/F	Wanu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	45	112.50

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
38	C/o MIP from Tiwai stream to Tiwai/Ngamding A/F	Ngamding	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
39	C/o MIP from woahjo stream to Mophakhat A/F	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
40	C/o MIP from Tiwai stream to Banfera A/F	Banfera	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	40	100.00
41	C/o MIP from Tichah stream to Banfera A/F	Banfera	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	40	100.00
42	C/o MIP from Tichah stream to Longnakshi A/F	Longnakshi	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
43	C/o MIP from Tisanglamkai stream to Longhua A/F	Longhua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
44	C/o MIP from Tising stream to Longhua A/F	Longhua	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	15	37.50
45	C/o MIP from Jokon stream to Mopakhat A/F	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	22	55.00
46	C/o MIP at Mopakhat village	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	20	50.00
47	MIP at Tissing A/F	Tissing	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	30	75.00
48	MIP at Tewai A/F	Tewai	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	25	62.50
49	MIP at Ringpong A/F	Rimpong	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	8	20.00
50	MIP at Tenglam-Rusa A/F	Tanglam-Rusa	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	40	100.00
51	MIP at Ranlamri A/F	Ranlamri	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	10	25.00
52	MIP at Kamnu A/F	Kamnu	Kanubari	WRD	Har Khet ko Pani	Surface Minor Irrigation	45	112.50
Total							**1266**	**3165.00**

Repair, Renovation & Restoration (RRR) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	RRR of Jekhu MIP at Longnakshie	Longnakshi	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	27
2	RRR of Tewai MIP at Banfera.	Banfera	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	36
3	RRR of Wangham MIP at Mopakhat.	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	30	54
4	RRR of Tiru MIP at Lawnu village.	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	25	45
5	RRR of Lawsa MIP at Lawnu.	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	36
6	RRR of Langhopang MIP at Langkhojan village.	Langkhojan	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	27
7	RRR of Tahdun MIP at Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	36
8	RRR of Homaksha MIP at Naitong village.	Naitong	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	26	46.8
9	RRR of Kamchang MIP at Ranglua village.	Ranglua-Rusa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	30	54
10	RRR of Lamphosi MIP at Ranglua village.	Ranglua	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	25	45
11	RRR of Naitong MIP at Naitong village.	Naitong	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	36
12	RRR of MIP at Longhua	Longhua	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	27
13	RRR of MIP at Mopakhat	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	35	63
14	RRR of MIP at Otangkhua	Otangkhua	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	25	45
15	RRR of MIP at Longkonpong A/F	Longkonpong	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	27
16	RRR of MIP Ruckjan-pong A/F at Wanu	Wanu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	36
17	RRR of Tissing at Chapnu	Chapnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	27
18	RRR of MIP Jekhopng at Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	10	18
19	RRR of MIP Bokanlamkai at Wanu	Wanu	Kanubari	WRD	Har Khet ko	Minor	15	27

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
					Pani	Irrigation		
20	RRR of MIP Simsa nallah at Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	10	18
21	RRR of MIP at Haserussa.	Hasse-Rusa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	30	54
Total							**436.00**	**784.80**

Command Area Development (CAD) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	CAD at Mopakhat	Mopakhat	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	25	37.50
2	CAD at wanu	Wanu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	18	27.00
3	CAD at Ranglua-Rusa	Ranglua-Rusa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
4	CAD at Longnakshie	Longnakshie	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
5	CAD at Hasse-Rusa	Hasse-Rusa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
6	CAD Lawsa at Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
7	CAD at Jekhopong in Lawnu	Lawnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
8	CAD at Chopnu	Chopnu	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
9	CAD at Ranggalamkai in Benfera	Benfera	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	18	27.00
10	CAD at Olington	Olington	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
11	CAD at chopsa	Chopsa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	18	27.00
12	CAD at Orak	Orak	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
13	CAD at Nokfan	Nokfan	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
14	CAD at Ottongkhowa	Ottongkhowa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
15	CAD at Tiru-Russa	Tiru-Russa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	9	13.50
16	CAD at Kamksh	Kamksh	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
17	CAD at Dasatong	Dasatong	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
18	CAD at Ngamding	Ngamding	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	18	27.00
19	CAD at Sangsathan	Sangsathan	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
20	CAD at Longhua	Longhua	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
21	CAD at Ringpong	Ringpong	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
22	CAD at Tissing	Tissing	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
23	CAD at Tewai	Tewai	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	18	27.00
24	CAD at Longkhojan	Longkhojan	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
25	CAD at Linglam-Rusa	Linglam-Rusa	Kanubari	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
Total							**376**	**564.00**

Ground Water Development under Har Khet Ko Pani

SL No.	Name of Scheme	Location / Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1.	DTW (5 Nos.)at Kanubari	Kanubari	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	37.5	75.00
2.	DTW (2 Nos.)at Luaksim	Luaksim	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	15	30.00
3.	DTW (3 Nos.)at Mopakhat	Mopakhat	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	22.5	45.00
4.	DTW (2 Nos.)at Hasse Rusa	Hasse Rusa	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	15	30.00
5.	DTW (2 Nos.)at Kamku Rusa	Kamku Rusa	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	15	30.00
6.	DMW (20 Nos.)at Kanubari	Kanubari	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	20	40.00
7.	DMW (8 Nos.)at Hasse Rusa	Hasse Rusa	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	8	16.00
8.	DMW (5 Nos.)at Kamka Rusa	Kamka Rusa	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	5	10.00
9.	DMW (3 Nos.)at Kamku Rusa	Kamku Rusa	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	3	6.00
10.	DMW (6 Nos.)at Mopakhat	Mopakhat	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	6	12.00
11.	DMW (5 Nos.)at Lawnu	Lawnu	Kanubari	WRD	Har Khet Ko Pani	Ground Water Dev	5	10.00
Total							**152**	**304.00**

Water Harvesting Structures under Har Khet Ko Pani

SL No.	Name of Scheme	Location / Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	C/o Rain Water Harvesting structure at Mopakhat	Mopakhat	Kanubari	WRD	Har Khet Ko Pani	Water Harvesting Structures	2.00	5.00
2.	C/o (2 Nos.) Rain Water Harvesting structure at Lawnu	Lawnu	Kanubari	WRD	Har Khet Ko Pani	Water Harvesting Structures	4.00	10.00
3.	C/o (2 Nos.) Rain Water Harvesting structure at Kamku Rusa	Kamku Rusa	Kanubari	WRD	Har Khet Ko Pani	Water Harvesting Structures	4.00	10.00
4.	C/o (2 Nos.) Rain Water Harvesting structure at Hasse Rusa	Hasse Rusa	Kanubari	WRD	Har Khet Ko Pani	Water Harvesting Structures	4.00	10.00
5.	C/o (3 Nos.) Rain Water Harvesting structure at Kanubari	Kanubari	Kanubari	WRD	Har Khet Ko Pani	Water Harvesting Structures	6.00	15.00
Total							**20.00**	**50.00**

2) Name of Block: Niausa

Surface Minor Irrigation under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	MIP at Tichopong WRC Field at Niausa village	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
2	MIP at Jokshe Agril Field at Niausa village	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
3	C/o MIP Dumnu A/F at Chatong	Chatong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	60	150.00
4	C/o MIP from Teka Nallah at Dumsa A/F Chatong	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	40	100.00
5	C/o MIP at Tehipong under Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	75.00
6	C/o MIP at Chanwang A/F at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	75.00
7	C/o MIP at Tanamshia A/F at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	75.00
8	C/o MIP at Timongpong A/F at Longsom	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
9	C/o MIP at Tiwong A/F at Longsom	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
10	MIP Lower Belt Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	62.50
11	MIP at Tihipong Jong at Chattong	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
12	MIP at Yangling WRC field at Zedua village	Zedua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
13	C/o CC Channel at Yasa WRC field at Chatting village	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
14	C/o MIC at Lemwangsa WRC field at Maihua village	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
15	MIP at Wakza Pani Kheti at Niaunu Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
16	MIP at Chotong Agril field at Niaunu village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
17	C/o MIP at Natwan A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
18	C/o MIP at Tilo nallah to Jandow WRC field at Longsom village	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	75.00
19	C/o MIP at Teka Nallah near Tissa river at osim Ozakho village	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
20	C/o MIP from Phamtong Nallah to Chanu A/F	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
21	MIP at Yasa Agril Field at Chatting village	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
22	MIP at mantham Agril field at Niausa	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
23	MIP from Ngawang nallah near Tilo river for Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	16	40.00
24	C/o MIP from Tamang Nallah to Chanu village	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
25	C/o MIP at Tika Nallah at Chattong village	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
26	C/o MIP from Tadun Nallah near Lumloa for Longsom	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	62.50

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
27	MIP at Bonai Agril Field at Maihua village	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
28	MIP at Thamsashe Agril Field at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
29	MIP at Ongolonglopong at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
30	C/o MIP at Phanma WRC field at Longsom village	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
31	C/o MIP from Langwangmanp Nallah near Tajon for Chatong	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
32	C/o MIP from Phamtong Nallah to Takai at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	62.50
33	MIP at Longding Agril Field at Chatting village	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
34	MIP at Tittopong Agril field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
35	MIP at Tichopong Agril field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	75.00
36	MIP at Juaksa field at Pumao village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	62.50
37	C/o MIP at Tihipong Jong at Chattong village	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
38	C/o MIP at Jahhoi chensa kha at Chattong village	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
39	C/o MIP at Phajen WRC field at Chattong .	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
40	C/o MIP at Phamai WRC field at Chattong .	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
41	C/o MIP at Tahupong WRC field at Chanu .	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
42	MIP at Awuak WRC field at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
43	MIP at Rukjampong A/F WRC field at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
44	MIP at Tise A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
45	MIP at Longsom	Longsom	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	22	55.00
46	MIP at Patpong Agril Field at Maihua village	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
47	MIP at Opoi Hamdop Agril Field at Longkhaw village	Longkhaw	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
48	MIP at Chopong Agril field at Niaunu Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
49	MIP at Lambanga Agril field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
50	MIP at Yuawksha Agril Field at Pumao village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
51	MIP at Tekhoi Pong Agril Field at Pumao village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
52	MIP at Lakka Agril field at Niaunu Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
53	MIP at Thamnu Nyawanzen Agril Field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
54	MIP at Tamtham Agril field at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
55	MIP at Ticho Agril Field at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
56	MIP at Senua Noksa	Senua noksa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
57	MIP at Nambashapong Agril field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
58	MIP at Kaisa Agril field at Niaunu Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
59	MIP at Zedua agril field	Zedua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
60	MIP at Lochong Agril field at Longphong village	Longphong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
61	MIP at Loangzao Agril field at Pumao Village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
62	MIP at Changsa WRC field at Senua Noksa Village	Senua Noksa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
63	MIP at Nalza Agril field at Pumao Village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
64	MIP at Tissa agril field	Tissa camp	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
65	MIP at Niaunu agril field	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
66	MIP at Kaisa Agril field at Niaunu Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
67	MIP at Namkhasha Agril field at Pumao Village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
68	MIP at Mintong agril field	Mintong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
69	MIP at Tinak Agril field at Pumao Village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
70	MIP at Tungtong Agril field at Nianu village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
71	MIP at Jalong Laongzao Lamtah Humjane Agril field at Niaunu village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
72	MIP at Longphong agril field	Longphong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
73	MIP at Niausa agril field	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	62.50
74	MIP at Oziashamshai Agril field at Niausa Village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
75	MIP at Tissa pani kheti at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
76	MIP at Longkai pong WRC Field at Maihua village	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
77	MIP at Wahjashia WRC Field at Maihua village	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
78	MIP at Ticho Agril Field at Pumao village	Pumao	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
79	MIP at Zinu Agril Field at near Tissing at Longphong village	Longphong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
80	MIP at Oziashamshia Agril Field at Niausa village	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
Total							**1223**	**3057.50**

Repair, Renovation & Restoration (RRR) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	RRR of MIP at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	45	67.5
2	RRR of MIP at Dumsa in Chattong.	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	40	60
3	RRR of MIP at Longsang A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	45
4	RRR of MIP Tamay WRC at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	37.5
5	RRR of MIP Wakfang at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	35	52.5
6	RRR of MIP at Chattong	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30
7	RRR of MIP at Longson	Longson	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30
8	RRR of MIP at Langmi	Langmi	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	26	39
9	RRR of MIP Pumtangjo A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	45
10	RRR of Tamai MIP at Chanu Village.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15
11	RRR of Longsang MIP at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	18
12	RRR of Tonongshun MIP at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.5
13	RRR of MIP at Niaunu Agril- Field.	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	37.5
14	RRR of MIP at Maihua Agril- Field.	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30
15	RRR of MIP at Longkhow WRC Field.	Longkhow	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.5
16	RRR of MIP at Saitongshe Agril- Field.	Saitongshe	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.5
17	RRR of MIP at Longchangpong & Thamnu Agril- Field.	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30
18	RRR of MIP at Yangling Pathar (Zedua).	Zedua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	14	21
19	RRR of MIP at Juaksin & Thamsasyen Agril- Field.	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.5
20	RRR of MIP at Jeekapong A/F at Niaunu	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.5
21	RRR of MIP at Noknai Agril- Field at chatting	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15
22	RRR of MIP Kawat WRC at Chatting		Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	13.5
23	RRR of MIP Zongo WRC at Niaunu	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15
24	RRR of MIP Muhtong A/F at Senua	Senua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	12
25	RRR of MIP Chadam A/F at Niausa	Niaunu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	9
Total							**490.00**	**735.00**

Command Area Development (CAD) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	CAD MIP at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	45	67.50
2	CAD MIP at Dumsa in Chattong.	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	40	60.00
3	CAD MIP at Longsang A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	45.00
4	CAD MIP Tamay WRC at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	37.50
5	CAD MIP Wakfang at Ozakho	Ozakho	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	35	52.50
6	CAD of MIP at Chattong	Chattong	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
7	CAD of MIP at Longson	Longson	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
8	CAD of MIP at Langmi	Langmi	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	26	39.00
9	CAD of MIP Pumtangjo A/F at Chanu	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	30	45.00
10	CAD of Tamai MIP at Chanu Village.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
11	CADof Longsang MIP at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
12	CAD Tonongshun MIP at Chanu.	Chanu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
13	CAD MIP at Niaunu Agril- Field.	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	25	37.50
14	CAD MIP at Maihua Agril- Field.	Maihua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
15	CAD MIP at Longkhow WRC Field.	Longkhow	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
16	CAD MIP at Saitongshe Agril- Field.	Saitongshe	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
17	CAD MIP at Longchangpong & Thamnu Agril- Field.	Thamnu	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	20	30.00
18	CAD MIP at Yangling Pathar (Zedua).	Zedua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	14	21.00
19	CAD MIP at Chitum Agril- Field at Tissa camp	Tissa camp	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
20	CAD MIP at Jeekapong A/F at Niaunu	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	15	22.50
21	CAD MIP at Noknai Agril- Field at chatting	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
22	CAD MIP Kawat WRC at Chatting	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	9	13.50
23	CAD MIP Zongo WRC at Niaunu	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
24	CAD MIP Muhtong A/F at Senua	Senua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	12.00
25	CAD Lakka A/F at Chatting	Chatting	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	6	9.00
26	CAD Ozajo WRC at Senua	Senua	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	8	12.00
27	CAD MIP Chadam A/F at Niausa	Niausa	Niausa	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
Total							**508**	**762.00**

Ground Water Development under Har Khet Ko Pani

SL No.	Name of Scheme	Location / Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	5	6	7	8	9	10
1.	DTW (3 Nos.)at Longding	Longding	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	22.5	45.00
2.	DMW (4 Nos.)at Senua	Senua	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	4	8.00
3.	DMW (20 Nos.)at zedua	zedua	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	20	40.00
4.	DMW (8 Nos.)at Chatting	Chatting	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	8	16.00
5.	DMW (7 Nos.)at Nianu	Nianu	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	7	14.00
6.	DMW (7 Nos.)at Niausa	Niausa	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	7	14.00
7.	DMW (3 Nos.)at Ozakho	Ozakho	Niausa	WRD	Har Khet Ko Pani	Ground Water Dev	3	6.00
Total							**71.5**	**143.00**

Water Harvesting Structures under Har Khet Ko Pani

SL No.	Name of Scheme	Location / Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	5	6	7	8	9	10
1.	C/o (5 Nos.) Rain Water Harvesting structure at Longding	Longding	Niausa	WRD	Per drop more crop	Water Harvesting Structures	10	25.00
2.	C/o Rain Water Harvesting structure at Senua	Senua	Niausa	WRD	Per drop more crop	Water Harvesting Structures	2	5.00
3.	C/o (5 Nos.) Rain Water Harvesting structure	zedua	Niausa	WRD	Per drop more	Water Harvesting	10	25.00

	at zedua				crop	Structures		
4.	C/o (3 Nos.) Rain Water Harvesting structure at Chatting	Chatting	Niausa	WRD	Per drop more crop	Water Harvesting Structures	6	15.00
5.	C/o (3 Nos.) Rain Water Harvesting structure at Nianu	Nianu	Niausa	WRD	Per drop more crop	Water Harvesting Structures	6	15.00
6.	C/o (2 Nos.) Rain Water Harvesting structure at Niausa	Niausa	Niausa	WRD	Per drop more crop	Water Harvesting Structures	4	10.00
7.	C/o Rain Water Harvesting structure at Ozakho	Ozakho	Niausa	WRD	Per drop more crop	Water Harvesting Structures	2	5.00
Total							**40**	**100.00**

3) Name of Block: Pongchau

Surface Minor Irrigation under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	MIP at panngam agri. Field at Khasa village	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
2	MIP at Langjap Agri field at Khasa village	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	14	35.00
3	MIP at Ngatae agri. Field at Khasa village	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	13	32.50
4	MIP at Gagejo WRC field at Konnu village	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
5	MIP at Thamsa agri. Field at Jagan village	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
6	MIP at Khamhi agri. Field at Pongchau village	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
7	MIP at N.L Bunsanuk WRC field near Tissa bridge at K/Noknu	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
8	MIP at Tajong A/F at Longmai	Longmai	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
9	MIP at Akhung Naam agri. Field at Konnu village	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	20	50.00
10	MIP at Gangsa agri. Field at Jagan village	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	16	40.00
11	MIP at Lohpong agri. Field at K/ Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
12	MIP at Guhhu Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
13	MIP at Pongliam Losu Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
14	MIP at Chejoja agri. Field at Konnu village	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
15	MIP at Kanpu agri field at Khasa village	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
16	MIP at Chopnu agri. Field at Pongchau village	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	16	40.00
17	MIP at Longkho agri. Field at Votnu village	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.50
18	MIP at Gangta agri. Field at Votnu village	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.50
19	MIP at Oguja Agril Field at Konnu village	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
20	MIP at Pamsan Agril Field at Jagan village	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
21	MIP at Okhawsum at Lohpong Wangham Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
22	MIP at Nyapat Phaiwang Wangsa Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
23	MIP at Bunsa Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
24	MIP at Loknak Agril Field at K/Noknu village	Kamhua Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
25	MIP at Nyakan at K/Noksa village	K/Noksa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
26	MIP at Oha at K/Noksa village	K/Noksa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
27	MIP at Taphe agri-Field at Pongchau village	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	17	42.50

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
28	MIP at Pagkong agri-Field at Pongchau village	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.50
29	MIP at Tache agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	16	40.00
30	MIP at Tacho agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	17	42.50
31	MIP at Teanyak agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
32	MIP at Dangchong at Pongchau village	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	16	40.00
33	MIP at Pachang agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
34	MIP at Taijan agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.50
35	MIP at Chopnyu agri-Field	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20
36	MIP at Paagak agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	19	47.5
37	MIP at Kanpu agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20
38	MIP at Jangling agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	30
39	MIP at Janno agri-Field at Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20
40	MIP at Longkho agri-Field at Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	9	22.5
41	MIP at Olan agri-Field at Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	5	12.5
42	MIP at Khokha agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15
43	MIP at Dangchong agri-Field at Pongchau	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	17	42.5
44	MIP at Bonia	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	25
45	MIP at Konnu	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20
46	MIP at Konsa	Konsa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	30
47	MIP at K/noknu	K/noknu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	11	27.5
48	MIP at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	9	22.5
49	MIP at Pongchau	Pongchau	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	25
50	MIP at Jagan	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	20
51	MIP at Poojap agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15
52	MIP at Tatsa agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	13	32.5
53	MIP at Haakho agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15
54	MIP at Panvoyo agri-Field at Konsa	Konsa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	15
55	MIP at Iasa agri-Field at Konnu village	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	9	22.5
56	MIP at Gunphang agri-Field at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	3	7.5
57	MIP at Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.5
Total							**576**	**1440.00**

Repair, Renovation & Restoration (RRR) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	5	6	7	8	9	10
1	RRR of MIP at Konnu A/F at Konnu Village.	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	9.90
2	RRR of MIP at Konsa WRC at Konsa Village.	Konsa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	13.20
3	RRR of MIP at Bonia A/F at Bonia Village.	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	11.55
4	RRR of MIP at Pagak Gunuk A/F at Khasa Village.	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	5	8.25
5	RRR of MIP at Thamsa MIP at Jagan Village.	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	16.50
6	RRR of MIP at Guho A/F at K/Nonku Village.	K/Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	16.50
7	RRR of MIP at Jancheta WRC Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	9.90
8	RRR of MIP at Olung WRC Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	13.20
9	RRR of MIP Jangkung A/F at Bonia	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	19.80
10	RRR of MIP Sung-Sujan A/F at Jagan	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	16.50
11	RRR of MIP Maffong A/F at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	13.20
12	RRR of MIP Angapan A/F at Pongchau	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	19.80
13	RRR of MIP at Oho A/F at K/Nonku Village.	K/Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	9.90
Total							**108.00**	**178.20**

Command Area Development (CAD) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	RRR of MIP at Konnu A/F at Konnu Village.	Konnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	9.00
2	RRR of MIP at Konsa WRC at Konsa Village.	Konsa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	11.60
3	RRR of MIP at Bonia A/F at Bonia Village.	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	7	17.50
4	RRR of MIP at Pagak Gunuk A/F at Khasa Village.	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	5	7.25
5	RRR of MIP at Thamsa MIP at Jagan Village.	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	12.00
6	RRR of MIP at Guho A/F at K/Nonku Village.	K/Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
7	RRR of MIP at Jancheta WRC Votnu	Votnu	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	8.70
8	RRR of MIP at Olung WRC Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	11.20
9	RRR of MIP Jangkung A/F at Bonia	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	18.00
10	RRR of MIP Sung-Sujan A/F at Jagan	Jagan	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	10	15.00
11	RRR of MIP Maffong A/F at Khasa	Khasa	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	8	11.60
12	RRR of MIP Angapan A/F at Pongchau	Bonia	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	12	16.20

13	RRR of MIP at Oho A/F at K/Nonku Village.	K/Nonku	Pongchau	WRD	Har Khet ko Pani	Minor Irrigation	6	8.70
Total							**108**	**161.75**

4) Name of Block: Wakka

Surface Minor Irrigation under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	MIP at Gangchai A/F at Wakka village	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
2	MIP at Chingson A/F at Longkai village	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
3	MIP at Longling Agril Field at Kaimai village	Kaimoi	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
4	MIP at Jinli Agril Field at Longkai village	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
5	MIP at Phupjo agri. Field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
6	MIP at Chitting agri field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
7	MIP at Tajong agri. Field at Longkai village	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
8	MIP at Longphat Agril Field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
9	MIP at Kahtak Agril Field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
10	MIP at Chitting River Bank Agril field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
11	MIP at Sangkhan Agril Field at Nginu village	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
12	MIP at wangsa agri field at Kaimai village	Kaimoi	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	10	25.00
13	MIP Yasa WRC Field ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
14	MIP Gangkam WRC Field ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
15	MIP Chaigang WRC Field ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	2	5.00
16	MIP Jansi-Chong Agri- Field ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	3	7.50
17	MIP Chingo river bank ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
18	MIP at Gangsa Agri- Field ChangKhao	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
19	MIP at Sangang Agri- Field Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	2	5.00
20	MIP at Kmho Agri- Field Wakka Kaiho	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	2	5.00
21	MIP at Mango Agri- Field Wakka Kaiho	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	2	5.00
22	MIP at Khanyai Agri- Field Wakka town	Wakka town	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
23	MIP at Hangkhu Agri- Field Wakka town	Wakka town	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
24	MIP at Ongpi Agri- Field Wakka village	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
25	MIP at Manje Agri- Field Wakka village	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	3	7.50
26	MIP at Chinkai Agri- Field	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
27	MIP at Pankhu Agri- Field Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	2	5.00
28	MIP at Khamgang/Chopgong Agri- Field Chongkhow	Changkhao	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
29	MIP at Gangpho Agri- Field Chop	Chop	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
30	MIP at Khonyai &Khongam Agri- Field Khanu	Khanu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
31	MIP at Nonlih Agri- Field Khanu	Khanu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
32	MIP at Nyamgang & Matchan Agri- Field Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
33	MIP at Chetting &Phala Agri- Field Nginu	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
34	MIP at Amma Agri- Field Chetum	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
35	MIP at Secha Agri- Field at Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	3	7.50
36	MIP Gangban Gangman A/F at Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
37	MIP Tompho & Gosa A/F at Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
38	MIP at Khogla A/F near bank Chitumkuh	Khogla	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
39	MIP at Ngissa A/F Chejon river bank	Ngisa	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
40	MIP at Batgang A/F at Kampong river bank at Kampong village	Kampong	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	4	10.00
Total							**233**	**582.50**

Repair, Renovation & Restoration (RRR) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	RRR of MIP at Babja WRC at Longkai Village.	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	15	24.00
2	RRR of MIP at Hamoiphalatun WRC at Nginu Village.	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	15	24.00
3	RRR of MIP Hamoi A/F at Kaimoi	Kaimoi	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	19.20
4	RRR of MIP Jekhawchen WRC at Longkai	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	19.20
5	RRR of MIP Tamgang WRC at Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	8.00
6	RRR of MIP Matpho WRC at Changkhow	Changkhow	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	8.00
7	RRR of MIP Chekomtulam WRC at Nginu	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	9.60
8	RRR of MIP Pullo WRC at Ngissa	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	12.80
9	RRR of MIP Bamchong WRC at Nginu	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	9	14.40
Total							**87.00**	**139.20**

Command Area Development (CAD) under Har Khet Ko Pani

Sl.No	Name of the Scheme	Location/ Village	Name of CD Block	Concerned Ministry / Deptt	Component	Activity	Command Area in Ha	Estimated Cost (Rs.in Lakh)
1	2	3	4	5	6	7	8	9
1	RRR of MIP at Babja WRC at Longkai Village.	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
2	RRR of MIP at Hamoiphalatun WRC at Nginu Village.	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	15	37.50
3	RRR of MIP Hamoi A/F at Kaimoi	Kaimoi	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
4	RRR of MIP Jekhawchen WRC at Longkai	Longkai	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	12	30.00
5	RRR of MIP Tamgang WRC at Wakka	Wakka	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
6	RRR of MIP Matpho WRC at Changkhow	Changkhow	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	5	12.50
7	RRR of MIP Chekomtulam WRC at Nginu	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	6	15.00
8	RRR of MIP Pullo WRC at Ngissa	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	8	20.00
9	RRR of MIP Bamchong WRC at Nginu	Nginu	Wakka	WRD	Har Khet ko Pani	Minor Irrigation	9	22.50
Total							**87**	**217.50**

ANNEXURE – 2: Strategic Action Plan of Horticulture Department

1) Name of Block: Kanubari

S. No	Block	Concerned Ministry/ Department	Component	Activity	Total Number /Capacity(Cum)	Command Area/ Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
						Village	Area		
1	2	3	4	5	6	7	8	9	10
1	Kanubari CD Block	MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Drip	Banana	Hase Russa	3	2016-17	6.90
						Kamku Russa	4		9.20
						Olingtong	2		4.60
						Banfera	3		6.90
						Mopaghat	2		4.60
2	Kanubari CD Block	MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Drip	Coconut	Sangsatham	1	2017-18	2.30
						Longhua	2		4.60
						Banfera	2		4.60
						Russa	1		2.30
						Olingtyong	1		2.30
3		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Drip	Litchi	Kanubari	1		2.30
						Ranglua	1	2017-18	2.30
						Longhua	2		4.60
						Loksim	1		2.30
						Russa	2		4.60
						Banfera	2		4.60
						Mopakhat	2		4.60
4		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	DPAP Drip	Arecanut	Kanubari	3	2018-19	6.90
						Mopaghat	4		9.20
						Banfera	2		4.60
						Ranglua	2		4.60
						Russa	3		6.90
						K/Russa	3		6.90
						Olingtong	2		4.60
						Sangthatham	1		2.30
5		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	DRIP	GUAVA	Kanubari	2	2018-19	4.60
						Banfera	2		4.60
						Russa	1		2.30
						Olingtong	2		4.60
6		MOA &FW-DAC&FW	Per drop more crop(Micro	DRIP	LEMON	Kanubari	2	2019-20	4.60
						Sangsatham	3		6.90
						Hase Russa	2		4.60

S. No	Block	Concerned Ministry/	Component	Activity	Total Number /Capacity(Cum)	Command Area/ Irrigation Potential (Ha)		Period Of Implementation On	Estimated Cost (In Rs)
			Irrigation)			Olingtong	1		2.30
						Mopaghat	2		4.60
						Longhua	3		6.90
						Banfera	1		2.30
						Russa	2		4.60
7		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Sprinkler	Vegetable	Loksim	3	2019-20	7.35
						Olingtong	4		9.80
						Kanubari	3		7.35
						Mopaghat	2		4.90
						Russa	2		4.90
						Hase Russa	2		4.90
						Longhua	2		4.90
						Banfera	3		7.35
8		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Sprinkler	Pine-Apple	Kanubari	3	2020-21	7.35
						Olingtong	2		4.90
						Banfera	2		4.90
						Mopaghat	3		7.35
						Longhua			
						Hase Russa	4		9.80
						Sengsatham	2		4.90
						Ranglua	1		2.45
9		MOA &FW-DAC&FW	Per drop more crop(Micro Irrigation)	Sprinkler	Ginger	Kanubari	4	2020-21	9.80
						Mopaghat	3		7.35
						Banfera	2		4.90
						Ranglua	2		4.90
						Russa	2		4.90
						K/Russa	2		4.90
						Olingtong	2		4.90
						Sangthatham	2		4.90
Grand Total							**132**		**312.15**

2) Name of Block: Niausa

S/No	Name Of The Block	Concern Ministry/ Department	Component	Activity	Total Number /Capacity (Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Lakh Rs)
						Village	Area		
1	2	3	4	5	6	7	8	9	10
1	Niausa CD Block	MOA &FW-DAC & FW	Per Drop more Crop (Micro Irrigation)	Sprinkler	Large Cardamom	Chatting	4	2016-2017	9.80
						Pumao	4		9.80
						Longkhow	2		4.90
						Maihua	1		2.45
						Longphong	1		2.45
						Mintong	1		2.45
						Niausa	1		2.45
						Niaunu	1		2.45
						Zedua	1		2.45
						Senua	1		2.45
						Longsom	2		4.90
2	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more crop (Micro-Irrigation)	Sprinkler	VEGETABLE	Zedua	3	2016-17	7.35
						Senua	3		7.35
						Longsom	2		4.90
						Niausa	2		4.90
						Niaunu	2		4.90
						Chanu	2		4.90
						Mintong	1		2.45
3	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more crop (Micro-Irrigation)	Sprinkler	Pine-Apple	Zedua	3	2017-18	7.35
						Senua	3		7.35
						Longsom	2		4.90
						Niausa	2		4.90
						Niaunu	2		4.90
						Chanu	2		4.90
						Mintong	2		4.90
4	Niausa CD Block	MOA & FW-DAC & FW	Per Drop more Crop (Micro-Irrigation)	Drip	Banana	Chatting	2	2018-2019	4.60
						Pumao	3		6.90
						Longkhow	2		4.60
						Maihua	1		2.30
						Longphong	2		4.60
						Mintong	2		4.60
						Niausa	2		4.60

S/No	Name Of The Block	Concern Ministry/ Department	Component	Activity	Total Number /Capacity (Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Lakh Rs)
						Niaunu	2		4.60
						Zedua	2		4.60
						Senua	2		4.60
						Longsom	2		4.60
5	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation	DRIP	Litchi	Longkhow	3	2018-19	6.90
						Maihua	3		6.90
						Longphong	3		6.90
						Mintong	4		9.20
						Niausa	2		4.60
						Niaunu	2		4.60
						Zedua	4		9.20
						Senua	2		4.60
6	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation	SPRINKLER	Ginger	Chatting	3	2019-20	7.35
						Pumao	2		4.90
						Longkhow	2		4.90
						Maihua	3		7.35
						Longphong	1		2.45
						Mintong	2		4.90
						Niausa	2		4.90
						Niaunu	3		7.35
						Zedua	3		7.35
						Senua	3		7.35
						Longsom	1		2.45
7	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation	DPAP DRIP	Orange	Longkhow	4	2019-20	9.20
						Maihua	3		6.90
						Longphong	4		9.20
						Mintong	4		9.20
						Niausa	3		6.90
						Niaunu	3		6.90
						Zedua	3		6.90
						Senua	4		9.20
8	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation	DPAP DRIP	Guava	Senua	3	2020-21	6.90
						Zedua	4		9.20
						Longphong	3		6.90
						Niaunu	2		4.60
						Niausa	3		6.90

S/No	Name Of The Block	Concern Ministry/ Department	Component	Activity	Total Number /Capacity (Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Lakh Rs)
						Mintong	2		4.60
						Longsom	2		4.60
9	Niausa CD Block	MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation	DRIP	Lermon	Senua	3	2020-2021	6.90
						Zedua	2		4.60
						Longphong	2		4.60
						Niaunu	1		2.30
						Niausa	2		4.60
						Mintong	2		4.60
						Longsom	1		2.30
Total Niausa Block							**180**		**425.25**

3) Name of Block: Pongchau

S/No	Name Of The Block	Concerned Ministry/ Department	Component	Activity	Total Number /Capacity(Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
						Village	Area		
1	2	3	4	5	6	7	8	9	10
1	Pongchau CD Block	MOA & FW-DAC& FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	4	2016-17	9.80
						Khasa	3		7.35
						K/Noknu	4		9.80
						K/Noksa	2		4.90
						Votnu	2		4.90
						Jagan	2		4.90
						Konnu	3		7.35
						Konsa	2		4.90
						Bonia	2		4.90
2	Pongchau CD Block	MOA & FW-DAC & FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	5	2017-18	12.25
						Khasa	4		9.80
						K/Noknu	5		12.25
						K/Noksa	3		7.35
						Votnu	2		4.90
						Jagan	3		7.35
						Konnu	4		9.80
						Konsa	3		7.35
						Bonia	3		7.35
3	Pongchau CD Block	MOA & FW-DAC & FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	6	2017-2018	14.70
						Khasa	5		12.25
						K/Noknu	6		14.70
						K/Noksa	3		7.35
						Votnu	4		9.80
						Jagan	2		4.90
						Konnu	3		7.35
						Konsa	4		9.80
						Bonia	2		4.90
4	Pongchau CD Block	MOA & FW-DAC & FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	2	2018-19	4.90
						Khasa	1		2.45
						K/Noknu	1		2.45
						K/Noksa	2		4.90
						Votnu	2		4.90
						Jagan	1		2.45
						Konnu	1		2.45

S/No	Name Of The Block	Concerned Ministry/	Component	Activity	Total Number /Capacity(Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
						Konsa	2		4.90
						Bonia	2		4.90
5	Pongchau CD Block	MOA & FW-DAC & FW	Per drop more crop(Micro Irrigation)	Sprinkler	Large Cardamom	Pongchau	3	2018-19	7.35
						Khasa	2		4.90
						K/Noknu	3		7.35
						K/Noksa	2		4.90
						Votnu	2		4.90
						Jagan	1		2.45
						Konnu	1		2.45
						Konsa	2		4.90
6	Pongchau CD Block	MOA & FW-DAC& FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	4	2019-20	9.80
						Khasa	3		7.35
						K/Noknu	4		9.80
						K/Noksa	2		4.90
						Votnu	2		4.90
						Jagan	2		4.90
						Konnu	3		7.35
						Konsa	2		4.90
						Bonia	2		4.90
7	Pongchau CD Block	MOA & FW-DAC& FW	Per drop more crop(Micro Irrigation)	DPAP Sprinkler	Large Cardamom	Pongchau	2	2019-20	4.90
						Khasa	1		2.45
						K/Noknu	2		4.90
						K/Noksa	3		7.35
						Votnu	2		4.90
						Jagan	2		4.90
						Konnu	2		4.90
						Konsa	3		7.35
						Bonia	1		2.45
8	Pongchau CD Block	MOA & FW-DAC& FW	Per drop more crop(Micro	DPAP Drip	Kiwi	Pongchau	2	2020-2021	4.60
						Khasa	2		4.60
						K/Noknu	3		6.90
						K/Noksa	4		9.20
						Votnu	3		6.90
						Jagan	2		4.60
						Konnu	2		4.60
						Konsa	3		6.90
						Bonia	2		4.60
9		MOA & FW-DAC&	Per drop more	DPAP	Walnut	Khasa	2	2020-2021	4.60
						Pongchau	3		6.90

S/No	Name Of The Block	Concerned Ministry/	Component	Activity	Total Number /Capacity(Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
		FW	crop(Micro	Drip		K/Noknu	2		4.60
						K/Noksa	2		4.60
						Jagan	1		2.30
						Bonia	2		4.60
						Konsa	3		6.90
						Konnu	2		4.60
						Votnu	1		2.30
GRAND TOTAL=							**204**		**493.65**

4) Name of Block: Wakka

S/No	Name Of The Block	Concern Ministry/ Department	Component	Activity	Total Number /Capacity(Cum)	Command Area/Irrigation Potential (Ha)		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
						Village	Area		
1	2	3	4	5	6	7	8	9	10
1	Wakka CD Block	MOA &FW-DAC & FW	Per Drop more Crop (Micro Irrigation)	DPAP Sprinkler	LARGE CARDAMOM	Wakka	3	2016-17	7.35
						Chongkhow	2		4.90
						Kaiho	1		2.45
						Ngisa	2		4.90
						Nginu	3		7.35
						Kaimoi	2		4.90
						Khanu	2		4.90
						Longkai	2		4.90
2	Wakka CD Block	MOA &FW-DAC & FW	Per Drop more Crop (Micro Irrigation)	Drip	Kiwi	Wakka	3	2017-18	6.90
						Longkai	3		6.90
						Chongkho	3		6.90
						Khanu	4		9.20
						Kaiho	3		6.90
3	Wakka CD Block	MOA &FW-DAC & FW	Per Drop more Crop (Micro Irrigation)	DPAP Drip	Walnut	Wakka	3	2017-18	6.90
						Longkai	2		4.60
						Kaiho	3		6.90
						khanu	3		6.90
						Chongkho	2		4.60
4	Wakka CD Block	MOA & FW-DAC &FW	Per Drop more crop (Micro Irrigation)	Sprinkler	Large Cardamom	Wakka	4	2018-19	9.80
						Chongkhow	3		7.35
						Kaiho	3		7.35
						Ngisa	2		4.90
						Nginu	4		9.80
						Kaimoi	3		7.35
						Khanu	1		2.45
						Longkai	2		4.90
5	Wakka CD Block	MOA & FW-DAC &FW	Per Drop more crop (Micro Irrigation)	DPAP SPRINKLER	Large Cardamom	Wakka	2	2018-19	4.90
						Chongkhow	2		4.90
						Kaiho	3		7.35
						Ngisa	1		2.45
						Nginu	2		4.90
						Kaimoi	2		4.90
						Khanu	2		4.90
						Longkai	1		2.45

S/No	Name Of The Block	Concern Ministry/	Component	Activity	Total Number /Capacity(Cum)	Command Area/Irrigation		Period Of Implementation On (5/7)Yrs	Estimated Cost (In Rs)
6		MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation)	DPAP DRIP	KIWI	Wakka	3	2019-20	6.90
						Longkai	4		9.20
						Chongkho	2		4.60
						Khanu	3		6.90
						Kaiho	2		4.60
7		MOA & FW-DAC &FW	Per Drop more Crop (Micro-Irrigation)	DPAP DRIP	WALNUT	Wakka	3	2020-21	6.90
						Chongkhow	2		4.60
						Kaiho	3		6.90
						Ngisa	4		9.20
						Nginu	3		6.90
						Kaimoi	3		6.90
						Khanu	2		4.60
						Longkai	2		4.60
GRAND TOTAL=							**119**		**281.80**

ANNEXURE – 3: Strategic Action Plan of Agriculture Department

1. **Name of the Block: Kanubari**

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
1	2	3	4	5	6	7	8	9
1	Kanubari	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Micro Irrigation)	**DPAP Drip Irrigation**				
				1.Wide space crops	42	23	3	27.95
				2. Close space crops	36	18	4	19.65
	Kanubari	MOA & FWDAC & FW/Agriculture Department		**Non-DPAP Sprinkler Irrigation**				
				1.Micro sprinkler	35	17	4	28
				2.Mini sprinkler	60	35	4	74.18
				3.Portable sprinkler	48	32	5	14
				4.Semi-permanent sprinkler system	65	42	4	34
	Kanubari	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Topping up of MGNREGA**				
				Lining inlets, outlets, silt trap, distribution systems, drainage treatment etc.	220	140	5	465
				Drought Proofing through check Dams, Nala bunds, farm ponds, tanks etc.	210	380	5	1200.5
				Water lifting devices: diesel/electric/solar pump set including water carriage pipes.	80	20	4	260
				Secondary storage structure at tail end of canals for water storage during rainy season.	95	40	4	280
				Construction of micro irrigation structures to supplement source creation activities like tube wells, dug wells etc.	52	28	4	75
				Water storage tanks etc	84	27	3	95.5
				Land development for soil and water/moisture conservation	70	40	5	25.95
				Improved innovative	200	160	4	240

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
				distribution system like HDPE pipes and box outlet system for enhancing water use efficiency.				
				On farm development (distribution pipes/raise bed/furrow system etc.)	120	80	5	795
	Kanubari	MOA & FWDAC & FW/Agriculture Departmen	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Restoration/maintenance of the potential traditional water storage structures through distribution and deepening activities.**	40	80	4	90.5
Sub total-					**1457**	**1162 ha**		**3725.23**

Extension Activities (ATMA) Programme Under Per Drop More Crop

Sl no.	Name of the block	Concerned ministry/department	Component	Activity	Total no.	Period of implementation	Estimated cost(rupees in lakhs)
1	2	3	4	5	6	7	8
1.	Kanubari	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (efficient use of water, crop management practices, water requirement based on cropping plan, moisture conservation and agronomic measures, farm water management, irrigation technologies under PMKSY)	1. Capacity building	160	4	75.00
				2. Training and exposure visits	100	4	80.00
				3. Demonstrations	1400	4	60.00
				4. Farm schools	150	5	50.00
				5. Skill development	120	5	45.00
				6. Exhibitions and kisan mela	70	5	30.00
				7. Awareness campaigns and field visits	85	5	25.00
Total					**2085**		**365.00**

2. Name of the Block: Niausa

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
1	2	3	4	5	6	7	8	9
2	Niausa	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Micro Irrigation)	**DPAP Drip Irrigation**				
				1.Wide space crops	37	25	2	30.18
				2. Close space crops	24	14	2	23.5
				Non-DPAP Sprinkler Irrigation				
				1.Micro sprinkler	52	38	3	29.65
				2.Mini sprinkler	31	29	4	23.42
				3.Portable sprinkler	49	28	5	15.73
				4.Semi-permanent sprinkler system	62	44	4	28.66
			Per drop more crop (Supplementary water management activities)	**Topping up of MGNREGA**				
				Lining inlets, outlets, silt trap, distribution systems, drainage treatment etc.	200	125	5	600
				Drought Proofing through check Dams, Nala bunds, farm ponds, tanks etc.	165	305	5	400
				Water lifting devices: diesel/electric/solar pump set including water carriage pipes.	150	36	4	120
				Secondary storage structure at tail end of canals for water storage during rainy season.	32	25	3	78.34
			Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Construction of micro irrigation structures to supplement source creation activities like tube wells, dug wells etc.**	20	15	2	46.95
				Water storage tanks etc	50	27	4	75.25

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
	Niausa	MOA & FWDAC & FW/Agriculture Department						
	Niausa	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Land development for soil and water/moisture conservation**	180	90	5	65
				Improved innovative distribution system like HDPE pipes and box outlet system for enhancing water use efficiency.	165	84	4	146.86
				On farm development (distribution pipes/raise bed/furrow system etc.)	158	48	5	92.67
				Restoration/maintenance of the potential traditional water storage structures through distribution and deepening activities.	65	110	4	130

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
Sub total-					1440	1043 ha.	2 to 5	1906.21

Extension Activities (ATMA) Programme Under Per Drop More Crop

Sl no.	Name of the block	Concerned ministry/department	Component	Activity	Total no.	Period of implementation	Estimated cost(rupees in lakhs)
1	2	3	4	5	6	7	8
2.	Niausa	MOA & FWDAC & FW/Agriculture Department	Per drop more crop(efficient use of water, crop management practices, water requirement based on cropping plan, moisture conservation and agronomic measures, farm water management, irrigation technologies under PMKSY)	1. Capacity building	180	4	90.00
				2. Training and exposure visits	280	4	110.00
				3. Demonstrations	1400	4	60.00
				4. Farm schools	150	5	50.00
				5. Skill development	120	5	45.00
				6. Exhibitions and kisan mela	100	5	40.50
				7. Awareness campaigns and field visits	125	5	35.50
Total					2355		431

3. Name of the Block: Pongchau

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
1	2	3	4	5	6	7	8	9
3	Pongchau	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Micro Irrigation)	**DPAP Drip Irrigation**				
				1.Wide space crops	45	25	3	30
				2. Close space crops	25	16	3	60
				Non-DPAP Sprinkler Irrigation				
				1.Micro sprinkler	60	27	4	55
				2.Mini sprinkler	50	20	4	42.5
				3.Portable sprinkler	40	28	5	25
				4.Semi-permanent sprinkler system	60	40	4	35.5
			Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Topping up of MGNREGA**				
				Lining inlets, outlets, silt trap, distribution systems, drainage treatment etc.	150	70	5	200
				Drought Proofing through check Dams, Nala bunds, farm ponds, tanks etc.	180	400	5	1750
				Water lifting devices: diesel/electric/solar pump set including water carriage pipes.	120	40	4	1400
				Secondary storage structure at tail end of canals for water storage during rainy season.	110	75	4	400
				Construction of micro irrigation structures to supplement source creation activities like tube wells, dug wells etc.	35	20	4	110
				Water storage tanks etc	120	60	4	220
			Per drop more crop	**Land development for soil and water/moisture conservation**	110	60	5	85.5

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
	Pongchau	MOA & FWDAC & FW/Agriculture Department	(Supplementary water management activities/interventions of water management structures on the farms/fields)					
	Pongchau	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Improved innovative distribution system like HDPE pipes and box outlet system for enhancing water use efficiency.**	100	70	4	120
				On farm development (distribution pipes/raise bed/furrow system etc.)	65	28	3	180
				Restoration/maintenance of the potential traditional water storage structures through distribution and deepening activities.	70	30	4	140.5
Sub total-					**1340**	**1009 ha**		**4854**

Extension Activities (ATMA) Programme Under Per Drop More Crop

Sl no.	Name of the block	Concerned ministry/department	Component	Activity	Total no.	Period of implementation	Estimated cost(rupees in lakhs)
1	2	3	4	5	6	7	8
3.	Pongchau	MOA & FWDAC & FW/Agriculture Department	Per drop more crop(efficient use of water, crop management practices, water requirement based on cropping plan, moisture conservation and agronomic measures, farm water management, irrigation technologies under PMKSY)	1. Capacity building	60	4	27.00
				2. Training and exposure visits	100	5	80.00
				3. Demonstrations	600	4	40.00
				4. Farm schools	150	5	50.00
				5. Skill development	120	5	45.00
				6. Exhibitions and kisan mela	70	5	30.50
				7. Awareness campaigns and field visits	100	5	45.00
Total					**1200**		**317.5**

4. Name of the Block: Wakka

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
1	2	3	4	5	6	7	8	9
4	Wakka	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Micro Irrigation)	**DPAP Drip Irrigation**				
				1.Wide space crops	50	30	4	32
				2. Close space crops	35	20	3	74.5
				Non-DPAP Sprinkler Irrigation				
				1.Micro sprinkler	40	23	4	75
				2.Mini sprinkler	30	20	4	50
				3.Portable sprinkler	20	12	2	35
				4.Semi-permanent sprinkler system	45	25	3	28.5
		MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures)	**Topping up of MGNREGA**				
		MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Lining inlets, outlets, silt trap, distribution systems, drainage treatment etc.**	110	80	5	350
				Drought Proofing through check Dams, Nala bunds, farm ponds, tanks etc.	200	365	5	2100
				Water lifting devices: diesel/electric/solar pump set including water carriage pipes.	90	110	4	1600
				Secondary storage structure at tail end of canals for water storage during rainy season.	75	110	4	120
				Construction of micro irrigation structures to supplement source creation activities like tube wells, dug wells etc.	60	40	4	140
				Water storage tanks etc	90	60	4	240
				Land development for soil and water/moisture conservation	160	210	5	90
				Improved innovative distribution	80	110	5	160

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
				system like HDPE pipes and box outlet system for enhancing water use efficiency.				
				On farm development (distribution pipes/raise bed/furrow system etc.)	80	100	4	160
	Wakka Wakka	MOA & FWDAC & FW/Agriculture Department	Per drop more crop (Supplementary water management activities/interventions of water management structures on the farms/fields)	**Restoration/maintenance of the potential traditional water storage structures through distribution and deepening activities.**	40	25	3	110.5

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number/Capac (cum)	Command Area/Irrigation Potential (Ha)	Period of Implementation	Estimated Cost (Rs in lakhs)
Sub total-					**1205**	**1340 ha**		**5365.5**

Extension Activities (ATMA) Programme Under Per Drop More Crop

Sl no.	Name of the block	Concerned ministry/department	Component	Activity	Total no.	Period of implementation	Estimated cost(rupees in lakhs)
1	2	3	4	5	6	7	8
4.	Wakka	MOA & FWDAC & FW/Agriculture Department	Per drop more crop(efficient use of water, crop management practices, water requirement based on cropping plan, moisture conservation and agronomic measures, farm water management, irrigation technologies under PMKSY)	1. Capacity building	110	4	70.00
				2. Training and exposure visits	130	4	90.00
				3. Demonstrations	1100	4	70.00
				4. Farm schools	150	5	50.00
				5. Skill development	120	5	45.00
				6. Exhibitions and kisan mela	100	5	40.50
				7. Awareness campaigns and field visits	125	5	35.50
Total					**1835**		**401.00**

ANNEXURE – 4: Strategic Action Plan of DRDA

1) Name of Block: Niausa

SL. No.	Name of the block/Sub District	Concerned Ministry/Department	Component	Activity	Total Number	Command Area/Irrigation Potential (Ha)	Period of Implementation (in Years)	Estimated Cost (Rs in lakhs)
1	2	3	4	5	6	7	8	9
1	Niausa	DRDA	Watershed	IWMP at Niausa, Mintong and Pumao Vilage	1	1500 (Niausa 500 Ha, Mintong 500 ha and Pumao 500 ha)	3	225
Total					1	1500 ha	3	225