

June 2024

**WEST BENGAL  
ACCELERATED DEVELOPMENT OF MINOR IRRIGATION PROJECT  
WBADMIP PHASE-II**



**PROJECT IMPLEMENTATION PLAN (PIP)  
Part-II Attachments  
June 2024**

Supported by World Bank



**Implemented by  
DEPARTMENT OF WATER RESOURCES INVESTIGATION AND DEVELOPMENT  
GOVERNMENT OF WEST BENGAL**

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## Contents

Annexure 5.1 TOR for Engaging Support Organization.....	2
5.2 Annexure Format of Inception report.....	74
5.3 Annexure - SELF APPRAISAL FORMAT FOR NGO.....	90
5.4 Annexure - Memorandum of Association (MOA) DRAFT .....	95
6.1 Annexure - Sub-basin wise Surface Water Resource Availability .....	109
6.2 Annexure – District wise Cropping Intensity.....	110
6.3 Annexure - District-wise distribution of MI sub-projects under the project .....	111
6.4 Annexure - Guidelines for design of various MI structures: .....	112
6.5 Annexure- Checklist for scheme preparation and approval .....	131
<b>7.1.1 Annexure- COMPONENT C - AGRICULTURAL SUPPORT SERVICES .....</b>	<b>134</b>
7.2.1 Annexure – Horticulture - Details of Construction and Installation of Polyhouses.....	141
Required items for Installation of Micro irrigation system (Drip & Fogger) for HiTech Poly Green House for vegetable & flower cultivation:.....	142
7.2.2 Annexure- Horticulture Cost of establishment of Mango Nursery.....	144
<b>7.3 Annexure - Details Estimation of Bundh cum Hatching Pool (Carp Hatchery).....</b>	<b>147</b>
<b>7.4 Annexure- Hatchery establishment on Magur (<i>Clarias batrachus</i>), Singi (<i>Heteropneustes fossilis</i>), Koi (<i>Anabas testudineus</i>) and Tangra (<i>Mystus Sp.</i>) .....</b>	<b>149</b>
<b>7.5 Annexure – Guideline for small Scale feed mill establishment .....</b>	<b>151</b>
<b>7.6 Annexure- Artificial propagation, seed production and flow-through hatchery for Chocolate/Golden Mahseer .....</b>	<b>160</b>
<b>7.7 Annexure- CONSTRUCTION OF INTENSIVE FISH FARMING (RACEWAY FOR TROUT CULTURE) .....</b>	<b>161</b>
8.1 Annexure - Annual Work Plan, Budget and Procurement Plan .....	164
8.2 Annexure - Results Frame Work and Monitoring .....	165
9 Annexure – Human Resources.....	176
To be included soon.....	176
13.1 Annexure - ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP).....	177

## ANNEXURE 5.1 TOR FOR ENGAGING SUPPORT ORGANIZATION

### Concept note for engagement of Support Organization during Phase -II of the Project

Water Resources Investigation and Development Department of Government of West Bengal is implementing a project namely “West Bengal Accelerated Development of Minor Irrigation Project” with credit support from World Bank across the State, from 2012.

The Project objective is to enhance sustainable economic growth and reduction of poverty through improved reliability of water resources for irrigation and increased agricultural production including Agriculture, Horticulture and Fishery related development using new production related technologies as well as creating income generating opportunities to improve rural livelihoods within the project area. The key purpose of the project is to ensure irrigation water to small and marginal farmers in rain-fed areas and to organise them into a group based upon one or more MI schemes, for proper upkeep and maintenance of such minor irrigation structures along with Agriculture, Horticulture and Fishery related production practices development after handover. Besides, through focused institutional strengthening enable them for judicious and equitable uses of irrigated water for augmenting their income.

The ADMI Project (phase-I) is still continuing with State fund after closure of World Bank loan in the year 2019.

**Take away from Phase -I** indicate that community mobilization and focused effort to engage community for ensuring collective action from planning to implementation and post implementation and hand holding period have acted instrumental towards ensuring sustainability and replication of the intervention which needs to be carried out in scale during Phase-II. Instances have been created that if a “Water Users Association” be strengthened through assured irrigation water along with focused capacity building and handholding on Agriculture Support Services (ASS) and Institution that may act as “light house” to inspire other WUAs in the vicinity or far as well as may operate on its own without project support. And it is only possible while strategic focused community engagement is in place.

**Phase -I learning** shows that Support Organizations or Service Providers from NGOs in the process have played a pivotal role in mobilization of community, to unite farmers into a community-based institution i.e. Water Users Association (WUA) and to build their capacities. In the entire period, engagement of SO has gone through several restructuring process based on field requirements.

Initial engagement was honorarium based with fixed overhead and transportation cost to SO staff and it was observed that NGO personnel being deployed to project could not get actual honorarium or transportation as project has limited control over NGOs. It was seen that-

1. The most cases, field movement of the SO personnel were based on the movement of the vehicles under DPMU offices though transportation cost is paid to the SOs. As a result outputs from the SO personnel were limited and ultimately functioning of DPMUs/SPMU/WBADMIP were hampering to a large extent.

2. The honorarium paid as per contract with SOs are not benefiting the SO personnel as they were less paid by the SO and even it was also noticed that same ranked SO personnel were getting different remuneration.

It is also surfaced that fixed payment sometimes reduces productivity and outcomes until monitored closely. Later output-based model developed, where milestones / deliverables were set for payment and no fixed payment options for NGO personnel as honorarium or transportation. In due course, it is also found that the model is not best suitable. Unable to reach target is co-related to less payment to NGOs and non-achieving of target may happen due to multifarious reasons. Less target achievement in due time led to less payment to NGO staff resulting rapid change of project staff that further impact less achievement of set targets. During this period micro- watershed-based approach has been taken. It was felt that in case of potential schemes outside micro-watershed could not be taken into consideration and payment could not be released as entire contract with SO/ SP is on micro-watershed based.

To resolve the crisis a new model has been evolved in consultation with stakeholders that is to some extent a combination of output and honorarium mode. Here, four set of payments have been conceptualised as under- First one is various incentives against performance which has been divided among SO/ SP personnel and Organization in 60:40 ratio.

Second one is honorarium to SO/ SP personnel with a check that less performance may fetch less payment of honorarium and concerned Executive Engineer is sole authority to certify the deliverables against personnel, through a structured monitoring framework.

Third one, the Supervision cost for organization (SO) is fixed and based on honorarium at a certain (15%) percentage.

Fourth one is reimbursement cost which includes transportation, social security, etc. is based on the fixed rate or as per actual expenses. The concerned SO/ SP would claim to the Project after payment is done to their personnel.

Besides the above some controls have been placed in the contract that-

1. A clear provision is created in the contract that any less payment to personnel deployed by the SO/ SP to this project would be treated as performance indicators and may lead to closure of contract.
2. The requirement of skilled personnel and community workers would be up to the satisfaction of the DPMU. And provision created for change (new addition or replacement etc) of SO personnel as per field requirement based on the approval of the DPMU/SPMU.
3. It is also defined that no tolerance to any actions that conflicts with values, ethics of the project as well as the organization and for immediate report of such incidence to DPMU and SPMU for better transparency and ethical community engagement.

For monitoring and supervision of SO/ SP performance the signing of the contract is decentralised. The concerned Executive Engineer of the DPMU has been entrusted the power to sign the contract with SO/ SP on behalf of the Project Director. Besides some monitoring framework is developed also and shared with district. The key monitoring tools includes quantifiable indicators for each stage activities to measure the outputs. Besides, a quarterly self-assessment format has been designed and that would be rooted through concerned Executive Engineer. Alongside in the contract provision is created for monthly meeting with SO and time to time written communication with SO/ SP. Apart from that a separate format is used to assess quality of works of SO/ SP through concerned Executive Engineer. This findings and field observations of different experts and officials from SPMU is considered before renewal of the contract. **Sample TOR** for the contract agreement with SO is attached below as **Appendix-A** which may be improved time to time to cope with the emerging situation. While designing of the phase -II SO arrangement, taken into consideration the above noted issues, the following actions may be grounded:

**Scope of Work:** Scope of work in phase -II includes existing WUAs, newly formed WUAs and WUAs formed by the department. A Block wise assessment of WUAs is required combining all for next coming years.

As part of strategic withdrawal from well performing WUAs, cluster mode approach may be initiated. Each cluster would comprise of old, medium and newly formed WUAs within a radius of 4 to 5 kilometres.

Old well performing WUAs (primarily from Batch – I to VI) would take a lead role for nurturing of newly formed and medium level WUAs. For produce perspective, mostly these cluster would act as aggregator and collection centre. Some entrepreneur cluster in the beginning may be nurtured to upgrade as Farmer Producer Company (FPC) Which are supposed to take a lead role in aggregating produces of other WUAs and link them with market.

Figure: **Community Mobilization-At a glance.**

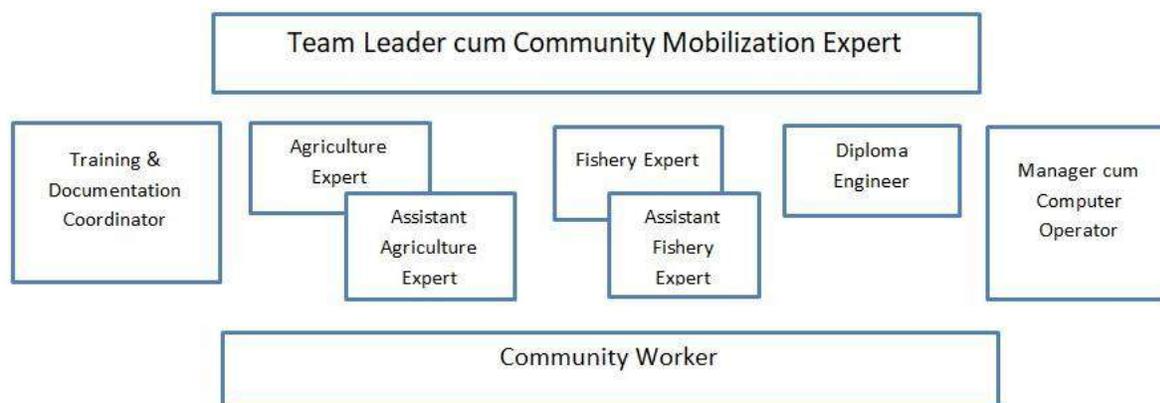


**Engagement of SO:** Engagement of SO from NGOs may be done through tendering (QCBS) and partially through handpick(SSS) mode. For handpicked, criteria like extra ordinary performance at the local field during last five years and which have a base in the working areas/ strong community acceptance are to be considered.

Support Organizations (NGOs) were engaged by the Project to facilitate community mobilization and institutional strengthening of the WUAs. Each SO team will engage staff with expertise in community mobilization, technical works(optional), agriculture& pisciculture etc (optional) and to be assigned for several or all blocks in a district. The team will be responsible for building capacities of the WUAs and facilitate their participation in all aspects of project implementation.

One SO team would cover on an average 10-12 Blocks in a district based on number of WUAs to be nurtured. The SO may constitute of the following personnel (key & non key):

**Fig. SO Staff pattern:**



A unit of SO shall comprise key personnel viz one Team Leader cum Mobilization Expert, one Training & Documentation Coordinator, one Agriculture Expert, one Assistant Agriculture Expert ( as per requirement), one Fishery Expert, One Assistant Fishery Expert ( as per requirement),one Junior Engineer ( as per requirement), The positions may be filled up as per the need of the field (where there is want of expert from the part of DPMU). One community worker can cover 8-10 Mouzas in the field. The Team Leader cum Mobilization Expert of the Unit will take the responsibilities for all types of deliverables by the SO. In case of absence of TL cum Mobilization Expert, the Training & Documentation Coordinator will be responsible for deliverables. He/ She will also report to the DPMU for all purposes related to the services for the Unit.

Special attention should be on the engagement of Community Workers. As Community Workers (CWs) are the basic building blocks of the project management system. They pass on all& every information of the sub projects including various decisions/directions from the SPMU/DPMU to the farmers. And they also pass the sub projects information and farmers conditions to the SO or DPMU/SPMU. It may be called that CWs are the eyes of the Project through which sub projects will be seen primarily. Hence engagement of CWs at the sub project sites is very important. The focus should be given on building capacities of CWs and enable them to take a lead role at the grass root level as instructed from higher authorities.

In this regard CW should be from local communities and reside nearby to the command areas of WUAs under his/her control and CW should not be the member(direct or indirect) of the WUAs under him/her.

**Details of Qualification and experience as well as key responsibilities of the SO personnel as envisioned in Phase-II:**

Expert/Personnel Position	Qualification and Experiences Requirement
1. Team Leader cum Community Mobilization Expert	<p>Qualification Master's degree in Sociology, Social work or equivalent</p> <p>Experiences 4 years work experience with proven track record of leading multidisciplinary team in Community Mobilization and Water related livelihood development Program/Projects.</p>
2. Assistant Community Mobilization Expert	<p>Qualification Master's degree in Sociology, Social work or equivalent</p> <p>Experiences 1 - 2 years work experience with proven track record of leading multidisciplinary team in Community Mobilization and Water related livelihood development Program/Projects.</p>
3. Training & Documentation Coordinator	<p>Qualification Master's degree in Sociology, Social work or equivalent or Graduate in any other discipline with 3 to 4 years of similar work experience may also be considered.</p> <p>Experiences 3- 4 years' experiences in training, capacity building at community level. Having strong writing skills and expertise in preparing case studies, PPT, IEC materials, human interest stories in English and other regional language.</p>
4. Agriculture Expert	<p>Qualification Bachelor/Master degree in Agriculture Science or equivalent /Natural Resources Management etc.</p> <p>Experiences 4 years' experience of working at community level in agriculture, horticulture, floriculture, etc. and other Water related livelihood development Programme/Project</p>
5. Assistant Agriculture Expert	<p>Qualification Bachelor/Master degree in Agriculture Science or equivalent / Natural Resources Management etc.</p> <p>Experiences 1-2 years' experience of working at community level in agriculture, horticulture, floriculture, etc. and other Water related livelihood development Programme/Project</p>
6. Fishery Expert	<p>Qualification Bachelor/Master degree in Fishery Science or Equivalent</p> <p>Experiences 4 years experiences of working in pisciculture at community level including FIG formation, etc.</p>
7. Assistant Fishery Expert	<p>Qualification Bachelor/Master degree in Fishery Science or Equivalent</p> <p>Experiences 1-2 years experiences of working in pisciculture at community level including FIG formation, etc.</p>
8. Diploma Engineer	<p>Qualification A Diploma holder in Agriculture/Civil/Mechanical/Electrical Engineering</p> <p>Experiences 1-2 years experience in minor irrigation structure development</p>

9. Manager cum Computer Operator	Qualification Graduate in any discipline with computer knowledge in MS Office, Excel, Power point, etc. Experiences 2-3 years works experience.
10. Office Managing Assistant	Qualification Graduate in any discipline with computer knowledge in MS Office, Excel, Power point, etc. Experiences 2-3 years works experience.
11. Community Worker	Qualification Higher Secondary / Madhyamik / ITI passed Experiences Minimum 1 year experience in Water related livelihood development Project/Programme at community level. Community Workers are Non Key Expert. Their CV will not be evaluated individually, but they must be local and their experience is non-negotiable.

**Regular Training:** Capacity building of the WUAs/Clusters is the key to ensuring sustainability of any interventions. Capacity building is required for WUAs/Clusters as well as for other stakeholders like SPMU, DPMU, SO/ SP personnel.

**SO personnel training:** As community workers are to play a pivotal role in the delivery mechanism, periodic training on all thematic aspects are required for CWs. Beside experts should be oriented periodically on respective thematic areas. The role of SO/ SP would be to undertake training need assessment and implement training in support with DPMU. The SO should be so strengthened that they will be able to execute the following activities taking support from DPMU-

**1. WUA Training and Exposure Visits** – WUAs may be broadly categorised in three – subsets. Old (>3 Years), medium(<3 Years) level, newly (<1 Year)formed WUAs.

Newly formed WUAs need to be trained on collective actions, management of institution, operation and maintenance of schemes, ASS activities, water budgeting, water charge collection, financial management, book keeping etc. Exposure to well performing lighthouse WUAs is very crucial for transfer of knowledge in addition to village level and cluster level training.

For medium level WUAs focus should be on convergence, water budgeting, leadership, communication, market linkages etc along with refresher training on basic issues like financial management, record keeping, cluster formation, etc.

For old WUAs training need is primarily on marketing, agri-business and on new technologies practices on ASS and on FPC formation, etc.

**2. Putting in place of a withdrawal strategy in the 2<sup>nd</sup> phase:** Putting in a place a withdrawal strategy from WUAs formed in Phase-I, so that with the existing manpower of the Project newly framed WUAs may be taken care of to the full extent. At the same time WUAs formed in the phase-I, should be encouraged to form clusters which also require nurturing as per guideline set by the Project in this regard. Similarly gradual withdrawal from old WUAs will be continuous process to optimise the output of existing manpower of the Project.

SOs to strictly follow a work plan according to the Administrative Calendar prescribed by the SPMU. SPMU is to prepare a work plan sector wise/ DPMU wise and also an administrative calendar for submission of proposal by the DPMU. DPMUs in its turn shall fix target for each SO and the SOs in turn have to submit the scheme/plan/proposals as far as micro watershed wise, within the time limit of administrative calendar prescribed by DPMUs. Assessment of performance, of each personnel of SO, as per division of work/responsibility in the preceding chapter, shall be done by the DPMU in each quarter and service contract shall be renewed based on that objective assessment.

**3. State / District / Block level farmers meet:** Any platform for farmers to farmers (peer to peer) learning always found to be very effective for cross learning and replication. Hence district may advise to organize WUA

meet at block / district level (considering no of WUA) at the end of each crop season if possible. Accordingly, SPMU may organize a minimum of once in a year State level WUA meet. SO would be responsible for organizing such events up to district level and extend all documenting works and follow ups.

**4. PRA J/ RRA :** PRA or RRA are very effective tools for mutual learning. In Phase -II focus would be on implementing PRA as part of community mobilization for each WUAs. If this map could be used periodically for crop coverage and geo connected then a totality of crop wise plan and changes may be captured through GIS system. it will be a key responsibility of SO to implement PRA at WUA level with documentation and compilation.

**5. Proactive disclosure:** Proactive disclosure is an integral part of ensuring transparency at all levels. A attempt may be made to facilitate WUA to have proactive disclosure on any support received from project / line department, financial issues, etc. Role of SO would be to facilitate WUAs for periodic proactive disclosure.

**6. WUA to WUA support through cluster approach:** Cluster as part of strategic withdrawal or agri-marketing may play an important role. Within the ambit of cluster well performing or light house WUAs may be strengthened as resource organization who would facilitate other WUAs to nurture and to aggregate produces. Within cluster entrepreneurship activities may be facilitated like fish feed making, production of vermin-compost, seedling raising, seed bank, etc.

Besides within clusters/WUAs lead farmers on various thematic issues may be mapped and thorough training may be imparted to them to build their capacities as trainer. Their services may be used for extension works also. Project may provide some honorarium for resource person for their service.

Assigned SO/ SP will be responsible to map potential clusters and produces of those clusters/WUAs that may be aggregated for marketing. With support from DPMU, SO would facilitate forming and strengthening of clusters. Required training would be provided by SO under the guidance of DPMU/SPMU experts.

**7. Convergence:** It is another important area for empowering the WUAs/Clusters. Focused training is required for initiatives and making convergence action plan for WUAs. Who to contact, Where to contact, follow ups, record keeping, etc.

**8. Last mile delivery & services:** In case undertaking various livelihood activities in respect of agro-horticulture, fishery or village based small/micro activities extension of basic knowledge/training in respect of basic practices is extremely essential. For this purpose help of designated extension workers may be required by the project. It is extremely essential to support these extension works on the part of the Project.

**9. Plan** preparation to execution and follow up actions to be done by SO primarily.

#### **SOP for supportive supervision and monitoring by SO for WUA Development:**

In WBADMI Project, Phase -II, envision that, the WUAs would be the “center” for development. That defines; WUAs during this phase will act as enabler, facilitator, and catalyst to bring about changes in the life and livelihood of the WUA members through collective action. In phase -II, withdrawal from old well performing WUAs would take place in a systematic way so that they can be mainstreamed through clustering-based approach for having improved market control and visibility. Meaningful engagement of women WUA members is considered as other key areas for intervention in phase -II. Besides, a shift from chemical to organic for cultivation, water management, crop diversification, adoption of good agricultural practices, etc. are given priority for agriculture and horticulture and pisciculture. Introduction of Animal Husbandry, Beekeeping, Silk (Tasar) production activities etc may be beneficial for livelihood generation.

The key role of SO is to promote ethical community engagement for sustainability, adoption, and replication of the good practices through building capacities of targeted communities. Key actions which are required to achieve the goal **have already been defined in details in respective TOR of contract with SO.** Training modules on Institutional as well as ASS aspects have already been developed and based on training need assessment & future modules may be prepared. For performance mapping of WUAs grading tools have already been developed which may be revised time to time as per requirement.

Indeed, several visits from SPMU along with DPMU reveals that instead of having clear directives, training modules and human resources in place, a sizable number of WUAs, under any SO/ SPs are unable to harness their potential in full, resulting farmers have less income or less participation as observed.

Support Organization, DPMU and SPMU have important stake for deepening and grounding the above noted actions. In this regard, a SOP for supportive supervision and monitoring may act as guidance for better implementation of the proposed intervention during Phase- II.

The following procedures may be followed:

• **Community worker (CW) is the primary link agent between project and community. Thematic wise periodic training of CWs, are required.**

- Team Leader (TL) of the SO would be responsible for building capacities of the CWs as per project perspective.
- TL of the SO/ SP liaison with IDS of DPMU and IDC of SPMU for preparing training calendar, modules, etc. based on TNA of CWs.
- Training Coordinator of SO/ SP under the leadership of TL and in consultation with DPMU / SPMU will prepare training modules for CWs using digital and physical platform.
- TL will submit a quarterly or half yearly report duly signed by the SO/ SP policy heads to DPMU mentioning CW wise number of days training on thematic held and change in outputs from basic status.
- IDS of DPMU would also report to IDC of SPMU monthly basis regarding successful completion of Training schedules.

**Inclusion of CWs perception for the development of the WUA**

- Use of CWs perception for setting the target. CWs should be instructed to submit a WUA wise and year wise probable implementation list for development including institution and ASS etc. That plan could be fine-tuned through grading, PRA and expert consultations.
- On an average, a CW will manage 10 WUAs. So, within one month a CW could be able to prepare the expectation lists in consultations with community. This will help the CWs to prepare the WUA wise plan. TL of SO will be responsible for compilation and reporting.
- WUA wise micro development plan needs to be prepared with a specific timeline and targets. This should be based on project goal.
- After finalization of the WUA wise development plan, a copy will be kept by the CWs and during any level of monitoring it would act as reference.

**Monitoring of CWs field movement**

- Each CW should have a monthly (day wise) movement plan (to be recorded in the register book not in loose sheets) with specific activities and expected outputs as per yearly development plan (must be approved by the TL before commencement of the month) along with a column stating status of achievement (to be filled in the end of the month). Both in signed hard and in soft copy. It would be shared to DPMU (only soft copy) as well. Monthly plan of the CW should be prepared taking into consideration of the WUA development plan.
- Weekly/monthly meet with CW by the TL including other SO/ SP team members to review target and achievement (preferably in Saturdays through physical or virtual platform).
- Daily review of performance of CWs by TL in the evening (based on the plan & target) and field movement should be done through social media group.
- Each community worker should keep a field visit diary with them and comments should be passed by SO experts during visit.

**Major functioning of the CW**

- Visit WUA regularly as per development plan and building a rapport. Holding interface, meeting with WUA members for execution of plan and follow ups. Help support in conflict management.
- Assist Team leader and Engineer from SO in respect of selection of new schemes etc. Doing follow ups and collection of base line information for preparation of DPR / SDMP as required.
- Ensure WUA members participation for execution of planned (ASS & other)activities as suggested by the experts and follow ups.
- Keep farmer wise information of each WUA as far as possible.
- Enable WUA members to up -keep and update records as per project guidelines.
- Other activities as assigned by the authorities as and when required.

**Recognition of well performing CWs**

- Assessment of the performance of CWs through field observation, capacities of empowering communities, leadership quality and timely task fulfillment is to be recorded monthly.

- Good performance of CWs can be recognized during monthly meeting. Once in a year, the best performer of the year from each SO/ SPs can be incentivized by kind (not exceeding amounting Rs. 2000/-) from DPMU.

#### **Major Supportive supervision & monitoring by ASS experts**

- The SO who have Marketing/Agriculture/ Fishery expert in team and who are supposed to extend support to all WUAs, nurtured by that SO.
- Expert should help fine tune the WUA wise development plan and each in plan there must have separate section of activities as applicable. TL of the SO SO should act as link between experts and CW for fine tuning the plan.
- Respective expert should keep a summary sheet of micro development pan (WUA wise) for reference during any visits.
- Expert will prepare his / her monthly (day wise) visit plan (to be recorded in the register book not in loose sheets) in accordance with the WUA development plan with specific activities to be performed and expected outcomes (must be approved by the TL before commencement of the month) along with a column stating status of achievement (to be filled in the end of the month). Both in signed hard and in soft copy. It would be shared to DPMU (only soft copy) as well.
- Respective expert should keep a year wise WUA wise and farmer wise input support details, name of farmers adopted the practices. WUA wise training need assessment would be done and recorded by the respective expert. Expert should keep track of WUA wise training held and outcomes.
- Each expert should keep a field diary and expected to have preparedness before, during and after visits of any WUA.
- Respective expert will undertake follow ups in weekly/monthly meeting with CWS and update TL for necessary Support.
- WUA level sectoral achievement or failure will be taken into consideration while evaluating the performance of respective sectoral experts of SO.

#### **Major Supportive supervision & monitoring by Engineer of the SO**

- Primary responsibility of the engineer engaged by the SO is to identify the new schemes, taking into consideration, all parameters as applicable.
- Engineer should support in GIS based checking, command area design, help DPMU in preparation of the DPR.
- Extend support to community to understand the MI scheme related information, committed deliverables, and help in taking handover.
- Periodic visit and update DPMU on any technical issues that need attention during execution of MI schemes through proper channel.
- Keep GIS based record of MI schemes and other ASS interventions as required.
- Impart training to all WUAs on operation and maintenance of the MI schemes. Help WUA and team to calculate availability of water in surface-based scheme primarily CD, WDS, Hapa, etc. in community understandable language.
- Help other team members to orient on GIS platform as far as possible.
- Expert will prepare his / her monthly (day wise) visit plan (to be recorded in the register book not in loose sheets) in accordance with the WUA development plan with specific activities to be performed (must be approved by the TL before commencement of the month) along with a column stating status of achievement (to be filled in the end of the month). Both in signed hard and in soft copy. It would be shared to DPMU (only soft copy) as well.

#### **Major Supportive supervision & monitoring by Training Coordinator of the SO**

- It is observed that most of the training coordinators potential have not been utilized in full. TL should focus on using specific skill set of training coordinator for WUA development.
- Training Coordinator is primarily responsible for imparting training to WUAs, prepare different training modules, leaflets, literature, audio – visual clips, etc. and got it approved by DPMU and SPMU if required.
- Training Coordinator in consultation with team and WUAs will prepare training plan, taking into consideration WUA level development plan. Hence, each WUA would have a training plan on Institution and ASS.
- Training coordinator in consultation with TL, IDS and respective team will prepare his / her monthly(day wise) visit plan(to be recorded in the register book not in loose sheets) in accordance with the WUA development plan with specific activities to be performed (must be approved by the TL before commencement

of the month) along with a column stating status of achievement (to be filled in the end of the month). Both in signed hard and in soft copy. It would be shared to DPMU (only soft copy) as well

- Besides visit plan a plan to be submitted by training coordinator stating month wise type of training material to be developed.

#### **Supportive supervision and monitoring by Team Leader of SO**

- Team leader is key link between DPMU and SO/ SP. And responsible for coordination and performance of SO.
- TL would monitor and supervise function of team and update DPMU / SPMU in case of any support required for smooth implementation of the activities.
- TL will impart training or organize training for his / her team periodically for better outputs.
- TL would facilitate exercises related to identification of new schemes under the guidance of DPMU.
- Team leader will coordinate for maintaining MIS database for SO that will include each WUA wise all details including name of the farmer. That MIS will include WUA wise support provided from Project including name of the farmer , type of support provided, training, corpus , grading etc.
- TL would coordinate grounding PRA, grading, WUA wise development plan, training on Institutional and ASS aspects.
- TL would coordinate in preparing monthly reports, execution of works, WUA strengthening related all type of activities jointly with team under the control of DPMU.
- TL will update DPMU, SPMU and SO policy heads on any issues that needs immediate attention that includes from scheme selection to execution to post implementation supports.

#### **DPMU level supportive supervision & monitoring:**

District Project Management Unit (DPMU) of WBADMIP is primarily headed by the Executive Engineer (EE). Under the EE there are officials and professionals. DPMU plays a pivotal role in supportive supervision, monitoring & the functioning of the SO as well as functioning of the WUAs.

- District wise planning for 6 years road map (with numeric targets) followed by SPMU level visioning.
- Yearly road map on Selection of new schemes, formation of new WUAs, cluster formation, withdrawal from WUAs, institutional strengthening, agriculture extension work, fishery, horticulture and other livelihood program, convergence, training, etc. to achieve 6 years plan.
- Distribution of “road map target” to SO (if district has more than one SO/ SP) based on their capacities and opportunities. SO will plan accordingly.
- Monthly meeting with SO
  - To review -inclusion of “year wise road map target” in WUA wise development plan.
  - Review WUA wise & month wise achievement.
  - Accordingly, fixing next month’s target for SO.
  - Both end communication (DPMU & SO) in this regard should be in writing.
- Annual review meeting with SO
  - Review target-based achievement and fixing next year Plan (with numeric target) based on project requirements.
  - SPMU may connect physically or virtually. Annual plan should be shared to SPMU.
- Based on “road map target” fixing annual training calendar for WUAs as well as for SO and DPMU team.
  - Training calendar for WUA should include month, tentative date, name of WUA / WUAs, type of training, venue, expected outputs, etc.
  - Training calendar of WUA / SO /DPMU needs to be posted in SPMU website.
  - Same way DPMU in consultation with SO and SPMU prepare training calendar for SO & DPMU.
- IDS and other experts should have a weekly (day wise) plan (to be recorded in the register book not in loose sheets) to visit WUAs, proposed MI scheme sites, Cluster of WUA meet, review ASS extension works, Plantation related activities etc. taking approval from EE of DPMU concerned.
- Plan for joint visits as far as possible,
  - Any person (officials / expert from DPMU) visits any WUAs should cover to review all aspects (as far as possible) including works, institution, and ASS activities.

- Visit observation needs to be recorded and shared to SO – (weekly / monthly as found suitable).
- DPMU may hold a weekly/ 15days interval meet within team and discuss on visit findings collectively and shared the brief compiled feedback with possible corrective actions to SO in writing.
- While DPMU make a visit to any WUA or WUA cluster should check the
  - WUA wise development plan and achievement.
  - Check availability of records, quality of record keeping, etc.

**Reviewing ASS extension services must be recorded properly with outcomes(inputs given and output received on individual and collective basis for cost benefit calculation purposes).**

- DPMU in all their visits should focus upon maintaining of information at WUA level including works, institution, ASS, etc. with a vision that any report generated on any thematic by the DPMU should have a reference point at WUA end.
- Besides, strict administration of reporting formats of SO further boost WUA level functioning. SO reporting format includes
  - a) activity wise reporting (monthly),
  - b) SDMP preparation related reporting,
  - c) Quarterly reporting (3 months interval)

**Monitoring Mechanism from DPMU:**

- Concerned Executive Engineer of the DPMU has the authority to sign the contract with SO/ SP on behalf of the Project Director and the EE is empowered to monitor and evaluate periodical/ monthly works of the SO's personnel engaged under the contract. In the contract such provisions should also be incorporated so that the concerned Executive Engineer can control the followings-
  - a. Based on the assessment of performance of the individual personnel of SO Executive Engineer may initiate action as per set Project guidance in this regard.
  - b. Project shall formulate specific guidance in respect of assessment of performance of SO personnel in general and set specific guidance in respect of follow up action based on assessment of performance. This is extremely important.
  - c. Project shall set guideline in respect payment of remuneration to its staff, and if there is deviation/aberration from that set guideline it may direct DPMU to initiate action.
  - d. Easy travelling facilities of SO's staff at the field and tracking.
  - e. Mobile based app to monitor the field visit of the SO staff.
  - f. Day's working through on site picture uploading in social media groups.
- Administration of monitoring tools includes quantifiable indicators for each stage of activities to measure the outputs.
- Quarterly self-performance assessment format for SO must be submitted to the Executive Engineer of DPMU. And that self-performance assessment has to be submitted to SPMU by the concerned Executive Engineer with comments and necessary action to be taken for betterment which must be kept confidential.
- Provision for monthly meeting at DPMU with SO and report to SPMU through structured format.
- Time to time visit to WUAs by the experts from DPMU and report of the same to be submitted to the Authorities. The reported hard copies to be preserved properly (sequentially) so that any time that can be accessed.
- Monitoring Committee at SPMU level to monitor performances of the SO and functioning of DPMU at least 4 times in a year.
- Provision of yearly assessment through third party.

**Monitoring & Review Mechanism from SPMU:**

State Project Management Unit is the authority for implementation of the project and keeps monitoring and supervises the programs in different ways. There is a central MIS system to record and analyze all activities and that includes Scheme, Institution and ASS. Besides, GIS platform as developed by the SPMU is considered as other important tools for periodic monitoring of progress and impact. In addition to that time to time SPMU officials and professional undertook district visits that also provide an insight about the quality of the intervention.

SPMU visits may be categorized broadly in two perspectives. One is for training purpose and another is for visiting fields – interacting with farmers, review project interventions including scheme, institution, and ASS. Indeed, for the 2<sup>nd</sup> purpose visits, a team generally spends one to two hours in maximum at a WUA considering distance, number of WUAs to be covered in a single day, etc. Hence, observation indicators for field visits may be finalized taking into consideration above noted factors that includes

#### **Selection of WUAs for visits**

- Should be random in nature mostly.
- Partly as per DPMU where have issues.
- Record -reasons for not visiting any WUAs selected randomly.

#### **Scheme related issues to be observed**

- Quality of construction.
- In case of existing WDS, CD, etc. – average depth, water availability months, inlet & outlet position, embankment condition, display board, etc.
- In case of proposed sites – people awareness, scheme location, records, etc.

#### **Institution related issues to be observed**

- Farmers experience and feedback on changes (pre-post) – listening from farmers.
- WUA development plan, PRA maps, Grading & registers including pass book
- Corpus – including cash in hand, bank, and FD, Water charges, membership fees, corpus increase mechanism, other benefit sharing mechanism.
- Cluster progress including SHG.
- Non tangible indicators (simple observation) – visioning, cohesiveness, group feelings, collective attitude, participation, and knowledge about WUA function, etc.

#### **ASS related issues to be observed including agriculture, horticulture & fishery**

- Visit crop sites and interaction with farmers on benefit and challenges – record findings.
- Record checking related to input received – stock book, distribution register, etc.
- Intervention based observation – no of farmers benefitted, adoption, plans for future, replication outside WUA if any, etc.
- Farmer level knowledge on intervention cost-benefits, business model

#### **Capacity building related issues to be observed**

- Type of training held and number of farmers trained.
- Wall writing, pro-active disclosure in place.
- Training need assessment – interaction with farmers
- Farmer level expectations from project
- Listening from farmers and record for future follow ups.
- Convergence scope – record for future follow ups.

**Risk Management:** The following points may be taken into consideration during evaluation of performances of SO for smooth running of the sub projects-

1. Instead of depending on the written reports the field verification of all types of graded (A+,A,B,C & D) WUAs is required from the part of the DPMU and SPMU separately before taking any action on a issue.

2. It is seen that being working on the common goal the relation between staff of DPMU and SO sometimes becomes so close that the DPMU does not report the actual picture on performances of SO.

It was also seen that after scheme execution, handholding and post implementation management were not looked after properly from the part of SO and a little part from the DPMU.

3. Sometimes it is seen that DPMU and SO does not follow the instruction and use prescribed formats for meetings etc. Hence, surprise visit from SPMU is needed for better understanding of the performances of SO as well as DPMU. It would be better to visit the WUAs in each (pre-Kharif, Kharif, Rabi & Boro) seasons with the list of inputs provided to the farmers in hand from SPMU.

4. A dedicated team for regular and random visit and reporting for all the Schemes, WUAs and performances of SO or DPMU, may be provided at the SPMU level for smooth functioning of Schemes and proper control over the system.

### 5.1.1 Appendix A – Terms of Reference for Priority District (Bankura TOR attached as sample)

#### Terms of Reference (TOR)

Terms of Reference(TOR) for Consultancy Services from Support Organization (SO) for Minor Irrigation Scheme Identification to Water User Association (WUA)/Cluster of WUA formation & strengthening, post-handover handholding& nurturing, promoting collectivization actions, etc. comprising WUAs formed during WBADMIP-Phase-I, state fund and WUAs to be formed during WBADMIP- Phase-II),in Bankura District under District Project Management Unit (DPMU)-Bankura of West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP)-Phase2 as per table given below:

District	SUB GROUP	NUMBER OF BLOCK	NAME OF THE SERVICES	DURATION OF SERVICES
BANKURA	1. BANKURA- 1	6	Consulting Services As Support Organization (SO) In Mejia, Saltora, Gangajalghati,Barjora, Chhatna, Sonamukhi blocks of Bankura district	1 Year
	2.BANKURA- 2	4	Consulting Services As Support Organization (SO) In Hirbundh, Indpur, Bankura – II, Bankura-I blocks of Bankura district	1 Year
	3.BANKURA- 3	3	Consulting Services As Support Organization (SO) In Raipur. Ranibundh, Khatra blocks of Bankura district	1 Year
	4.BANKURA- 4	6	Consulting Services As Support Organization (SO) In Onda, Sarenga Simlapal , Taldangra, Joypur , Kotolpur blocks of Bankura district	1 Year

#### 1. Context and Project Background.

Water Resources Investigation and Development Department of Government of West Bengal is implementing a project namely “West Bengal Accelerated Development of Minor Irrigation Project” with credit support from World Bank. The Project objective is to enhance sustainable economic growth and reduction of poverty through improved reliability of water resources for irrigation and increased agriculture and allied sector production using new production related technologies as well as creating income generating opportunities to improve rural livelihoods within the project area. The key purpose of the project is to ensure irrigation water to small and marginal farmers in rain-fed areas and to organize them into a group based upon one or more MI schemes, for proper upkeep and maintenance of such minor irrigation structures along with Agriculture, Horticulture and Fishery related production practices development after handover. Besides, through focused institutional strengthening enable them for judicious and equitable uses of irrigated water for augmenting their income.

The Project Development Objective (PDO) is to augment water availability, and enhance income of small and marginal farmers in project areas of West Bengal through Accelerated Development of Minor Irrigation Schemes by strengthening Water User Associations(WUA) for improved irrigated Agriculture & allied activities. The key performance indicators are:

- (i) Water harnessed through new irrigation schemes (Cubic Meters [CM] per year)
- (ii) Beneficiaries provided with improved irrigated agriculture and allied services (number)
  - a. Of whom are small and marginal farmers (percentage)
  - b. Of whom are farmers belonging to tribal communities (percentage)

- c. Of whom are female farmers (percentage)
- (iii) Well performing WUAs operating and maintaining irrigation schemes successfully (percentage)
- (iv) Value-weighted index for agricultural outputs (fixed base price) (percentage)

Project has four Components, namely, A. Strengthening Community Based Institution, B, Irrigation System Development, C. Agricultural Support Services, and D. Project Management and Institutional Development

## **2. Component A: Strengthening Community Based Institutions:**

During phase I (2012-19) with World Bank support and also afterwards with GoWB support, Water User Associations (WUAs) were established and strengthened which took over, managed, and maintained the minor irrigation services created under the project. In 2021, National Water Mission, Government of India (2022 awarded all three prizes i.e. first, second and third to the WUAs formed and strengthened by WBADMIP for their exemplary work in handling irrigation infrastructure and developing system of water distribution.

Till date so far 4751 Minor Irrigation(MI) sub projects (out of 5018) of different types of MI schemes with command area varying from 5 to 50 Ha have already been constructed and handed over to the WUAs totalling 2875 number, to irrigate a total command area of about 51882 ha, covering 22 districts of the state.

The Phase-II will have a component on strengthening community-based institutions to support the new irrigation services to be set up as well as strengthening, networking and clustering the already formed WUAs. For that purposes, under components A, the Project needs to hire the services from Support Organization(SO) as “Consultancy Services” for mobilizing the targeted community effectively to attain the Project Development Objectives. These consultancy service providers may be named as Support Organization.

## **3. Objectives of the engaging Support Organization(SO):**

- 3.1 Strategic uses of skill and expertise of the SOs (grass root presence, capacity for mobilizing community and strengthening the institution, technical expertise, etc.) for building capacities of the Water User Associations to become self-sustained, vibrant, inclusive and light house through participatory irrigation management with various collectivization initiatives and innovation.
- 3.2 Mobilising farmers of Water User Association (WUA) /Cluster of Water User Association (CWUA) for improved irrigated Agriculture & allied activities. Also helping farmers for direct access to local market for produces or agri-inputs.
- 3.3 Enabling the Water User Associations to act as a change agent for promotion and facilitate adoption of scientific technologies and practices on agriculture and allied sector among farmers in scale and therefore augment their income through collective actions.

### **1. Tasks and responsibilities & key Deliverables of the Support Organization(SO):**

#### **Pre-Planning Stage-**

- **FeasibleMI Scheme Identification:**
- Orientation and clarity among SO staff on WBADMI-Phase- II Project.
- Identification of agro climatic zone suitable potential and feasible Minor Irrigation Schemes within Micro watershed or separately abide by all relevant project guidelines, environment and social safeguard mechanism, Base line Survey and data collection.

#### **Planning Stage-**

- **Support during Scheme Feasibility:** Provide support during conducting feasibility study by the DPMU. Collection of all requisite documents, map, etc. with accurate latitude and longitude.
- **Information collection & planning:** Creating awareness, mapping of entry point activities (EPA), if any, Rapid Rural Appraisal (RRA) & Participatory Rural Appraisal (PRA) & collection of requisite data for preparation of DPR and for other project purposes as per approved project guidelines.

#### **Implementation Stage-**

- **Forming and Strengthening of Water User Association (WUA):** After approval forming WUA, WUA committee and subcommittee, etc. Mobilizing WUA to participate and support during construction process of the Minor Irrigation Schemes and for taking handover of the MI schemes after completion. Orient WUA on land & water related issues, making plans and building capacity of WUAs for sustainable operation, maintenance and management of MI Schemes. Help WUA to get registered with Bank Account before hand over of the MI Schemes. Provide focused support to build capacities of WUAs in all targeted aspects including Institution and agriculture support services.
- **Capacity Building of WUAs:** strengthening of Water Users Associations (WUA) through visioning, exposure visits, training and handholding, FFS, FFD, etc. on institutional strengthening and agriculture support services. SO will prepare WUA wise annual training and capacity building plan for execution after approval. Primary focus areas:
  - WUA ecosystem- Collectivization benefits, Societies Registration Act and bye laws, role& responsibilities, WUA governance and functioning, WUA fees and water charges, financial management, audit, renewal and record keeping, corpus generation, conflict management, building capacities of office bearer, etc.
  - O&M of MI Schemes - Operation and maintenance of the MI schemes, water lifting arrangement, solar system, micro irrigation system management (like sprinkler, drip), etc.
  - Water management- PIM, water budgeting & distribution, water management, water charge fixing, etc.
  - Agriculture and allied activities- Crop planning; Good agriculture technologies and practices related to agriculture, horticulture and fishery, INM, IPM, Bio based intervention, Orchard management, etc.
  - Community Resource Person- Identification and building capacities of CRP on different aspect following project guidelines.
  - Training need analysis and deepening need based training – Identification of challenges and gaps through stakeholder consultation. Prepare stakeholder focused training modules, etc. jointly with DPMU / SPMU and grounding such capacity building exercises.
  - **Design and development of IEC** – using skill and expertise design and development of Interactive IEC tools and materials and grounding after obtaining approval from competent authorities.

### **Post Implementation Stage**

- **Monitoring and Supportive Supervision:** Post-handover monitoring of WUA performance, and provide necessary support based on gap. Organize refresher training and handholding. key areas could be
  - **Functioning and water management** - Functioning of MI schemes, WUAs as well as equitable and judicious uses of water, scheme operation and maintenance, etc.
  - **Adoption of technology and practices-** Adoption of Good Agriculture technologies & Practices and benefit tracking, Cost benefit analysis, adoption of farm machinery, bio based intervention, etc.
  - **Crop Diversification and new crop-** understanding agro climatic and climate resilient scope for crop diversification, support and facilitate adoption.
  - **Plantation with intercropping** – understanding areas for improvement, coverage, training and support.
  - **Gender focused intervention** -Gender inclusion, support women centric economic activities, scope and achievement. Linkage with the SHGs within WUAs, facilitate women leadership and meaningful participation in WUA functioning, etc.
  - **Grading** - WUA level self-assessment and strengthening based on grading findings.
  - **Convergence initiatives** – Scope and activities to support convergence actions, explore scope

- **Community Resource Person-** effectiveness, capacities and areas for improvement
- **Formation of Cluster of WUA (CWUA) and collective actions to enhance income of member farmers:** Well performing WUAs to be facilitated to get federated into cluster with other WUAs located in the workable distance. Key intervention action would be
  - **Mapping of Cluster of WUAs** – mapping of potential cluster of WUAs and in consultation with agreed WUA, formation of Cluster of WUAs.
  - **Nurturing and Strengthening** – facilitate to build capacities for taking up collective actions at WUA as well as at Cluster level, like joint purchase of seed, training, etc. Need based planning and execution. Follow up and support.
  - **Linking with line department** – facilitate convergence actions
  - **FPO / FPG – SO** together with DPMU / SPMU periodically follow up and support cluster of WUAs for their potential progression to FPO.
- **Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization** – SO may require to provide some support to other non ADMIP WUAs within their working jurisdiction taking into consideration of cluster of WUAs perspective. Provided such action is required and approved on behalf of the project.
- **Record & MIS:** SO have to maintain a MIS projecting all scheme and WUA related updated information including beneficiary details, case studies, impact and performance tracking. Type of support provided to the farmers, benefit tracking, etc. and other information as required by the project time to time.
- **Monitoring and capacity building of SO staff** – Policy functionaries of support organization in consultation with DPMU, on their own will orient, trained their staffs for better outcomes. Orientation / training require to be done online / off line once in a quarter, subject to the situation and requirement. SO will monitor the performance of their staff also periodically.
- **WUA to WUA support** – Facilitate light house WUAs to train and build capacities of other WUAs through structured approach following project guidelines using their CRP and exposure visits.
- **Other unforeseen activities pertaining to the Project Objectives:** During the process there remain some unforeseen activities that may require to be performed for the benefit of the WUAs. Project in course of time will define such tasks and if required build capacities of SO team for execution of such actions.

**2. Schedule of Works of the Support Organization(SO):**

• **Schedule of Works**

Sl No	Key Activities and Associated Deliverables	Deliverables unit in number per month for each sub group				Remarks
		BANKURA-1	BANKURA -2	BANKURA -3	BANKURA -4	
Pre-Planning Stage						<ul style="list-style-type: none"> <li>• MI schemes - Check Dam, WDS, Hapa cluster, Canal, PDW cluster, SFMIS, LI Scheme, TW, Jhora(Spring) &amp;Khola, rejuvenation, etc.</li> <li>• Unit numbers are tentative.</li> </ul>
1	Feasible MI Scheme Identification (Nos)	36	24	15	12	
Planning Stage						
2	Support in MI Scheme Feasibility (Nos)	36	24	15	12	
3	Information collection & planning for MI Scheme(Nos)	36	24	15	12	
Implementation Stage						
4	Forming and Strengthening of Water User Association (WUA):	24	16	10	8	
5	Capacity Building of WUAs	180	120	75	60	
Post-Implementation Stage						
6	Monitoring and Supportive Supervision of WUAs	180	120	75	60	

7	Formation of cluster of WUAs and collective actions for better income	12	8	5	4	Actual number may vary very considering the field situation & final planning and approval.
8	Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization	12	8	5	4	
9	Record & MIS for all activities.	100%	100%	100%	100%	
10	Monitoring and capacity building of all SO staff	100%	100%	100%	100%	
11	WUA to WUA support	24	16	10	8	
12	Other unforeseen activities pertaining to the Project Objectives ( if any)	As applicable	As applicable	As applicable	As applicable	

• **Broad Monthly Target (Tentative)**

Targets shall be finalized at DPMU Level time to time, and shall be binding on Support Organization (SO). Other areas of requirement to be added by the DPMUs as per field situation. Achievement shall be measured with respect to targets mentioned through clauses 5.2.1 to 5.2.8.

• **Minor Irrigation(MI) schemes: -**

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Tentative Monthly Target	Achievement						
A	B	C	D	E	F	G	H	I	J
1	No of potential MI Schemes submitted to DPMU <b>with all requisite documents</b>	36		24		15		12	
2	Total estimated command area of submitted schemes in Ha	As applicable		As applicable		As applicable		As applicable	
3	Feasibility checking done (by DPMU) to no of schemes against 1.1.	36		24		15		12	
4	No of schemes selected by DPMU after feasibility checking	As found by DPMU							
5	No of MI schemes DPR related all requisite information collected and submitted to DPMU	All feasible schemes							

• **Water User Association(WUA): -**

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Tentative Monthly Target	Achievement						
A	B	C	D	E	F	G	H	I	J
1	No of new WUAs formed	24		16		10		8	
2	No of total actual members (male & Female)	As applicable		As applicable		As applicable		As applicable	

3	No of WUAs applied for registered under Societies Registration Act 1961	24		16		10		8	
4	No of eligible WUAs renewal of registration done	As applicable		As applicable		As applicable		As applicable	
5	No of WUA opened Bank Account	24		16		10		8	
6	No of WUA having up -to date Audit report	As applicable		As applicable		As applicable		As applicable	
7	No of monthly meeting held during the month with quorum and resolution written	180		120		75		60	
8	No of Annual General Meeting held								
9	No of WUAs Graded A or A+	As applicable		As applicable		As applicable		As applicable	
10	No of WUAs Graded B	As applicable		As applicable		As applicable		As applicable	
11	No of WUAs Graded C or D	As applicable		As applicable		As applicable		As applicable	

• Corpus fund: -

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Tentative monthly target	Achievement						
A	B	C	D	E	F	G	H	I	J
1	Total WUA corpus in Rs.( cash in hand + cash in Bank)	As applicable		As applicable		As applicable		As applicable	
2	Out of Total corpus amount in Rs, collected as water charges	100 % WUA as target							
3	Out of Total corpus amount in Rs, collected from member ship fees	100 % WUA as target							
4	Amount in Rs. Mobilized from other activities like fishery, agriculture, horticulture, farm equipment charges, plantation, etc.	As applicable		As applicable		As applicable		As applicable	

• Training and Capacity Building: -

Sl No	Component	BANKURA-1	BANKURA-2	BANKURA-3	BANKURA-4
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		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
A	B	C	D	E	F	G	H	I	J
1	No of farmers taken to exposure	As finalized by DPMU							
2	No of farmers Trained on WUA development	As finalized by DPMU							
3	No of farmers Trained on Agriculture	As finalized by DPMU							
4	No of farmers Trained on Horticulture	As finalized by DPMU							
5	No of farmers Trained on Fishery	As finalized by DPMU							
6	No of farmers Trained on Other (Specify)	As finalized by DPMU							
7	No of IEC material developed	As finalized by DPMU							
8	No of Resource Person from lead farmer identifies and trained	As finalized by DPMU							
9	No of training held including institution and ASS through Resource Person (selected from lead farmer)	As finalized by DPMU							

• Mobile Based Advisory Services: -

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
A	B	C	D	E	F	G	H	I	J
1	No of farmers enrolled under Krishikatha	120		80		50		40	
2	Percentage of farmers seeking advice through Krishikatha	30 % minimum							

• Agriculture Support Services(ASS): -

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
A	B	C	D	E	F	G	H	I	J
1	<b>Agriculture</b>								

1.1	Area in Ha taken for demonstration	As finalized by DPMU							
1.2	Area in Ha taken for crop diversification	As finalized by DPMU							
1.3	Area in Ha taken for promotion of new crop	As finalized by DPMU							
1.4	Area in Ha taken for promotion of new technology, climate resilient agricultural technology & package of practice	As finalized by DPMU							
1.5	Area in Ha targeted for adaptation	As finalized by DPMU							
1.6	Promotion of bio-inputs in quantity	As finalized by DPMU							
2	<b>Horticulture / Floriculture</b>	As finalized by DPMU							
2.1	Area in Ha taken for demonstration	As finalized by DPMU							
2.2	Area in Ha taken for crop diversification	As finalized by DPMU							
2.3	Area in Ha taken for promotion of new crop	As finalized by DPMU							
2.4	Area in Ha taken for promotion of new technology, protected cultivation , climate resilient agricultural technology & package of practice	As finalized by DPMU							
2.5	Area in Ha targeted for adaptation	As finalized by DPMU							
2.6	Promotion of bio-inputs in quantity	As finalized by DPMU							
3	<b>Fishery</b>	As finalized by DPMU							
3.1	Area in Ha taken for fishery Demonstration	As finalized by DPMU							
3.2	Area in Ha taken for fishery mass production	As finalized by DPMU							
3.3	Area in Ha taken for promotion of new crop, technology , practices	As finalized by DPMU							

4	<b>Orchard with intercropping</b>	As finalized by DPMU							
4.1	Area in Ha taken under orchard plantation	As finalized by DPMU							
4.2	Area in Ha taken under intercropping within orchard plantation areas	As finalized by DPMU							

- Convergence Initiatives.

**Sub Group as BANKURA -1/ BANKURA -2/ BANKURA -3/ BANKURA -4**

Name of the Department	Name of the Scheme/ Programme	Type of benefits received	No of Famers benefitted ( male & female)	Approximate amount of benefits mobilized

- WUA Entrepreneurship activities using project fund, WUA corpus, convergence, etc. against different sub groups.

Sl No	Component	BANKURA-1		BANKURA-2		BANKURA-3		BANKURA-4	
		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
A	B	C	D	E	F	G	H	I	J
1	Production of seed	As finalized by DPMU							
2	Low cost nursery	As finalized by DPMU							
3	Vermicompost pit	As finalized by DPMU							
4	Farm mechanization i.e. power tiller, etc	As finalized by DPMU							
5	Hatchery	As finalized by DPMU							
6	Spawn to fingerling	As finalized by DPMU							
7	Fish feed making using local materials	As finalized by DPMU							
8	Orchard nursery	As finalized by DPMU							
9	Bee-keeping	As finalized by DPMU							
10	Others ( specify)	As finalized by DPMU							

**3. Services, facilities and counterpart personnel support to the Support Organization(SO):**

- The client will provide requisite services, facilities and counterpart personnel support at DPMU level for carrying out the function of Support Organization.

**4. Key Deliverables with Performance indicator for Support Organization(SO):**

Sl No	Key Activities	Performance Indicators	Source of verification
1	MI Scheme Identification	<ul style="list-style-type: none"> <li>• No of MI Scheme identified and submitted to DPMU with complete Documents including map and Coordinates, farmer level bid, land donation / NOC documents, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Checking in GIS platform</li> <li>• Land records data checking</li> <li>• Farmer level willingness proposal</li> <li>• Reports</li> </ul>
2	Support during Scheme Feasibility	<ul style="list-style-type: none"> <li>• No of MI schemes got feasible maintaining ESMF and other project criterion.</li> </ul>	<ul style="list-style-type: none"> <li>• ESMP check list</li> <li>• SPMU level GIS clearance</li> <li>• World Bank GIS clearance</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
3	Information collection & planning	<ul style="list-style-type: none"> <li>• For number of DPR Collection of primary and secondary data as per format provided from DPMU</li> <li>• Number of potential WUA formed</li> <li>• PRA / RRA with digital map and data</li> <li>• WUA wise development plan including gender, tribal</li> <li>• WUA wise all primary and secondary data</li> </ul>	<ul style="list-style-type: none"> <li>• DPR get sanctioned from World Bank and SPMU</li> <li>• Potential WUA formation report with no of meeting held with community tracking</li> <li>• PRA / RRA map</li> <li>• WUA level annual action plan including CB.</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
4	Forming and Strengthening of Water User Association (WUA):	<ul style="list-style-type: none"> <li>• No of WUA formed with committee and Sub Committee</li> <li>• No of women member in managing committee and as office bearer</li> <li>• No of WUA registered and open Bank Account, PAN card</li> <li>• No of WUA took handover of MI schemes</li> <li>• No of farmers taking water from MI schemes</li> <li>• WUA wise training need assessment and capacity building plan including institution &amp; ASS</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Resolution book with forming meeting resolution signed by majority members Scheme photo</li> <li>• Crop planning register, Irrigation register, Asset register, membership register, registration certificate and Bank pass Book, PAN card</li> <li>• WUA wise capacity development plan as per approved format</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
5	Capacity Building of WUAs	<ul style="list-style-type: none"> <li>• No of WUAs and MI schemes are functioning satisfactorily</li> <li>• No of WUAs done crop planning and all members are getting water as per crop planning</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Grading score</li> <li>• WUA wise fund status</li> <li>• WUA registers</li> <li>• Annual CB Plan and achievement with records</li> </ul>

		<ul style="list-style-type: none"> <li>No of WUAs have regular monthly meeting with more than 60 % attendance</li> <li>No of WUAs done audit, renewal of registration and AGM after completion of FY.</li> <li>No of WUAs able to mobilize fund for corpus</li> <li>No of WUAs score A+, A, B after intervention</li> <li>Amount of leverage benefit mobilized through convergence</li> </ul>	<ul style="list-style-type: none"> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
6	Monitoring and Supportive Supervision	<ul style="list-style-type: none"> <li>% of crop diversification achieved</li> <li>Number of WUA and farmers adopted new crop</li> <li>% of oilseed and pulses promoted and adopted</li> <li>% of farmers done soil test and using report as reference</li> <li>Total new area under orchard and % of intercropping done within orchard</li> <li>No of WUA level lead farmer identified and trained to act as resource person on Institution and ASS</li> </ul>	<ul style="list-style-type: none"> <li>MIS</li> <li>Agriculture Report</li> <li>GIS data</li> <li>No of farmers trained through CSP</li> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> <li>SO performance report</li> <li>Third party study &amp; findings on Institutional aspects</li> </ul>
7	Formation of Cluster of WUAs(CWUA) and initiate collective actions to enhance income of farmers.	<ul style="list-style-type: none"> <li>No of targeted cluster of WUAs start collective procurement of seed, fertilizer, etc. at WUA / cluster level</li> <li>No of targeted cluster of WUA start some type of collective activities for accessing market</li> <li>No of Cluster start other type of collective actions like training, planning, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Cluster based progress report</li> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> <li>Progress report on collective buying and selling of Agri inputs and outputs.</li> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
8	Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization	<ul style="list-style-type: none"> <li>Subject to approval of project authorities.</li> <li>No of WUA formed and strengthened</li> </ul>	<ul style="list-style-type: none"> <li>MIS report</li> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
9	Record & MIS	<ul style="list-style-type: none"> <li>SO has all relevant information of WUA and farmer wise information as required for Project</li> <li>Reporting standard as perceived by the DPMU</li> </ul>	<ul style="list-style-type: none"> <li>SO MIS</li> <li>Project MIS</li> </ul>
10	Monitoring and capacity building of SO staff	<ul style="list-style-type: none"> <li>No of staff scored performing well as per DPMU assessment</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly assessment and review by Project</li> <li>yearly SO evaluation report done by the Project</li> </ul>

11	WUA to WUA support	<ul style="list-style-type: none"> <li>No of light hose WUA identified and trained</li> <li>No of training, exposure visit done by the light house WUA, etc.</li> <li>No of WUAs become capable to provide seed, vermicompost, sapling, etc. to other WUAs</li> <li>No of resource person trained and facilitated for building capacities of other WUAs</li> </ul>	<ul style="list-style-type: none"> <li>MIS report</li> <li>Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
12	Other unforeseen activities pertaining to the project objective	<ul style="list-style-type: none"> <li>As per field situation</li> </ul>	<ul style="list-style-type: none"> <li>MIS</li> <li>Monthly Report</li> </ul>

### 5. Essential Criteria for the Support Organization(SO):

- Prior experience of 5(five) years in the area of Community Mobilization and Livelihoods to the similar nature of support activities in the Irrigation water sector or Rural Development sector in the target district .
- Prior experience of 2(two) years in formation and nurturing Water User Associations(WUA) in the Irrigation Sector.

### 6. Name of Positions for Key and Non Key Expert with mouzas/block of assignment of Support Organization(SO):

Type of Expert	Name of the Positions of Personnel	Approved Number				Personnel with mouzas/block of assignment)
		BANKURA-1	BANKURA-2	BANKURA-3	BANKURA-4	
Key Expert	Team Leader cum Community Mobilization Expert	1	1	1	1	All Blocks and Mouzas as per Annexure I (Tentative)
	Assistant Community Mobilization Expert	0	0	0	0	
	Training & Documentation Coordinator	1	1	0	1	
	Agriculture Expert	1	1	1	1	
	Assistant Agriculture Expert	0	0	0	0	
	Fishery Expert	0	0	0	0	
	Assistant Fishery Expert	1	1	1	1	
	Diploma Engineer	1	0	1	1	
	Manager cum Computer Operator	1	1	1	1	
	Office Managing Assistant	0	0	0	0	

Non Key Expert	Community Worker	Twelve (12)	Eight (08)	Five (05 )	Four (04)	Specific Blocks and Mouzas as per Annexure I (tentative)
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- The above positions and numbers are tentative, and may change according to the field requirement which would be assessed jointly by the DPMU/ SPMU on monthly/quarterly/yearly basis. Actual changes in position and numbers would be decided by the Project Authority directly or on recommendation from the Executive Engineer of the DPMU.

#### 7. Requisite Qualification and Experience of Key and Non Key Expert of Support Organization(SO):

Expert/Personnel Position	Qualification and Experiences Requirement
12. Team Leader cum Community Mobilization Expert	<p><i>Qualification</i> Master's degree in Sociology, Social work or equivalent</p> <p><i>Experiences</i> 4 years work experience with proven track record of leading multidisciplinary team in Community Mobilization and Water related livelihood development Program/Projects.</p>
13. Assistant Community Mobilization Expert	<p><i>Qualification</i> Master's degree in Sociology, Social work or equivalent</p> <p><i>Experiences</i> 1 - 2 years work experience with proven track record of leading multidisciplinary team in Community Mobilization and Water related livelihood development Program/Projects.</p>
14. Training & Documentation Coordinator	<p><i>Qualification</i> Master's degree in Sociology, Social work or equivalent or Graduate in any other discipline with 3 to 4 years of similar work experience may also be considered.</p> <p><i>Experiences</i> 3- 4 years' experiences in training, capacity building at community level. Having strong writing skills and expertise in preparing case studies, PPT, IEC materials, human interest stories in English and other regional language.</p>
15. Agriculture Expert	<p><i>Qualification</i> Bachelor/Master degree in Agriculture Science or equivalent /Natural Resources Management etc.</p> <p><i>Experiences</i> 4 years' experience of working at community level in agriculture, horticulture, floriculture, etc. and other Water related livelihood development Programme/Project</p>
16. Assistant Agriculture Expert	<p><i>Qualification</i> Bachelor/Master degree in Agriculture Science or equivalent / Natural Resources Management etc.</p> <p><i>Experiences</i> 1-2 years' experience of working at community level in agriculture, horticulture, floriculture, etc. and other Water related livelihood development Programme/Project</p>

17. Fishery Expert	<i>Qualification</i> Bachelor/Master degree in Fishery Science or Equivalent <i>Experiences</i> 4 years experiences of working in pisciculture at community level including FIG formation, etc.
18. Assistant Fishery Expert	<i>Qualification</i> Bachelor/Master degree in Fishery Science or Equivalent <i>Experiences</i> 1-2 years experiences of working in pisciculture at community level including FIG formation, etc.
19. Diploma Engineer	<i>Qualification</i> A Diploma holder in Agriculture/Civil/Mechanical/Electrical Engineering <i>Experiences</i> 1-2 years experience in minor irrigation structure development
20. Manager cum Computer Operator	<i>Qualification</i> Graduate in any discipline with computer knowledge in MS Office, Excel, Power point, etc. <i>Experiences</i> 2-3 years works experience.
21. Office Managing Assistant	<i>Qualification</i> Graduate in any discipline with computer knowledge in MS Office, Excel, Power point, etc. <i>Experiences</i> 2-3 years works experience.
22. Community Worker	<i>Qualification</i> Higher Secondary / Madhyamik / ITI passed <i>Experiences</i> Minimum 1 year experience in Water related livelihood development Project/Programme at community level. Community Workers are Non Key Expert. Their CV will not be evaluated individually, but they must be local and their experience is non-negotiable.

## 8. Role and Responsibilities of the Personnel of Support Organization(SO):

### Team Leader cum Community Mobilization Expert:

- Lead and Coordinate the whole team of Support Organization including focused monitoring and capacity building all SO staffs including Community Worker as well as periodic performance evaluation of SO team.
- Liaison with District Project Management Unit for instruction, sharing information, reports and execution of Project activities of all stages through SO team i.e. Pre-planning to post implementation monitoring and agriculture business.
- Planning and execution of activities through team for mobilizing community , grounding PRA, building awareness, identification of new Minor Irrigation Schemes, collecting data, helping prepare Scheme feasibility report and DPR, forming, nurturing and strengthening of Water User Associations (WUA) and Cluster of WUAs, promoting participatory irrigation management, water management, Corpus building , grounding agriculture and allied activities, grounding withdrawal strategy, ensuring convergence between WUAs and line departments, etc. as approved by the DPMU/ SPMU.

- Prepare annual action plan, Capacity building plans, etc. and execution of such plans after obtaining approval from DPMU for the betterment and strengthening of the WUAs and Cluster of WUAs.
- Prepare Report, case studies, human interest stories, Grounding Grading of WUAs, maintain MIS, checking data using GIS platform, follow up deliverables against PDO indicators, etc.
- Execution of other relevant activities and tasks as found fit by the project authorities.

#### **Assistant Community Mobilization Expert:**

- Assist Team leader in performing community mobilization related activities.
- Liaison with District Project Management Unit for instruction, sharing information, reports and execution of Project activities of all stages through SO team i.e. Pre-planning to post implementation monitoring and agriculture business.
- Planning and execution of activities through team for mobilizing community , grounding PRA, building awareness, identification of new Minor Irrigation Schemes, collecting data, helping prepare Scheme feasibility report and DPR, forming, nurturing and strengthening of Water User Associations (WUA) and Cluster of WUAs, promoting participatory irrigation management, water management, Corpus building , grounding agriculture and allied activities, grounding withdrawal strategy, ensuring convergence between WUAs and line departments, etc. as approved by the DPMU/ SPMU.
- Prepare annual action plan, Capacity building plans, etc. and execution of such plans after obtaining approval from DPMU for the betterment and strengthening of the WUAs and Cluster of WUAs.
- Prepare Report, case studies, human interest stories, Grounding Grading of WUAs, maintain MIS, checking data using GIS platform, follow up deliverables against PDO indicators, etc.
- Execution of other relevant activities and tasks as found fit by the project authorities.

#### **Training & Documentation Coordinator:**

- Training need assessment on institution, Agriculture and allied sector, marketing, etc. primarily targeting key stakeholder and accordingly development of different training modules, leaflets, literature, audio – visual clips, etc. in regional language. Obtaining approval from DPMU/ SPMU.
- Prepare training Calendar for WUA and Cluster of WUA, capacity building intervention plan, budgeting, arrangement for Resource persons, etc. and facilitate execution after approval from concerned authorities.
- Monitor and supervise grounding of approved modules, exposure visits, FFS, FFD, etc. for strengthening of the Institution and adoption of Agriculture, Horticulture and Fisheries related good practices at WUA and Cluster of WUA level after approval from DPMU.
- Identification of WUA / CWUA level resource person comprising various subject (institution and ASS) and facilitate capacity building of identified resource persons (RP). Facilitate training of WUAs through RP in a focused way.
- Listing of Resource person from line department, listing of resource agencies available in vicinity like KVK, State Agriculture Universities, Cooperative Bodies, agri marketing department, etc. for exposure and training purpose. Networking and convergence to use such resources for building capacities of WUA members.

- Result monitoring, development of monitoring tools, indicators, etc. in respect of capacity building exercise following project objectives and guidelines.
- In absence of Team leader perform the duty of Team Leader.
- Perform any other activities as to be desired by the competent project authorities

#### **Agriculture Expert /Assistant Agriculture Expert:**

- To assist and ensure implementation of district plan to enhance the ecofriendly agri – horti production of small and marginal farmers for collective production.
- To facilitate WUAs on climate resilient various improved package & practices of crop cultivation through OFD, intensification programme and other innovative and technological intervention.
- Facilitate market linkage of agri-horti produces for sustainable agriculture development through community participation as per PAD
- Facilitate training need analysis of Agriculture and organizing Farmers Field School (FFS).
- Organize various agriculture extension services like FFD / exposure visit / peer learning etc. at WUA level to enhance Capacity building of farmer’s knowledge skill and attitude etc.
- Imparting / organising training-capacity building workshop.
- Database TNA and imparting training.
- Data collection for MIS.
- Any other activities required for the Project which is not listed above.

#### **Fishery Expert/Assistant Fishery Expert**

- Assist DPMU level Specialist for execution of Fisheries work in Project Areas.
- Develop plans, strategies, implementation mechanism related to developing a fish production cluster.
- To establish the fish cultivation as an important livelihood sector among small & marginal farmers, bring innovation & new ideas to create replicable model.
- To train and to extend handholding support for the skill development of the fishermen.
- To develop Package of Practice of Fish cultivation (area specific culture method, Production cycle, Risk management, etc) in English and other regional language. Prepare and develop small writing/story on any successful scheme related to fisheries.
- Develop capacity building plan, module and mechanism for delivery.
- Organize special hand-holding training on feed preparation, disease management and marketing, etc.
- Coordinate with DPMU and other Expert for smooth execution and proper planning of the fisheries work.
- Collect basic & final DATA, before and after implementation of Fisheries work, with the help of CW.
- To explore and create market potential, identifying value chain, establishing linkages of fish farmer with markets and as well as Govt. Agencies.
- Any other work assigned by the concern authority

### **Diploma Engineer**

- Visit site and identify suitable locations for Minor Irrigation schemes following project guidelines together with other team from Support Organization. Collect accurate coordinates for sites.
- Extend support in preparing scheme feasibility report jointly with DPMU team.
- Facilitate availability of all relevant documents to the DPMU Engineers for preparation of Detailed Project Report (DPR) pertaining to the MI schemes and other Agriculture and allied sector related activities.
- Build capacities of Community Worker and other SO team on collection of Latitude, longitude, location validation using GIS platform, etc. Check quality of data collected
- Coordinate with Agriculture, horticulture and Fishery team of DPMU to pinpoint locations and other technical support.
- Provide support to WUAs on operation and maintenance of the Minor Irrigation Schemes.
- Cooperation with DPMU Engineers at the time of surveying, execution and measurements.
- Other miscellaneous/ unforeseen activities as and when required.

### **Manager cum Computer Operator / Office Managing Assistant**

- Maintain Management Information System (MIS) of WUA, Cluster of WUAs including all aspects like institution, agriculture and allied sectors. Maintain farmer wise updated record as required by the project.
- Help support in analysis of WUA performance, Grading analysis and other analysis of data as required by the Project.
- Keep and maintain all reports and returns. Assist in preparation of any other documents including finance as required by the Team Leader and DPMU.
- Coordinate with all concerned for preparation and compilation of accurate data and help concerned in preparation of reports, presentation, etc.
- Other activities as assigned by the authorities as and when required basis.

### **Community Worker/ Assistant Community Worker:**

- Assist Team leader and technical team in respect of identification & selection of new Minor Irrigation schemes within the allotted jurisdiction. Facilitate organize meeting with prospective farmers. Follow ups and collection of base line information for preparation of DPR / SDMP as required.
- Assist technical team to draw command area of the schemes using GPS. Collection of Latitude and Longitude of scheme and other locations as required by the Project.
- Assist Collection of other relevant information of WUAs and Cluster of WUAs using apps and formats as approved by the Project.
- Under the guidance of SO and DPMU facilitate forming of WUAs and Cluster of WUAs and facilitate organizing training, capacity building, exposure visits, etc. as per project requirement.

- Visit WUA and Cluster of WUAs (CWUA) regularly as per approved plan. Organize meeting with WUA, Cluster of WUA for execution of plan as guided by the concerned expert and follow ups. Help support in conflict management under the guidance of other team members.
- Organize and ensure WUA members participation in meeting, training, exposure visits, execution of planned activities and adoption, etc. as suggested by the experts and follow ups.
- Facilitate grounding of agriculture and allied activities under the guidance of concerned expert, follow ups and act as a link between farmer and expert for better impact.
- Facilitate grounding, crop planning, water management, grading, corpus building, selection of farmers for demonstration, lead farmers, enrollment in Krishi-katha, record keeping and maintaining of other registers at WUA / CWUA end as well as facilitate deepening other activities which are related to the strengthening of the WUAs and CWUAs as per instruction of SO and DPMU / SPMU.
- Keep farmer wise information for each WUA. Periodic information collection and sharing of progress and challenges to TL and respective experts.
- Enable WUA members to up -keep and update records as per project guidelines.
- Extension works execution including institution and ASS.
- Other activities as assigned by the authorities as and when required.

#### **9. Replacement of Key and Non Key personnel of Support Organization:**

- Replacement of Key and non-key personnel would be as per SO arrangement as the engagement is from SO end. However in case of-
  - Any incident which may lead to the law and order problem at the working area, the project will request the SO for immediate replacement of the concerned staff.
  - In case of low performance of any key/non key personnel on the basis of review of performance by DPMU/SPMU, the project will request the SO for immediate replacement of the concerned staff.
  - Indeed, frequent replacement of any Key and Non key personnel are not desirable. Replacement of any Key and Non-Key personnel should be done based upon mutual consent of DPMU and Consultancy Service Provider i.e. Support Organization. Prior to engagement/replacement of any personnel, SO should be consulted/approved with/from the Executive Engineer of the DPMU.

#### **10. Termination of contract or not extension of the contract beyond closure of existing Contract of Support Organization:**

Termination of contract or not extension of the contract beyond closure of existing contract Period of Support Organization may take place by the client based on the following grounds: -

- If the Client determines that the key and non-key personnel of the Support Organization have engaged in other assignment outside of WBADMIP, or in corrupt, fraudulent, collusive, coercive or obstructive practices while carrying out of the services, then the Client may, after giving fourteen (14) calendar days' written notice to the Consultant, terminate the existing contract with Support Organization.

- The Client may, by written notice of suspension to the Support Organization, suspend all payments to the Support Organization hereunder if the Support Organization fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Support Organization to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Support Organization of such notice of suspension. Failure to compliance of the suspension after the allotted period i.e. thirty (30) calendar days, the client may close the contract through written communication.
- The client may terminate the contract or may not extended the contract with Support Organization if found the performance of the Support Organization is not -satisfactory / poor / very poor based upon mutually agreed parameters of appraisal / evaluation.
- The Client may terminate the contract with the Support Organization on the grounds like breach of trust, sharing of project information to other concern without prior approval of the Client or in its (Client) sole discretion and for any reason whatsoever, decides to terminate this Contract.

**11. Duration of the Support Organization:** The contract period shall be one year after date of signing of the contract or till the end of the project whichever is earlier. The contract may also be further extended according to the extension of the Project and as per the requirement of the assignment. However, the contract may be shortened depending on the performance of the expert as appropriate.

**12. Reporting obligations of the Support Organization:**

- All Personnel will report to the concerned Executive Engineer, DPMU, WBADMIP. The work and performance of the Personnel along with Support Organization shall be reviewed by the Project Director on periodic basis.
- Support Organization will submit the inception report after 15 days from the date of assigning the contract regarding engagement of staff and necessary arrangement in the district DPMU. And the DPMU will send the same to the SPMU for necessary action.
- Support Organization will submit the Activity & Associated Deliverables Report on monthly basis and as applicable, duly signed by the competent authority on behalf of the SO. Before submission, reporting formats shall be approved from the Client.
- There may be other report /reporting requirement which are not described in SOP and required by the concerned DPMU/ SPMU. SO has to compliance such reports as desired by the client within the stipulated time frame.
- DPMU will hold monthly meeting with all SO staff to review previous months' achievement and to fix upcoming month's target. The meeting resolution and target will be recorded and communicated to SO for reference and review purpose.
- SO personnel leave structure would be as applicable to DPMU contractual personnel. But prior to take any leave or (H/Qtr) station leave, personnel have to take permission from both SO as well as from concerned Executive Engineer. No extra payment would be made to SO personnel in case of working beyond working days in a month, if any such situation arises.

**13. Composition of review committee to monitor services Support Organization:**

A Monitoring Committee formed by the Project Director, WBADMI Project will advise, monitor and review the works of the **Support Organization(SO)**. They would extend

cooperation in makings available the data and information and obtain approval (if any) and also deal with the problem (if any) faced by the **Support Organization (SO)** in executing the contractual obligation.

#### 14. Terms of Payment –Support Organization (SO):

Client will make payment to the Support Organization (SO) as bellow -

- Monthly remuneration against sanctioned key and non-key personnel on satisfactory completion of tasks/ planned activities and other any task/ activities (as assigned by the DPMUs) and submission of reports as per SOP and other relevant reporting formats.
- Overhead Charges shall be based on the sum total of the Remuneration only (with reference to the point number 17.1.1) on monthly basis.
- Reimbursement of the following cost made on monthly basis
  - a. Reimbursement of actual transportation for field personnel (using “two wheelers”, as per government approved rate).
  - b. Travelling cost for the Consultant’s personnel for the project for attending meeting etc. at DPMU / SPMU for official purposes @ Rs. 5000/- / Per month (Maximum)
  - c. Statutory social security benefits (EPF & Insurance etc.) Payment of the Employees Provident Fund (EPF) and Insurance contribution as per the prevailing Govt. Rules.
  - d. Contingent Expenses for immediate action related works at the Field for WUAs. (small meetings, small item purchase etc.) @ Max. Rs.1000 /month

- **Payment details against Remuneration and Overhead Charge: -**

#### Payment details against Remuneration

Remuneration shall be fixed and binding upon as per the given table:

Sl. no.	Designation & Position	Remuneration against the position in Rs. / Month
1.	Team Leader cum Community Mobilization Expert	33660.00
2.	Assistant Community Mobilization Expert	23240.00
3.	Training & Documentation Coordinator	29040.00
4.	Agriculture Expert	29040.00
5.	Assistant Agriculture Expert	23240.00
6.	Fishery Expert	29040.00
7.	Assistant Fishery Expert	23240.00
8.	Diploma Engineer	23240.00
9.	Manager cum Computer Operator	19360.00
10.	Office Managing Assistant	19360.00
11.	Community Worker	10890.00

- **Payment details against Overhead charges**

Overhead Charges shall be based on the sum total of the Remuneration.

• **Payment details against Reimbursement: -**

SL.	Items	Quantity Description	Unit Cost(Rs)	Remarks
1.	Travelling Allowances of Community Workers (CW) at the field.	.... nos CW (for Community Worker)	Rs. 3300/month / CW (Lump sum allow.)	As they are the key functionaries for field their payment should be released timely. Less payment to CW by the SO/SP will be handled as noted above.
2.	Travelling cost for field personnel to visit field, DPMU/ SPMU. (each field going person should maintain a log book/movement register for motor cycle etc.)	Motor cycle, boat, bus, train, auto, e-rickshaw etc. as required for the movement for Key personnel.	Rs. 2/KM for Motor cycle. (Average 80 KM /day maximum). Others mode of transport in actual /month with a maximum limit of Rs.4400/- per month/ person	Actual expenses will be paid on monthly basis. Settlement of bill requires DPMU level checking and approval of logbooks, movement register by DPMU personnel, as authorized by the Executive Engineer, DPMU.
3.	Travelling cost for the Consultant's personnel for the project for attending meeting etc. at DPMU / SPMU for official purposes	Lump Sum	Rs. 5000 / month/Team(Maximum)	Actual expenses will be paid on monthly basis after submission of actual bills and vouchers with observation report from SO/SP
4.	Statutory social security benefits (EPF & Insurance etc)	For all key and non-key personnel	Maximum 10% of Remuneration.	Actual expenses will be reimbursed against submission of requisite documents.
5.	Contingent Expenses for immediate action related works at the Field for WUAs.(small meetings, small item purchase etc)	Lump Sum	Max. Rs.1000 /month/Team (Permission to be needed over phone from EE of DPMU before incurring expenditure).	Vouchers to be produced in the form of certified voucher or original vouchers by the Consultant (SO/SP) as applicable.

The Payment will be made by the Payment Authority in each month after submission of that months' time sheet and satisfactory deliverables/Performance report. In case of delayed submission of required reports/deliverables payment will be delayed accordingly.

- Unnatural delay (more than one month over schedule time) in submission of reports/deliverables will be followed by a letter showing satisfactory reasons. Delay more than two months will not be entertained and may follow the termination of the engagement/contract.
- The rate of remuneration of individual may decrease by pro- rata basis on the non-availability of that key & non-key staff/(s) on working days, @ [(absent days) / 30 days] in a month.
- Tax will be reimbursed or deducted as per provision of the Government.

**Annexure-I**

**Name of Positions for Key and Non Key Expert of Support Organization (SO) with assigned mouzas/block (Tentative):**

**1. Key Expert: -****Table-1**

<b>Sub-Group</b>	<b>Name of Position</b>	<b>Number of Position</b>	<b>Block(s) of Assignment</b>	<b>Mouzas of Assignment</b>
<b>BANKURA -1</b>	1. Team Leader cum Community Mobilization Expert	One (01)	<b>MEJIA, SALTORA, GANGAJALGHA TI,BARJORA, CHHATNA, SONAMUKHI</b>	All Mouzas , as mentioned in Table -2A.
	2. Training & Documentation Coordinator	One (01)		
	3. Agriculture Expert	One (01)		
	4. Assistant Fishery Expert	One (01)		
	5. Diploma Engineer	One (01)		
	6. Manager cum Computer Operator	One (01)		
<b>BANKURA -2</b>	1. Team Leader cum Community Mobilization Expert	One (01)	<b>HIRBUNDH, INDPUR, BANKURA - II, BANKURA-I</b>	All Mouzas , as mentioned in Table -2B.
	2. Training & Documentation Coordinator	One (01)		
	3. Agriculture Expert	One (01)		
	4. Assistant Fishery Expert	One (01)		
	5. Manager cum Computer Operator	One (01)		
<b>BANKURA -3</b>	1. Team Leader cum Community Mobilization Expert	One (01)	<b>RAIPUR. RANIBUNDH, KHATRA</b>	All Mouzas , as mentioned in Table -2C.
	2. Agriculture Expert	One (01)		
	3. Assistant Fishery Expert	One (01)		
	4. Diploma Engineer	One (01)		
	5. Manager cum Computer Operator	One (01)		
<b>BANKURA -4</b>	1. Team Leader cum Community Mobilization Expert	One (01)	<b>ONDA, SARENGA SIMLAPAL , TALDANGRA, JOYPUR , KOTOLPUR</b>	All Mouzas , as mentioned in Table -2D.
	2. Training & Documentation Coordinator	One (01)		
	3. Agriculture Expert	One (01)		
	4. Assistant Fishery Expert	One (01)		
	5. Diploma Engineer	One (01)		
	6. Manager cum Computer Operator	One (01)		

## 2.Non Key Expert: -

Table-2A

## BANKURA -1

Community Worker(CW)- 12 nos.

Sl No	CW Area	Block Name	Name of the Gram Panchayat	JL No.	Mouza Name	Total	No of Additional WBADMIP, Phase-I WUA for monitoring
1	CW-1	Chhatna	Jirrah	40	Gopinathpur	16	6
			Susunia	82	Ramnathpur		
			Jirrah	31	Jirra		
			Susunia	80	Kulyara		
			Susunia	81	Bagdiha		
			Jhunjka	75	Jai nagar		
			Arrah	168	Parrashia		
			Jhunjka	55	Saluni		
			Jirrah	49	Tulsa		
			Arrah	50	Sihikapahari		
			Arrah	46	Kaminbedya		
			Arrah	86	Gohaldanga		
			Susunia	84	Siulibana		
			Jhunjka	71	Machabaid		
			Jirrah	44	Dhatla		
Jhunjka	72	Shirpura					
2	CW-2	Chhatna	Ghosergram	144	Shuknibasa	20	2
			Chinabari	190	Amakunda		
			Jamtora	180	Jamtora		
			Jamtora	181	Bankati		
			Jamtora	182	Alijhara		
			Jamtora	186	Dhagara		
			Metyala	207	Bhunya para		
			Jamtora	30	Khaerbani		
			Metyala	209	Santalpara		
			Jamtora	214	Upardihi		
			Saldiha	219	Simla		
			Saldiha	221	Chhatapathor		
			Chinabari	200	Rangametia		
			Chinabari	197	Patjuri Agya		
			Chinabari	178	Satkhulia		
Chinabari	191	Garbona					
Susunia	84	Seulibona					

			Chinabari	196	Bahara		
			Metyala	284	Panjangara		
			Arrah	167	Kelai		
3	CW-3	Chhatna	Saldiha	236	Bandardihi	20	9
			Saldiha	234	Rampur		
			Saldiha	235	Banagram		
			Saldiha	231	Khirshol		
			Saldiha	230	Khirpai		
			Saldiha	229	Chaktamakgara		
			Saldiha	232	Jatardihi		
			Teghori	259	Jibanpur Bankati		
			Teghori	260	Daldali		
			Teghori	261	Teghori		
			Jamtora	241	Subarda		
			Metyala	256	Jambani		
			Metyala	137	Kharbona		
			Saldiha	239	keshra		
			Metyala	258	Buripara		
			Metyala	245	Metyla		
			Saldihi	233	Suribedy		
			Metyala	255	Kantapahari		
			Saldiha	226	Bhanderber		
			Teghori	266	Tishra		
4	CW-4	Chhatna	Chhatna-I	113	Kantashol	15	11
			Ghoshergram	140	Dumdumi		
			Jhunjka	60	Haridihi		
			Susunia	97	Jaljalja Bansol		
			Chhatna-II	116	Gurputa		
			Jhunjka	56	Besara		
			Chhatna-I	101	Karra		
			Chhatna-II	115	Kaludihi		
			Ghoshergram	136	Ghoshergram		
			Chhatna-I	107	Pathardiha		
			Susunia	93	Paharbedia		
			Chhatna-I	103	Hari Bandi		
			Chhatna-I	100	Basulibandh		
			Chhatna-I	104	Mirga		
			Susunia	94	Nangla		
5	CW-5	Chhatna	Dhaban	2	Asurabad	14	10
			Dhaban	25	Sidhaberia		
			Dhaban	19	Upargara		
			Dhaban	12	Kumirdoha		
			Dhaban	11	Narashol		

			Dhaban	278	Radhaballavpur		
			Dhaban	10	Sanpura		
			Dhaban	20	Taljharia		
			Dhaban	13	Gailabad		
			Jirrah	28	Ampahari		
			Jirrah	34	Burat		
			Jirrah	27	Jhikuria		
			Jirrah	9	Kuldabar		
			Jirrah	211	Chak chaki		
6	CW-6	Saltora	Dhekia	77	Gosaindihi	15	2
			Tiluri	6	Tiluri		
			Tiluri	12	Kashihir		
			Dhekia	72	Bhurkundathole		
			Tiluri	75	Siakuldoaba		
			Tiluri	100	Simladihi		
			Tiluri	102	Jahurbana		
			Saltora	108	Saltora		
			Saltora	107	Jhanka		
			Dhekia	70	Dubrajpur		
			Salma	84	Satdeuli		
			Dhekia	26	Tentultikri		
			Pabra	85	Ramjibanpur		
			Dhekia	69	Beltikri		
			Pabra	86	Pabra		
7	CW-7	Saltora	Kanuri	134	Raj Bandh	17	4
			Gogra	156	Netkamlā		
			Gogra	154	Khatmara		
			Pabra	130	Ranipur		
			Gogra	143	Adhuri		
			Gogra	155	Karkata		
			Kanuri	132	Tilabaid		
			Saltora	112	Shyampur		
			Gogra	144	Jadbpur		
			Kanuri	151	Barkona		
			Kanuri	115	Dhatla		
			Kanuri	133	Majurakundi		
			Saltora	111	Mauchuria		
			Kanuri	137	Kanuri		
			Kanuri	138	Got		
			Kanuri	116	Bansh Ketia		
			Kanuri	113	Telidihi		
8	CW-8	Saltora	Bamuntore	60	Rautara	12	4
			Salma	59	Barasal		

			Salma	57	Bhangucha		
			Salma	40	Chaukhuri		
			Salma	56	Harakbad		
			Salma	58	Ilam Bazar		
			Salma	50	Kamalhir		
			Salma	54	Kendana		
			Salma	45	Saheb Danga		
			Salma	48	Salma		
			Salma	41	Singhir		
			Salma	55	Swatiwakuri		
9	CW-9	Gangajalghati	Bhaktabandh	85	Ukhra Dihi	23	10
			Bhaktabandh	86	Bhaktabandh		
			Gangajalghati	81	Keshiara		
			Bhaktabandh	83	Mallikdihi		
			Bhaktabandh	103	Ranbahal		
			Bhaktabandh	92	Ranganathpur		
			Bhaktabandh	90	Lakhyara		
			Bhaktabandh	91	Ekchala		
			Bhaktabandh	97	Pankua		
			Bhaktabandh	96	Khayer Bani		
			Bhaktabandh	93	Mukundapur		
			Bhaktabandh	95	Amla dihi		
			Lachmanpur	67	Lachhmanpur		
			Lachmanpur	78	Chholabaid		
			Banshuria	49	Kusthalia		
			Banshuria	46	Ban Ashuria		
			Banashuria	44	Gobindapurbaid		
			Banashuria	39	Gopinathpur		
			Banashuria	45	Mukundapurbaid		
			Latiaboni	40	Dumuria		
			Latiaboni	34	Nidhirampur		
			Lachmanpur	64	Rajamela		
			Bhaktabandh	87	Jambedia		
10	CW-10	Gangajalghati	Gobindadham	100	Gobindadham	24	3
			Kapista	120	Madhabpur		
			Gobindadham	146	Brindabanpur		
			Pirraboni	149	Pirraboni		
			Gobindadham	98	Amjor		
			Gobindadham	47	Barajuri		
			Pirraboni	155	Tentulia Danga		
			Pirraboni	160	Srirampur		
			Kapista	119	Salbedya		
			Kapista	116	Subarnator		

			Pirraboni	139	Ramkanali		
			Pirraboni	164	Raniara		
			Kapista	123	Suarara		
			Kapista	118	Saltora		
		Barjora	Beliatore	127	Samantamara		
			Saharjora	31	Sitla		
			Saharjora	32	Koch kunda		
		Gangajalghati	Gobindadham	144	Bihar juria		
			Pirraboni	151	Radhakrishnapur		
		Barjora	Khanrari	36	Monoharbatl		
		Gangajalghati	Kapista	113	Nabagram		
			Kapista	121	Kallapur		
			Pirraboni	134	Jambedia		
			Pirraboni	143	Arjunpur		
11	CW-11	Sonamukhi	Panchal	156	Krishna sayer	19	3
			Kochdihi	80	Vedomusle		
			Panchal	155	Icharia		
		Barjora	Chhandar	176	Amthia		
			Brindabanpur	198	Kantabshe		
		Sonamukhi	Panchal	157	Shuksayer		
		Barjora	Brindabonpur	197	Srikrishnapur		
			Godardihi	179	Belut		
			Chhandar	178	Bankuradanga		
		Sonamukhi	Chhandar	177	Gosainpur		
		Barjora	Brindabanpur	193	Barkura		
			Brindabanpur	194	Mothuradanga		
			Chhandar	149	Talanda		
			Brindabanpur	196	Radhakantapur		
			Chhandar	151	Chhandar		
		Sonamukhi	Hamirhati	61	Hamirhati		
			Kochdihi	74	Kochdihi		
			Hamirhati	70	Mathurabati		
			Kochdihi	72	Bhula		
12	CW-12	Mejia	Ardhagram	17	Tegharia	19	3
			Kushtore	21	Dhandora		
			Kushtore	24	Pairasol		
			Kushtore	53	Kendut		
			Kushtore	20	Khaerbani		
			Kushtore	46	Natshala		
			Mejhia	11	Jemua		
			Kushtore	22	Kansara		
			Kushtore	39	Benathol		
			Ramchandrapur	58	MochraKend		

			Kushtore	30	Anandapur		
			Kushtore	44	Raydi		
			Kushtore	44	Shaltora		
			Ramchandrapur	59	Bharra		
			Ramchandrapur	55	Ikra		
			Ramchandrapur	65	Ramchandrapur		
			Kushtore	23	Duburia		
			Ramchandrapur	61	Murra		
			Ardhagram	19	Lakshmanbandi		
<b>TOTAL</b>						<b>214</b>	<b>67</b>
<b>Note: This list is indicative. Block, mouza and area may change as per field requirement.</b>							

Table-2B

**BANKURA -2**

Community Worker(CW)- 08 nos.

Sl No	CW Area	Block Name	Name of the Gram Panchayat	JL No.	Mouza Name	Total	No of Additional WBADMIP, Phase-I WUA for monitoring
1	CW-13	Hirbandh	Hirbandh	65	Arjundaha	18	7
			Hirbandh	67	Belkanali		
			Hirbandh	68	Bauriidiha		
			Hirbandh	63	bhuakana		
			Brahmandiha	65	Benageriya		
			Baharamuri	94	Itamara		
			Hirbandh	60	Itamara		
			Moshiara	48	Jhapandihi		
			Baharamuri	142	Masanjhar		
			Hirbandh	70	Dhairapara		
			Hirbandh	152	Gobarda		
			Hirbandh	71	Jamdahara		
			Hirbandh	148	Palasbani		
			Hirbandh	66	Tirsulia		
			Hirbandh	149	Indpur		
			Hirbandh	79	Basudebpur		
			Hirbandh	61	Bhuchu Dungri		
Hirbandh	143	Patasimul					
2	CW-14	Hirbandh	Gopalpur	12	Batikara	15	6
			Moshiara	39	Biradi		
			Gopalpur	2	Chalka		
			Molian	21	Damodarpur		
			Gopalpur	8	Dhanarangi		
			Gopalpur	7	Elora		
			Gopalpur	1	Guniada		
			Moshiara	40	Dikor		
			Gopalpur	6	Harirampur		
			Gopalpur	14	Jhariakocha		
			Gopalpur	17	Kedia		
			Gopalpur	15	Nanda		
			Gopalpur	5	Saluipahari		
			Moshiara	42	Bamni		
			Molian	22	Shyamnagar		
3	CW-15	Indpur	Hatagram	24	Ahanda	20	1
			Hatagram	11	Bhalukchal		

			Hatagram	34	Dakshin Kendbana		
			Hatagram	23	Gilirbona		
			Brahmandiha	57	Maity Dubrajpur		
			Hatagram	22	Raghudihi		
			Brahmandiha	58	Salanpur		
			Hatagram	19	Satami		
			Hatagram	18	Beliagara		
			Brahmandiha	55	Gottarya		
			Hatagram	20	Radhanagar		
			Hatagram	31	Kajalkura		
			Hatagram	32	Surulia		
			Hatagram	33	Purulia		
			Hatagram	12	Chaka		
			Hatagram	1	Uttar kendbona		
			Hatagram	6	Bhabrigara		
			Hatagram	14	Ambedya		
			Hatagram	13	Uttarpairachali		
			Brahmandiha	59	Gundlugara		
4	CW-16	Indpur	Raghunathpur	77	Dakshin Pairachali	13	0
			Brahmandiha	54	Kamlabad		
			Raghunathpur	76	Nekrakonda		
			Brahmandiha	60	Padulara		
			Raghunathpur	80	Rajudi		
			Raghunathpur	74	Sonardanga		
			Raghunathpur	96	Bandeuli		
			Brahmandiha	61	Bhalukbasa		
			Brahmandiha	70	Bhutama		
			Raghunathpur	67	Dakshin Kamalpur		
			Raghunathpur	82	Garduara		
			Raghunathpur	78	Kaliapathar		
			Bheduasole	99	Bisherbera		
5	CW-17	Indpur	Brajarajpur	172	Gunnath	19	3
			Brajarajpur	176	Matranga		
			Brajarajpur	174	Tentulia		
			Gourbazar	186	Alijhar		
			Gourbazar	192	Atbhaichandi		
			Gourbazar	185	Baurisol		
			Gourbazar	180	Gangpur		
			Gourbazar	199	Gharpathar		
			Gourbazar	198	Karkota		
			Gourbazar	208	Khapkata		

			Gourbazar	181	Marlu		
			Gourbazar	200	Rautara		
			Gourbazar	196	Salgerya		
			Gourbazar	182	Shialgeria		
			Gourbazar	183	Sirishganjal		
			Indpur	143	Banshi		
			Indpur	188	Bhatra		
			Indpur	127	Niamatpur		
			Gourbazar	203	Gourbazar		
6	CW-18	Bankura-I	Kalpathor	98	Kamlagara	15	2
			Kalpathor	99	Kalpathor		
			Kalpathor	124	Dinargan		
			Andharthole	131	Kumidya		
			Kalpathor	116	Gangtara		
			Andharthole	134	Andharthaul		
			Kalpathor	144	Nekragoria		
			Andharthole	123	Amlatora		
			Kalpathor	110	Hetyasol		
			Andharthole	133	Siarbada		
			Kalpathor	111	Anandapur		
			Kalpathor	112	Kustara		
			Kalpathor	106	Kashibedya		
			Kalpathor	117	Dhagaria		
			Antharthol	125	Ekaria		
7	CW-19	Bankura-I	Kenjakura	57	Dhobargram	20	1
			Anchuri	56	Achuri		
			Kenjakura	61	Kasiadoba		
			Kenjakura	60	Dhulkumari		
			Kenjakura	59	Harekrishnapur		
			Kenjakura	85	Bankata		
			Anchuri	66	Nawdi		
			Kenjakura	88	Gosaindihi		
			Kenjakura	58	Tant kanali		
			Kenjakura	62	Nidaya		
			Kenjakura	83	Pathakdihi		
			Anchuri	63	Papurdihi		
			Anchuri	68	Badulara		
			Anchuri	67	Balardihi		
			Anchuri	73	Ghughujan		
			Anchuri	139	Jamaradihi		
			Anchuri	70	Jirabad		
			Anchuri	71	Katgaria		
			Anchuri	69	Sanaband		

			Kenjakura	84	Pathrabaid		
8	CW-20	Bankura-II	Purandarpur	244	Purandarpur	17	10
			Mankanali	41	Khejur Bedyā		
			Purandarpur	248	Moukura		
			Purandarpur	245	Kanchanpur		
			Mankanali	13	Bagatapol		
			Mankanali	24	Man Kanali		
			Purandarpur	239	Tilabedyā		
			Mankanali	22	Sonamui		
			Mankanali	11	Ladna		
			Jenbedia	50	Hariyargara		
			Purandarpur	241	Manoharpur		
			Mankanali	4	Dulal Kundi		
			Mankanali	6	Mamurjuri		
			Mankanali	5	Kantabani		
			Junbedia	48	Shitladihi		
			Junbedia	49	Tant kanali		
			Purandarpur	242	Mohanpur		
<b>TOTAL</b>						<b>137</b>	<b>30</b>
<b>Note: This list is indicative. Block, mouza and area may change as per field requirement.</b>							

Table-2C

**BANKURA -3**

Community Worker(CW)- 05 nos.

Sl No	CW Area	Block Name	Name of the Gram Panchayat	JL No.	Mouza Name	Total	No of Additional WBADMIP, Phase-I WUA for monitoring
1	CW-21	Raipur	Matgoda	148	Kuldiha	17	7
			Sonagara	84	Lahamerya		
			Dundar	73	Chaturi		
			Dundar	70	Karrasol		
			Dundar	81	Dundar		
			Raipur	98	Asurgeriya-Uttar		
			Matgoda	146	Banpathari		
			Dundar	79	Rangasol		
		Ranibandh	Haludkanali	107	Nachna		
		Raipur	Sonagara	91	Kadmagarh		
			Sonagara	89	Pukhuria		
			Dundar	82	Khejjurbedia		
			Raipur	100	Mukundapur		
			Raipur	85	Jambani		
			Sonagara	86	Bhadli		
			Raipur	99	Khairdungri		
			Sonagara	83	Sonagara		
2	CW-22	Ranibandh	Ranibandh	158	Katro	21	7
			Barikul	169	Paryasa		
			Barikul	172	Kankri Jharna		
			Barikul	162	Sindriam		
			Barikul	154	Bhulagara		
			Barikul	159	Dhankura		
		Raipur	Fulkushma	252	Susunia		
			Fulkushma	248	Garpahar		
		Ranibandh	Barikul	174	Chalkigora		
			Barikul	166	Satnala		
			Barikul	178	Jatadumur		
			Barikul	179	Barikul		
			Barikul	171	Purnapani Bara Tung		
			Barikul	170	Purnapani Choto Tung		
			Barikul	168	Singlahar		
			Barikul	181	Shukni Basa		

		Raipur	Fulkushma	253	Bansinala		
			Fulkushma	249	Raspal		
			Shyamsundarpur	246	Dudhya		
		Ranibandh	Barikul	184	Dudhenala		
			Barikul	160	Huangkhana		
3	CW-23	Ranibandh	Rautora	144	Churku	17	7
			Rautora	125	Raygar		
			Rautora	147	Maisamura		
			Rautora	135	Seranda		
			Rautora	132	Sereshbad		
			Rautora	134	Kasakend		
			Rautora	139	Suritari		
			Ranibandh	119	Katiam		
			Rautara	146	Haramgara		
			Rautara	126	Gunpura		
			Rautora	129	Rautora		
			Rudra	71	Chaltha		
			Rautara	136	Tilabani		
			Rautara	145	Shyamadi		
			Rudra	68	Makhnu		
			Rudra	67	Kulam		
			Rudra	78	Bagdiha		
4	CW-24	Ranibandh	Rudra	65	Kama	20	9
			Rudra	64	Naranpur		
			Rudra	38	Rudra		
			Puddi	36	Dhanara		
			Ambikanagar	19	Ambikanagar		
			Ambikanagar	44	Chhatardaba		
			Ambikanagar	54	Chirkukanali		
			Ambikanagar	41	Rajsol		
			Ambikanagar	40	Keshra		
			Rudra	57	Palashbani		
			Rudra	61	Atasol		
			Rudra	63	Dhabani		
			Ambikanagar	35	Ramdungri		
			Ambikanagar	37	Nischintapur		
			Haludkanali	94	Pauda		
			Rajakata	111	Rajakata		
			Ranibandh	60	Budhkhila		
			Rajakata	77	Susunigeria		
			Rudra	66	Benkakocha		
			Rajakata	78	Chilagara		
5	CW-25	Khatra	Dhanara	236	Chaka	18	5

			Gorabari	164	Damdi		
			Supur	128	Dharramuli		
			Dahala	274	Jiakanali		
			Dahala	263	Kankradara		
			Gorabari	172	Khari Dungri		
			Gorabari	173	Peri Pathar		
			Gorabari	156	Rajadhali		
			Khatra 2	204	Ruparhir		
			Gorabari	157	Sibrampur		
			Dhanara	238	Kurul Pahari		
			Dahala	271	Hetiasol		
			Dahala	272	Sikrabad		
			Khatragram-II	182	Bansnala		
			Gorabari	205	Jhariakocha		
			Supur	131	Supur		
			Supur	137	Nityanandapur		
			Gorabari	209	Bankati		
<b>TOTAL</b>						<b>93</b>	<b>35</b>
<b>Note: This list is indicative. Block, mouza and area may change as per field requirement.</b>							

Table-2D

**BANKURA -4**

Community Worker(CW)- 04 nos.

Sl No	CW Area	Block Name	Name of the Gram Panchayat	JL No.	Mouza Name	Total	No of Additional WBADMIP, Phase-I WUA for monitoring
1	CW-26	Sarenga	Chiltore	24	Guniada	18	7
			Chiltore	25	Panchur		
			Chiltore	53	Banshkhopa		
			Neturpur	26	Gagra		
			Chiltore	51	Khalaimura		
			Chiltore	111	Dhepua		
			Chiltore	112	Chaknara		
			Chiltore	114	Narayanpur		
			Chiltore	113	Deuli		
			Chiltore	49	Baramurarpur		
			Chiltore	135	Basudebpur		
			Chiltore	133	Dharmapur		
			Bikrampur	220	Khaerpahari		
			Bikrampur	289	Baragarra		
			Neturpur	23	Belatikri		
			Sarenga	191	Sarulia		
			Bikrampur	288	Chhoto Garra		
Bikrampur	221	Bhalukkhunya					
2	CW-27	Simlapal	Lakshmisagar	42	Baurisol	26	13
			Lakshmisagar	35	Junbakra		
			Lakshmisagar	43	Lakshmisagar		
			Machatora	91	Parulia		
			Parsola	10	Pukhuria		
			Lakshmisagar	44	Shyam Pur		
			Lakshmisagar	39	Tilabani		
			Machatora	115	Uparsol		
			Bikrampur	57	Birsingpur		
			Bikrampur	59	Krishnapur		
			Bikrampur	58	Bikrampur		
			Lakshmisagar	40	Jhikri		
			Lakshmisagar	34	Nutangar		
			Lakshmisagar	32	Sinyajora		
			Machatora	94	Suknabad		
			Dubrajpur	158	Lakshmipal		
			Lakshmisagar	51	Benjtabani		

			Bikrampur	89	Jarisa		
			Dubrajpur	157	Nutangram		
			Mandalgram	197	Arra		
			Mandalgram	193	Bandiara		
			Mandalgram	199	Bhutsahar		
			Simlapal	124	Masatkhal		
			Simlapal	122	Pathordoba		
			Simlapal	125	Ramboni		
			Mandalgram	192	Kuchakon		
3	CW-28	Taldangra	Bibarda	63	Harakona	23	9
			Bibarda	66	Jafla		
			Bibarda	54	Jugda		
			Khalgram	17	Kadamara		
			Fulmati	90	Kajla		
			Panchmura	101	Kanaipur		
			Khalgram	11	Khalgram		
			Harmasra	46	Khichka		
			Harmasra	50	Kolsuli		
			Harmasra	39	Kuldiha		
			Taldangra	57	Kusmi		
			Bibarda	55	Nachna		
			Panchmura	104	Panchmura		
			Fulmati	86	Parulia		
			Fulmati	85	Phulmati		
			Panchmura	110	Deulbhira		
			Harmasra	41	Sushunia		
			Taldangra	81	Taldangra		
			Bibarda	52	Taltala		
			Harmasra	38	Tilabani		
			Harmasra	44	Nabagram		
			Panchmura	100	Banskopa		
			Taldangra	68	Shyamsundarpur		
4	CW-29	Onda	Chingani	174	Arabani	22	9
			Chingani	173	Dhengasol		
			Chingani	157	Kamar Kata		
			Chingani	158	Rajduha		
			Kantabari	257	Agarda		
			Mednipur	175	Mandiha		
			Mednipur	177	Medinipur		
			Mednipur	176	Mouleswar		
			Mednipur	155	Sheora Ghati		
			Nakaijuri	234	Maudi		
			Nakaijuri	233	Pathar Kata		

			Nakaijuri	235	Tunka		
			Ramsagar	256	Asan Bani		
			Ramsagar	244	Barpetya		
			Ramsagar	236	Baruipara		
			Ramsagar	243	Chhinpur		
			Ramsagar	229	Jamdoba		
			Ramsagar	245	Malpur		
			Ramsagar	242	Mauchura		
			Ramsagar	241	Patpur		
			Ramsagar	232	Singar Garia		
			Ramsagar	237	Sundarpur		
		JOYPUR					
		KOTOLPUR					
<b>TOTAL</b>						<b>89</b>	<b>38</b>
<b>Note: This list is indicative. Block, mouza and area may change as per field requirement.</b>							

## 5.1.2 Annexure Terms of Reference for Agriculture Priority District Murshidabad TOR attached as sample

### Terms of Reference (TOR)

Terms of Reference(TOR) for Consultancy Services from Support Organization (SO) for strengthening, handholding & nurturing of Water User Association (WUA)/Cluster of WUA, providing support services in Agriculture , Horticulture & Fishery activities , supporting & promoting water efficient farming practices, collective actions among farmers, water management, etc. in Murshidabad District under District Project Management Unit (DPMU)- Murshidabad of West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP)-Phase2

Consultancy Services from Support Organization (SO) are required for WUAs, formed during WBADMIP-Phase-I, State fund, and WUAs to be formed during WBADMIP- Phase-II in different blocks of Murshidabad district with following details.

District	SUB GROUP	NUMBER OF BLOCK	NAME OF THE SERVICES	DURATION OF SERVICES
MURSHIDABAD	1. MURSHIDABAD-1	13	Consulting Services As Support Organization (SO) In Beldanga-II, Berhampore, Bharatpur-II, Hariharpara, Khargram, Lalgola, Nawda, Nabagram, Raghunathganj-I, Sagardighi, Bhagawangola-I, Raninagar-II, Murshidabad Jiyaganj blocks of Murshidabad district	1 Year

### 1. Context and Project Background.

Water Resources Investigation and Development Department of Government of West Bengal is implementing a project namely “West Bengal Accelerated Development of Minor Irrigation Project” with credit support from World Bank. The Project objective is to enhance sustainable economic growth and reduction of poverty through improved reliability of water resources for irrigation and increased agriculture and allied sector production using new production related technologies as well as creating income generating opportunities to improve rural livelihoods within the project area. The key purpose of the project is to ensure irrigation water to small and marginal farmers in rain-fed areas and to organize them into a group based upon one or more MI schemes, for proper upkeep and maintenance of such minor irrigation structures along with Agriculture, Horticulture and Fishery related production practices development after handover. Besides, through focused institutional strengthening enable them for judicious and equitable uses of irrigated water for augmenting their income.

The Project Development Objective (PDO) is to augment water availability, and enhance income of small and marginal farmers in project areas of West Bengal through Accelerated Development of Minor Irrigation Schemes by strengthening Water User Associations(WUA) for improved irrigated Agriculture & allied activities. The key performance indicators are:

- (i) Water harnessed through new irrigation schemes (Cubic Meters [CM] per year)
- (ii) Beneficiaries provided with improved irrigated agriculture and allied services (number)
  - a. Of whom are small and marginal farmers (percentage)
  - b. Of whom are farmers belonging to tribal communities (percentage)
  - c. Of whom are female farmers (percentage)
- (iii) Well performing WUAs operating and maintaining irrigation schemes successfully (percentage)

(iv) Value-weighted index for agricultural outputs (fixed base price) (percentage)

Project has four Components, namely, A. Strengthening Community Based Institution, B, Irrigation System Development, C. Agricultural Support Services, and D. Project Management and Institutional Development

## **2. Component A: Strengthening Community Based Institutions:**

During phase I (2012-19) with World Bank support and also afterwards with GoWB support, Water User Associations (WUAs) were established and strengthened which took over, managed, and maintained the minor irrigation services created under the project. In 2021, National Water Mission, Government of India (2022 awarded all three prizes i.e. first, second and third to the WUAs formed and strengthened by WBADMIP for their exemplary work in handling irrigation infrastructure and developing system of water distribution.

Till date so far 4751 Minor Irrigation(MI) sub projects (out of 5018) of different types of MI schemes with command area varying from 5 to 50 Ha have already been constructed and handed over to the WUAs totalling 2875 number, to irrigate a total command area of about 51882 ha, covering 22 districts of the state.

The Phase-II will have a component on strengthening community-based institutions to support the irrigation structures as well as strengthening, networking and clustering the already formed WUAs. For that purposes, under components A, the Project needs to hire the services from SOs as “Consultancy Services” for mobilizing the targeted community effectively to attain the Project Development Objectives. These consultancy service providers may be named as Support Organization.

## **3. Objectives of the engaging Support Organization(SO):**

- 3.1. Strategic uses of skill and expertise of the SOs (grass root presence, capacity for mobilizing community and strengthening the institution, technical expertise, etc.) for building capacities of the Water User Associations to become self-sustained, vibrant, inclusive and light house through participatory irrigation and water management with various collectivization initiatives and innovation.
- 3.2. Mobilising farmers of Water User Association (WUA) /Cluster of Water User Association (CWUA) for improved irrigated Agriculture & allied activities. Also helping farmers for direct access to local market for produces or agri-inputs.
- 3.3. Enabling the Water User Associations to act as a change agent for promotion and facilitate adoption of scientific technologies and practices on agriculture and allied sector among farmers in scale and therefore augment their income through collective actions.

## **4. Tasks and responsibilities & key Deliverables of the Support Organization(SO):**

- 4.1. Adoption of Water Efficient Practices on farm land: Extension of water use efficiency technologies like method of irrigation, production of crops with minimum use of water, application of irrigation water using Tensiometer instrument, use of mulching, using poly pipes for irrigation purpose and recommendation of less water consuming crops and maintaining of irrigation water quality along with water budgeting etc.
- 4.2. Support Activities in Agriculture & Horticulture: Providing extension services for
  - 4.2.1. Higher yield of crops.

- 4.2.2. Dissemination of Scientific packages of practices of crops through trainings and Demonstrations, Exposure visit etc.
- 4.2.3. Introduction of new crops through crop diversification.
- 4.2.4. Introduction of climate resilient agro-techniques.
- 4.2.5. Introduction of Integrated Pest management (IPM) and Integrated Plant nutrient management, Soil sample collection.
- 4.2.6. Post harvest technology, grading, storage and packaging technology of different crops
- 4.2.7. Providing market intelligence to the WUA members etc.
- 4.3. Support Activities in Fishery: The support organization will be bound to work according to the guidelines of ADMI Project. Among these works, most priority is to bring the newly excavated water bodies under scientific fish farming through FIG groups. All the work that the Support Organization has to do initially is as follows-
  - 4.3.1. Develop plans, strategies, implementation mechanism related to developing a fish production cluster
  - 4.3.2. Collecting project village wise basic information about what type of fish will be cultivated according to the nature of the water body and local needs.
  - 4.3.3. Proper Site selection for successful intervention of several fisheries schemes.
  - 4.3.4. Formation of Fishery Producer Group (FPG) among the interested WUA members and also SHG members
  - 4.3.5. Capacity building of FPG members regarding record keeping, fund management, benefit sharing, etc
  - 4.3.6. Organizing and facilitating training programme to FPG member and imparting training to the farmers.
  - 4.3.7. Keep close contact and assist the Fisheries Specialists/relevant specialist & other DPMU personnel.
  - 4.3.8. Regular site visits to different WUAs (Water Users Association) where fisheries activities are taken place.
  - 4.3.9. Maintain proper records, data and well communication with the assigned Fisheries Spl. /FFA of concern DPMU.
  - 4.3.10. Explore and create market potential, identifying value chain, establishing linkages of fish farmer with markets and as well as Govt. Agencies.
  - 4.3.11. Prepare and develop leaflet on different fish culture practices, small writing/story on any successful scheme related to fisheries.
  - 4.3.12. Any other work assigned by the concern DPMU's authority
- 4.4 Strengthening of Water User Association (WUA): Build Capacity of WUA on land & water related issues, making plans and building capacity of WUAs for sustainable operation,

maintenance and management of MI Schemes. Provide focused support to build capacities of WUAs in all targeted aspects including Institution and agriculture support services.

**4.5 Capacity Building of WUAs: Strengthening of Water Users Associations on institutional strengthening, agriculture support services and aquaculture.** SO will prepare WUA wise annual training and capacity building plan for execution after approval. Primary focus areas:

**4.5.01** WUA ecosystem- Collectivization benefits, Societies Registration Act and bye laws, role & responsibilities, WUA governance and functioning, WUA fees and water charges, financial management, audit, renewal and record keeping, corpus generation, conflict management, building capacities of office bearer, etc.

**4.5.02** O&M of MI Schemes - Operation and maintenance of the MI schemes, water lifting arrangement, solar system, micro irrigation system management (like sprinkler, drip), etc.

**4.5.03** Water management- PIM, water budgeting & distribution, water management, water charge fixing, etc.

**4.5.04** Agriculture and allied activities- Crop planning; Good agriculture technologies and practices related to agriculture, horticulture and fishery, INM, IPM, Bio based intervention, Orchard management, etc.

**4.5.05** Community Resource Person- Identification of lead farmer / Champion farmer, nurture and building capacities of these champion farmers pertaining to agriculture, fishery or allied sector. These CRPs can act as a Community Cadre for the respective area of expertise to support WUA or Producer group.

**4.5.06** Training need analysis and deepening need based training – Identification of challenges and gaps through stakeholder consultation. Prepare stakeholder focused training modules, etc. jointly with DPMU / SPMU and grounding such capacity building exercises.

**4.5.07** Design and development of IEC – using skill and expertise design and development of Interactive IEC tools and materials and grounding after obtaining approval from competent authorities.

**4.6 Monitoring and Supportive Supervision:** Monitoring of WUA performance, and provide necessary support based on gap. Organize refresher training and handholding. key areas could be

**4.6.01 Functioning and water management** - Functioning of MI schemes, WUAs as well as equitable and judicious uses of water; scheme operation and maintenance, etc.

**4.6.02 Adoption of technology and practices-** Adoption of Good Agriculture technologies & Practices and benefit tracking, Cost benefit analysis, adoption of farm machinery, bio based intervention, etc.

**4.6.03 Crop Diversification and new crop-** understanding agro climatic and climate resilient scope for crop diversification, support and facilitate adoption.

**4.6.04 Plantation with intercropping** – understanding areas for improvement, coverage, training and support.

**4.6.05 Gender focused intervention** -Gender inclusion, support women centric economic activities, scope and achievement. Linkage with the SHGs within WUAs, facilitate women leadership and meaningful participation in WUA functioning, etc.

**4.6.06 Grading** - WUA level self-assessment and strengthening based on grading findings.

- 4.6.07 Convergence initiatives** – Scope and activities to support convergence actions, explore scope
- 4.6.08 Community Resource Person-** effectiveness, capacities and areas for improvement
- 4.7 Formation of Cluster of WUA (CWUA) and collective actions to enhance income of member farmers:** Well performing WUAs to be facilitated to get federated into cluster with other WUAs located in the workable distance. Key intervention action would be
- 4.7.01 Mapping of Cluster of WUAs** – mapping of potential cluster of WUAs and in consultation with agreed WUA, formation of Cluster of WUAs.
- 4.7.02 Nurturing and Strengthening** – facilitate to build capacities for taking up collective actions at WUA as well as at Cluster level, like joint purchase of seed, training, etc. Need based planning and execution. Follow up and support.
- 4.7.03 Linking with line department** – facilitate convergence actions
- 4.7.04 FPO / FPG** – SOs together with DPMU / SPMU periodically follow up and support cluster of WUAs for their potential progression to FPO.
- 4.8 Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization** – SO may require to provide some support to other non ADMIP WUAs within their working jurisdiction taking into consideration of cluster of WUAs perspective. Provided such action is required and approved on behalf of the project.
- 4.9 Record & MIS:** SO have to maintain a MIS projecting all scheme and WUA related updated information including beneficiary details, case studies, impact and performance tracking. Type of support provided to the farmers, benefit tracking, etc. and other information as required by the project time to time.
- 4.10 Monitoring and capacity building of SO staff** – Policy functionaries of support organization in consultation with DPMU, on their own will orient, trained their staffs for better outcomes. Orientation / training require to be done online / off line once in a quarter, subject to the situation and requirement. SO will monitor the performance of their staff also periodically.
- 4.11 WUA to WUA support** – Facilitate light house WUAs to train and build capacities of other WUAs through structured approach following project guidelines using their CRP and exposure visits.
- 4.12 MI Scheme Development: -**
- 4.12.01** Orientation and clarity among SO staff on WBADMI-Phase- II Project.
- 4.12.02** Identification of agro climatic zone suitable potential and feasible Minor Irrigation Schemes within Micro watershed or separately abide by all relevant project guidelines, environment and social safeguard mechanism, Base line Survey and data collection.
- 4.12.03 Support during Scheme Feasibility:** Provide support during conducting feasibility study by the DPMU. Collection of all requisite documents, map, etc. with accurate latitude and longitude.
- 1.12.04 Information collection & planning:** Creating awareness, mapping of entry point activities (EPA), if any, Rapid Rural Appraisal (RRA) & Participatory Rural Appraisal (PRA) & collection of requisite data for preparation of DPR and for other project purposes as per approved project

**4.13 Other unforeseen activities pertaining to the Project Objectives:** During the process there remain some unforeseen activities that may require to be performed for the benefit of the WUAs. Project in course of time will define such tasks and if required build capacities of SO team for execution of such actions.

## 5 Schedule of Works of the Support Organization(SO):

### 5.1 Schedule of Works

Sl No	Key Activities and Associated Deliverables	Deliverables unit in number per month for each sub group	Remarks
		MURSHIDABAD- 1	
1	Adoption of Water Efficient Practices on farming land	Rabi- 196 Ha Pre-kharif -84 Ha <b>(season wise )</b>	<ul style="list-style-type: none"> <li>Unit numbers are tentative. Actual number may very considering the field situation &amp; final planning and approval.</li> </ul>
2	Support Activities in Agriculture & Horticulture	Agriculture : Kharif- 415 Ha Rabi- 335 Ha Pre-kharif -300 Ha Horticulture: Kharif- 415 Ha Rabi- 435 Ha Pre-kharif -100 Ha <b>( season wise )</b>	
3	Support Activities in Fishery( in Ha of water bodies)	2.50	
4	Strengthening of Water User Association (WUA):	8	
5	Capacity Building of WUAs	60	
6	Monitoring and Supportive Supervision of WUAs	60	
7	Formation of cluster of WUAs and collective actions for better income	4	
8	Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization	4	
9	Record & MIS for all activities.	100%	
10	Monitoring and capacity building of all SO staff	100%	
11	WUA to WUA support	8	
12	MI Scheme development	As applicable	
13	Other unforeseen activities pertaining to the Project Objectives ( if any)	As applicable	

### 5.2 Broad Season wise Target, as applicable (Tentative)

Targets shall be finalized at DPMU Level time to time, and shall be binding on Support Organization (SO). Other areas of requirement to be added by the DPMUs as per field situation. Achievement shall be measured with respect to targets mentioned through clauses 5.2.1 to 5.2.2.

### 5.2.1 Adoption of Water Efficient Practices on farm land:

Sl No	Component	MURSHIDABAD- 1	
		Target in Ha	Achievement
A	B	C	D
1.0	Area under water efficient practice		
1.1	Soil Moisture Meter application	Kharif – 1 Rabi – 40 Pre-Kharif – 15	
1.2	SRI , etc	Kharif – 1 Rabi – 11 Pre-Kharif – 02	
1.3	Soil test	Kharif – 1 Rabi – 90 Pre-Kharif – 7	
1.4	Other ( specify) Cultivation less water loving crop like Lathyrus, Millet (Poiria cropping) (Season Wise)	Kharif – 1 Rabi – 100 Pre-Kharif – 11	
2.0	Area cover under Drip / sprinkler/ micro-irrigation	Rabi- 78	
2.1	Drip	Rabi-14	
2.2	Sprinkler	Rabi-36	
2.3	Mulching	Rabi-23	
2.4	Other micro Irrigation (Pitcher , Rain gun etc)	Rabi-5	

### 5.2.2 Support Activities in Agriculture & Horticulture :

Sl No	Component	MURSHIDABAD- 1	
		Target in Ha	Achievement
A	B	C	D
1	Agriculture		
1.1	Area in Ha taken for demonstration	Kharif –2 Rabi – 5 Pre-kharif -1	
1.2	Area in Ha taken for crop diversification	Kharif –22 Rabi – 78 Pre-kharif -12	
	Area in Ha taken for promotion of new crop	Kharif –22 Rabi – 77 Pre-kharif -11	
1.3	Area in Ha taken for promotion of new technology, climate resilient agricultural technology & package of practice	Kharif –110 Rabi – 44 Pre-kharif -66	
1.4	Area in Ha targeted for adaptation	Kharif –30 Rabi – 105 Pre-kharif -15	
1.5	Promotion of bio- inputs in quantity	Kharif –66 Rabi- 231 Pre-kharif -33	

2	Horticulture / Floriculture		
2.1	Area in Ha taken for demonstration	Kharif -11 Rabi - 38 Pre-kharif -6	
2.2	Area in Ha taken for crop diversification with high valued crop	Kharif -35 Rabi -75 Pre-kharif - 40	
2.3	Area in Ha taken for promotion of new crop	Kharif -26 Rabi -90 Pre-kharif -14	
2.6	Area in Ha taken for promotion of new technology, protected cultivation , climate resilient agricultural technology & package of practice	Kharif -115 Rabi - 46 Pre-kharif -69	
2.7	Area in Ha targeted for adaptation	Kharif -46 Rabi -160 Pre-kharif -22	
2.8	Promotion of bio- inputs in quantity	Kharif -94 Rabi -150 Pre-kharif -23	
3.	Orchard with intercropping		
3.1	Area in Ha taken under orchard plantation	Kharif -5	
3.2	Area in Ha taken under intercropping within orchard plantation areas	Kharif -2 Rabi - 3	

### 5.3 Broad Monthly Target , as applicable (Tentative)

Targets shall be finalized at DPMU Level time to time, and shall be binding on Support Organization (SO). Other areas of requirement to be added by the DPMUs as per field situation. Achievement shall be measured with respect to targets mentioned through clauses 5.3.01 to 5.3.06.

#### 5.3.01 Support Activities in Fishery

Sl No	Component	MURSHIDABAD- 1	
		Target	Achievement
A	B	C	D
1	Area in Ha taken for fishery Demonstration	0.25 Ha	
2	Area in Ha taken for fishery mass production	2.25 Ha	
3	Nos. of proposed Fish feed mill (Yearly)	1 Nos	
4	Promotion of Bio-Juice, Home made fish feed	2.5 Ha	
5	Area in Ha targeted for adoption	1.5 Ha	
6	Productivity	2500 (Kg/Ha)	

#### 5.3.02 Corpus fund: -

Sl No	Component	MURSHIDABAD- 1	
		Tentative monthly target	Achievement

A	B	C	D
1	Total WUA corpus in Rs.( cash in hand + cash in Bank)	As applicable	
2	Out of Total corpus amount in Rs, collected as water charges	100 % WUA as target	
3	Out of Total corpus amount in Rs, collected from member ship fees	100 % WUA as target	
4	Amount in Rs. Mobilized from other activities like fishery, agriculture, horticulture, farm equipment charges, plantation, etc.	As applicable	

### 5.3.03 Training and Capacity Building: -

Sl No	Component	MURSHIDABAD- 1	
		Target	Achievement
A	B	C	D
1	No of farmers taken to exposure	As finalized by DPMU	
2	No of farmers Trained on WUA development	As finalized by DPMU	
3	No of farmers Trained on Agriculture	As finalized by DPMU	
4	No of farmers Trained on Horticulture	As finalized by DPMU	
5	No of farmers Trained on Fishery	As finalized by DPMU	
6	No of farmers Trained on Other (Specify)	As finalized by DPMU	
7	No of IEC material developed	As finalized by DPMU	
8	No of Resource Person from lead farmer identifies and trained	As finalized by DPMU	
9	No of training held including institution and ASS through Resource Person ( selected from lead farmer)	As finalized by DPMU	

### 5.3.04 Mobile Based Advisory Services: -

Sl No	Component	MURSHIDABAD- 1	
		Target	Achievement
A	B	C	D
1	No of farmers enrolled under Krishikatha	40	
2	Percentage of farmers seeking advice through Krishikatha	30 % minimum	

### 5.3.05 Convergence Initiatives.

Sub Group as MURSHIDABAD- 1

Name of the Department	Name of the Scheme/ Programme	Type of benefits received	No of Famers benefitted ( male & female)	Approximate amount of benefits mobilized

**5.3.06 WUA Entrepreneurship activities using project fund, WUA corpus, convergence, etc. against different sub groups.**

Sl No	Component	MURSHIDABAD- 1	
		Target	Achievement
A	B	C	D
1	Production of seed	As finalized by DPMU	
2	Low cost nursery	As finalized by DPMU	
3	Vermicompost pit	As finalized by DPMU	
4	Farm mechanization i.e. power tiller, etc	As finalized by DPMU	
5	Hatchery	As finalized by DPMU	
6	Spawn to fingerling	As finalized by DPMU	
7	Fish feed making using local materials	As finalized by DPMU	
8	Orchard nursery	As finalized by DPMU	
9	Bee-keeping	As finalized by DPMU	
10	Others ( specify)	As finalized by DPMU	

**6 Services, facilities and counterpart personnel support to the Support Organization(SO):**

**6.1.** The client will provide requisite services, facilities and counterpart personnel support at DPMU level for carrying out the function of Support Organization.

**7 Key Deliverables with Performance indicator for Support Organization(SO):**

Sl No	Key Activities	Performance Indicators	Source of verification
1	Adoption of Water Efficient Practices on farming land	<ul style="list-style-type: none"> <li>Percentage of achievement in hactre against target area</li> <li>No of WUA covered</li> <li>No of farmers covered</li> <li>Percentage of yield increased against the previous yield i.e productivity</li> </ul>	<ul style="list-style-type: none"> <li>MIS report</li> <li>Meeting minutes</li> <li>Crop cutting report through FFD</li> <li>GIS monitoring</li> <li>Reflection on corpus fund</li> <li>Documentation including case study etc</li> </ul>

2	Support Activities in Agriculture & Horticulture	<ul style="list-style-type: none"> <li>• Hand holding training capacity buiding</li> <li>• Demonstration</li> <li>• Exposure visit</li> <li>• Crop diversication</li> <li>• Water efficient use</li> <li>• Adoption of new technologies</li> <li>• Area under orchard with intercropping</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Meeting minutes</li> <li>• Crop cutting report through FFD</li> <li>• GIS monitoring</li> <li>• Reflection on corpus fund</li> <li>• Documentation including case study etc</li> </ul>
3	Support Activities in Fishery	<ul style="list-style-type: none"> <li>• Area Covered in Ha</li> <li>• Nos of FIG formed</li> <li>• Total Beneficiaries</li> <li>• Nos of Women beneficiaries</li> <li>• Productivity</li> <li>• Shared amount to WUA</li> <li>• Nos of farmers trained</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• FIG Registers</li> <li>• WUA registers</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
4	Strengthening of Water User Association (WUA):	<ul style="list-style-type: none"> <li>• No of WUA formed with committee and Sub Committee</li> <li>• No of women member in managing committee and as office bearer</li> <li>• No of WUA registered and open Bank Account, PAN card</li> <li>• No of WUA took handover of MI schemes</li> <li>• No of farmers taking water from MI schemes</li> <li>• WUA wise training need assessment and capacity building plan including institution &amp; ASS</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Resolution book with forming meeting resolution signed by majority members Scheme photo</li> <li>• Crop planning register, Irrigation register, Asset register, membership register, registration certificate and Bank pass Book, PAN card</li> <li>• WUA wise capacity development plan as per approved format</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
5	Capacity Building of WUAs	<ul style="list-style-type: none"> <li>• No of WUAs and MI schemes are functioning satisfactorily</li> <li>• No of WUAs done crop planning and all members are getting water as per crop planning</li> <li>• No of WUAs have regular monthly meeting with more than 60 % attendance</li> <li>• No of WUAs done audit, renewal of registration and AGM after completion of FY.</li> <li>• No of WUAs able to mobilize fund for corpus</li> <li>• No of WUAs score A+, A, B after intervention</li> <li>• Amount of leverage benefit mobilized through convergence</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Grading score</li> <li>• WUA wise fund status</li> <li>• WUA registers</li> <li>• Annual CB Plan and achievement with records</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>

6	Monitoring and Supportive Supervision	<ul style="list-style-type: none"> <li>• % of crop diversification achieved</li> <li>• Number of WUA and farmers adopted new crop</li> <li>• % of oilseed and pulses promoted and adopted</li> <li>• % of farmers done soil test and using report as reference</li> <li>• Total new area under orchard and % of intercropping done within orchard</li> <li>• No of WUA level lead farmer identified and trained to act as resource person on Institution and ASS</li> </ul>	<ul style="list-style-type: none"> <li>• MIS</li> <li>• Agriculture Report</li> <li>• GIS data</li> <li>• No of farmers trained through CSP</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> <li>• SO performance report</li> <li>• Third party study &amp; findings on Institutional aspects</li> </ul>
7	Formation of Cluster of WUAs(CWUA) and initiate collective actions to enhance income of farmers.	<ul style="list-style-type: none"> <li>• No of targeted cluster of WUAs start collective procurement of seed, fertilizer, etc. at WUA / cluster level</li> <li>• No of targeted cluster of WUA start some type of collective activities for accessing market</li> <li>• No of Cluster start other type of collective actions like training, planning, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Cluster based progress report</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> <li>• Progress report on collective buying and selling of Agri inputs and outputs.</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
8	Nurturing of WUAs formed under other departmental fund within the jurisdiction of Support Organization	<ul style="list-style-type: none"> <li>• Subject to approval of project authorities.</li> <li>• No of WUA formed and strengthened</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>
9	Record & MIS	<ul style="list-style-type: none"> <li>• SO has all relevant information of WUA and farmer wise information as required for Project</li> <li>• Reporting standard as perceived by the DPMU</li> </ul>	<ul style="list-style-type: none"> <li>• SO MIS</li> <li>• Project MIS</li> </ul>
10	Monitoring and capacity building of SO staff	<ul style="list-style-type: none"> <li>• No of staff scored performing well as per DPMU assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly assessment and review by Project</li> <li>• yearly SO evaluation report done by the Project</li> </ul>
11	WUA to WUA support	<ul style="list-style-type: none"> <li>• No of light hose WUA identified and trained</li> <li>• No of training, exposure visit done by the light house WUA, etc.</li> <li>• No of WUAs become capable to provide seed, vermicompost, sapling, etc. to other WUAs</li> </ul>	<ul style="list-style-type: none"> <li>• MIS report</li> <li>• Monthly progress Report duly verified and accepted by the concerned DPMU</li> </ul>

		<ul style="list-style-type: none"> <li>No of resource person trained and facilitated for building capacities of other WUAs</li> </ul>	
12	MI Scheme Development	<ul style="list-style-type: none"> <li>MI Scheme identification.</li> <li>Data collection for feasibility study and DPR preparation.</li> <li>WUA formation, registration and Bank Account opening etc. .</li> <li>Monitoring &amp; Data collection on Construction &amp; Commissioning activities of MI Scheme.</li> </ul>	<ul style="list-style-type: none"> <li>MIS report</li> <li>GIS platform data.</li> <li>Check list</li> </ul>
13	Other unforeseen activities pertaining to the project objective	<ul style="list-style-type: none"> <li>As per field situation</li> </ul>	<ul style="list-style-type: none"> <li>MIS</li> <li>Monthly Report</li> </ul>

## 8 Essential Criteria for the Support Organization(SO):

**8.1** Prior experience of 5(five) years in the area of Community Mobilization and Livelihoods to the similar nature of support activities in the Irrigation water sector or Rural Development sector in the target district .

**8.2** Prior experience of 2(two) years in formation and nurturing Water User Associations(WUA) in the Irrigation Sector.

## 9 Name of Positions for Key and Non Key Expert with mouzas/block of assignment of Support Organization(SO):

Type of Expert	Name of the Positions of Personnel	Approved Number	Personnel with mouzas/block of assignment)
		MURSHIDABAD- 1	
Key Expert	Training & Documentation Coordinator	1	All Blocks as per Annexure I (Tentative)
	Agriculture Expert	1	
	Fishery Expert	1	
	Manager cum Computer Operator	1	
Non Key Expert	Community Worker	Four (04)	All Blocks as per Annexure I (Tentative)

**9.1** The above positions and numbers are tentative, and may change according to the field requirement which would be assessed jointly by the DPMU/ SPMU on monthly/quarterly/yearly basis. Actual changes in position and numbers would be decided by the Project Authority directly or on recommendation from the Executive Engineer of the DPMU.

**10** Requisite Qualification and Experience of Key and Non Key Expert of Support Organization(SO):

Expert/Personnel Position	Qualification and Experiences Requirement
23. Training & Documentation Coordinator	<p>Qualification Master's degree in Sociology, Social work or equivalent or Graduate in any other discipline with 3 to 4 years of similar work experience may also be considered.</p> <p>Experiences 3- 4 years' experiences in training, capacity building at community level. Having strong writing skills and expertise in preparing case studies, PPT, IEC materials, human interest stories in English and other regional language.</p>
24. Agriculture Expert	<p>Qualification Bachelor/Master degree in Agriculture Science or equivalent /Natural Resources Management etc.</p> <p>Experiences 4 years' experience of working at community level in agriculture, horticulture, floriculture, etc. and other Water related livelihood development Programme/Project</p>
25. Fishery Expert	<p>Qualification Bachelor/Master degree in Fishery Science or Equivalent</p> <p>Experiences 4 years experiences of working in pisciculture at community level including FIG formation, etc.</p>
26. Manager cum Computer Operator	<p>Qualification Graduate in any discipline with computer knowledge in MS Office, Excel, Power point, etc.</p> <p>Experiences 2-3 years works experience.</p>
27. Community Worker	<p>Qualification Higher Secondary / Madhyamik / ITI passed</p> <p>Experiences Minimum 1-year experience in Water related livelihood development Project/Programme at community level. Community Workers are Non Key Expert. Their CV will not be evaluated individually, but they must be local and their experience is non negotiable.</p>

**11** Role and Responsibilities of the Personnel of Support Organization(SO):

**11.1 Training & Documentation Coordinator:**

11.1.01 Training need assessment on institution, Agriculture and allied sector, marketing, etc. primarily targeting key stakeholder and accordingly development of different

training modules, leaflets, literature, audio – visual clips, etc. in regional language. Obtaining approval from DPMU/ SPMU.

- 11.1.02 Prepare training Calendar for WUA and Cluster of WUA, capacity building intervention plan, budgeting, arrangement for Resource persons, etc. and facilitate execution after approval from concerned authorities.
- 11.1.03 Monitor and supervise grounding of approved modules, exposure visits, FFS, FFD, etc. for strengthening of the Institution and adoption of Agriculture, Horticulture and Fisheries related good practices at WUA and Cluster of WUA level after approval from DPMU.
- 11.1.04 Identification of WUA / CWUA level resource person comprising various subject (institution and ASS) and facilitate capacity building of identified resource persons (RP). Facilitate training of WUAs through RP in a focused way.
- 11.1.05 Listing of Resource person from line department, listing of resource agencies available in vicinity like KVK, State Agriculture Universities, Cooperative Bodies, agri marketing department, etc. for exposure and training purpose. Networking and convergence to use such resources for building capacities of WUA members.
- 11.1.06 Result monitoring, development of monitoring tools, indicators, etc. in respect of capacity building exercise following project objectives and guidelines.
- 11.1.07 In absence of Team leader perform the duty of Team Leader.
- 11.1.08 Perform any other activities as to be desired by the competent project authorities

## **11.2 Agriculture Expert:**

- 11.2.01 To assist and ensure implementation of district plan to enhance the ecofriendly agri – horti production of small and marginal farmers for collective production.
- 11.2.02 To facilitate WUAs on climate resilient various improved package & practices of crop cultivation through OFD, intensification programme and other innovative and technological intervention.
- 11.2.03 Facilitate market linkage of agri-horti produces for sustainable agriculture development through community participation as per PAD
- 11.2.04 Facilitate training need analysis of Agriculture and organizing Farmers Field School (FFS).
- 11.2.05 Organize various agriculture extension services like FFD / exposure visit / peer learning etc. at WUA level to enhance Capacity building of farmer’s knowledge skill and attitude etc.
- 11.2.06 Imparting / organising training-capacity building workshop.
- 11.2.07 Database TNA and imparting training.
- 11.2.08 Data collection for MIS.
- 11.2.09 Any other activities required for the Project which is not listed above.

## **11.3 Fishery Expert:**

- 11.3.01 Assist DPMU level Specialist for execution of Fisheries work in Project Areas.
- 11.3.02 Develop plans, strategies, implementation mechanism related to developing a fish production cluster.
- 11.3.03 To establish the fish cultivation as an important livelihood sector among small & marginal farmers, bring innovation & new ideas to create replicable model.
- 11.3.04 To train and to extend handholding support for the skill development of the fishermen.

- 11.3.05 To develop Package of Practice of Fish cultivation (area specific culture method, Production cycle, Risk management, etc) in English and other regional language. Prepare and develop small writing/story on any successful scheme related to fisheries.
- 11.3.06 Develop capacity building plan, module and mechanism for delivery.
- 11.3.07 Organize special hand-holding training on feed preparation, disease management and marketing, etc.
- 11.3.08 Coordinate with DPMU and other Expert for smooth execution and proper planning of the fisheries work.
- 11.3.09 Collect basic & final DATA, before and after implementation of Fisheries work, with the help of CW.
- 11.3.10 To explore and create market potential, identifying value chain, establishing linkages of fish farmer with markets and as well as Govt. Agencies.
- 11.3.11 Any other work assigned by the concern authority

#### **11.4 Manager cum Computer Operator:**

- 11.4.01 Maintain Management Information System (MIS) of WUA, Cluster of WUAs including all aspects like institution, agriculture and allied sectors. Maintain farmer wise updated record as required by the project.
- 11.4.02 Help support in analysis of WUA performance, Grading analysis and other analysis of data as required by the Project.
- 11.4.03 Keep and maintain all reports and returns. Assist in preparation of any other documents including finance as required by the Team Leader and DPMU.
- 11.4.04 Coordinate with all concerned for preparation and compilation of accurate data and help concerned in preparation of reports, presentation, etc.
- 11.4.05 Other activities as assigned by the authorities as and when required basis.

#### **11.5 Community Worker:**

- 11.5.01 Assist Team leader and technical team in respect of identification & selection of new Minor Irrigation schemes within the allotted jurisdiction. Facilitate organize meeting with prospective farmers. Follow ups and collection of base line information for preparation of DPR / SDMP as required.
- 11.5.02 Assist technical team to draw command area of the schemes using GPS. Collection of Latitude and Longitude of scheme and other locations as required by the Project.
- 11.5.03 Assist Collection of other relevant information of WUAs and Cluster of WUAs using apps and formats as approved by the Project.
- 11.5.04 Under the guidance of SO and DPMU facilitate forming of WUAs and Cluster of WUAs and facilitate organizing training, capacity building, exposure visits, etc. as per project requirement.
- 11.5.05 Visit WUA and Cluster of WUAs (CWUA) regularly as per approved plan. Organize meeting with WUA, Cluster of WUA for execution of plan as guided by the concerned expert and follow ups. Help support in conflict management under the guidance of other team members.
- 11.5.06 Organize and ensure WUA members participation in meeting, training, exposure visits, execution of planned activities and adoption, etc. as suggested by the experts and follow ups.

- 11.5.07 Facilitate grounding of agriculture and allied activities under the guidance of concerned expert, follow ups and act as a link between farmer and expert for better impact.
- 11.5.08 Facilitate grounding, crop planning, water management, grading, corpus building, selection of farmers for demonstration, lead farmers, enrollment in Krishi-katha, record keeping and maintaining of other registers at WUA / CWUA end as well as facilitate deepening other activities which are related to the strengthening of the WUAs and CWUAs as per instruction of SO and DPMU / SPMU.
- 11.5.09 Keep farmer wise information for each WUA. Periodic information collection and sharing of progress and challenges to TL and respective experts.
- 11.5.10 Enable WUA members to up -keep and update records as per project guidelines.
- 11.5.11 Extension works execution including institution and ASS.
- 11.5.12 Other activities as assigned by the authorities as and when required.

## **12 Replacement of Key and Non Key personnel of Support Organization:**

**12.1** Replacement of Key and non-key personnel would be as per SO arrangement as the engagement is from SO end. However in case of-

**12.1.01** Any incident which may lead to the law and order problem at the working area, the project will request the SO for immediate replacement of the concerned staff.

**12.1.02** In case of low performance of any key/non key personnel on the basis of review of performance by DPMU/SPMU, the project will request the SO for immediate replacement of the concerned staff.

**12.1.03** Indeed, frequent replacement of any Key and Non key personnel are not desirable. Replacement of any Key and Non-Key personnel should be done based upon mutual consent of DPMU and Consultancy Service Provider i.e. Support Organization. Prior to engagement/replacement of any personnel, SO should be consulted/approved with/from the Executive Engineer of the DPMU.

## **13 Termination of contract or not extension of the contract beyond closure of existing Contract of Support Organization:**

Termination of contract or not extension of the contract beyond closure of existing contract Period of Support Organization may take place by the client based on the following grounds: -

- If the Client determines that the key and non-key personnel of the Support Organization have engaged in other assignment outside of WBADMIP, or in corrupt, fraudulent, collusive, coercive or obstructive practices while carrying out of the services, then the Client may, after giving fourteen (14) calendar days' written notice to the Consultant, terminate the existing contract with Support Organization.
- The Client may, by written notice of suspension to the Support Organization, suspend all payments to the Support Organization hereunder if the Support Organization fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Support Organization to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Support Organization of such notice of suspension. Failure

to compliance of the suspension after the allotted period i.e. thirty (30) calendar days, the client may close the contract through written communication.

- The client may terminate the contract or may not extended the contract with Support Organization if found the performance of the Support Organization is not -satisfactory / poor / very poor based upon mutually agreed parameters of appraisal / evaluation.
- The Client may terminate the contract with the Support Organization on the grounds like breach of trust, sharing of project information to other concern without prior approval of the Client in its (Client) sole discretion and for any reason whatsoever, decides to terminate this Contract.

#### **14 Duration of the Support Organization:**

The contract period shall be one year after date of signing of the contract or till the end of the project whichever is earlier. The contract may also be further extended according to the extension of the Project and as per the requirement of the assignment. However, the contract may be shortened depending on the performance of the expert as appropriate.

#### **15 Reporting obligations of the Support Organization:**

- 15.1** All Personnel will report to the concerned Executive Engineer, DPMU, WBADMIP. The work and performance of the Personnel along with Support Organization shall be reviewed by the Project Director on periodic basis.
- 15.2** Support Organization will submit the inception report after 15 days from the date of assigning the contract regarding engagement of staff and necessary arrangement in the district DPMU. And the DPMU will send the same to the SPMU for necessary action.
- 15.3** Support Organization will submit the Activity & Associated Deliverables Report on monthly basis and as applicable, duly signed by the competent authority on behalf of the SO. Before submission, reporting formats shall be approved from the Client.
- 15.4** There may be other report /reporting requirement which are not described in SOP and required by the concerned DPMU/ SPMU. SO has to compliance such reports as desired by the client within the stipulated time frame.
- 15.5** DPMU will hold monthly meeting with all SO staff to review previous months' achievement and to fix upcoming month's target. The meeting resolution and target will be recorded and communicated to SO for reference and review purpose.
- 15.6** SO personnel leave structure would be as applicable to DPMU contractual personnel. But prior to take any leave or (H/Qtr) station leave, personnel have to take permission from both SO as well as from concerned Executive Engineer. No extra payment would be made to SO personnel in case of working beyond working days in a month, if any such situation arises.

#### **16 Composition of review committee to monitor services Support Organization:**

A Monitoring Committee formed by the Project Director, WBADMI Project will advise, monitor and review the works of the **Support Organization(SO)**. They would extend cooperation in makings available the data and information and obtain approval (if any) and also deal with the problem (if any) faced by the **Support Organization (SO)** in executing the contractual obligation.

## 17 Terms of Payment –Support Organization (SO):

17.1 Client will make payment to the Support Organization (SO) as bellow -

17.1.1 Monthly remuneration against sanctioned key and non-key personnel on satisfactory completion of tasks/ planned activities and other any task/ activities (as assigned by the DPMUs) and submission of reports as per SOP and other relevant reporting formats.

- Overhead Charges shall be based on the sum total of the Remuneration only. (with reference to the point number 17.1.1) on monthly basis.
- Reimbursement of the following cost made on monthly basis
  - 1...1 Reimbursement of actual transportation for field personnel (using “two wheelers”, as per government approved rate).
  - 1...2 Travelling cost for the Consultant’s personnel for the project for attending meeting etc. at DPMU / SPMU for official purposes @ Rs. 5000/- / Per month (Maximum)
  - 1...3 Statutory social security benefits (EPF & Insurance etc.) Payment of the Employees Provident Fund (EPF) and Insurance contribution as per the prevailing Govt. Rules.
  - 1...4 Contingent Expenses for immediate action related works at the Field for WUAs. (small meetings, small item purchase etc.) @ Max. Rs.1000 /month

• **Payment details against Remuneration and Overhead Charge: -**

17.2.1 **Payment details against Remuneration**

Remuneration shall be fixed and binding upon as per the given table:

Sl. no.	Designation & Position	Remuneration against the position in Rs. / Month
1.	Training & Documentation Coordinator	29040.00
2.	Agriculture Expert	29040.00
3.	Fishery Expert	29040.00
4.	Manager cum Computer Operator	19360.00
5.	Community Worker	10890.00

• **Payment details against Overhead charges**

Overhead Charges shall be based on the sum total of the Remuneration.

**• Payment details against Reimbursement: -**

SL.	Items	Quantity Description	Unit Cost(Rs)	Remarks
1.	Travelling Allowances of Community Workers (CW) at the field.	.... nos CW (for Community Worker)	Rs. 3300/month / CW (Lump sum allow.)	As they are the key functionaries for field their payment should be released timely. Less payment to CW by the SO/SP will be handled as noted above.
2.	Travelling cost for field personnel to visit field, DPMU/ SPMU. (each field going person should maintain a log book/movement register for motor cycle etc.)	Motor cycle, boat, bus, train, auto, e-rickshaw etc. as required for the movement for Key personnel.	Rs. 2/KM for Motor cycle. (Average 80 KM /day maximum). Others mode of transport in actual /month with a maximum limit of Rs.4400/- per month/ person	Actual expenses will be paid on monthly basis. Settlement of bill requires DPMU level checking and approval of logbooks, movement register by DPMU personnel, as authorized by the Executive Engineer, DPMU.
3.	Travelling cost for the Consultant's personnel for the project for attending meeting etc. at DPMU / SPMU for official purposes	Lump Sum	Rs. 5000 / month/Team(Maximum )	Actual expenses will be paid on monthly basis after submission of actual bills and vouchers with observation report from SO/SP
4.	Statutory social security benefits (EPF & Insurance etc)	For all key and non-key personnel	Maximum 10% of Remuneration.	Actual expenses will be reimbursed against submission of requisite documents.
5.	Contingent Expenses for immediate action related works at the Field for WUAs.(small meetings, small item purchase etc)	Lump Sum	Max. Rs.1000 /month/Team (Permission to be needed over phone from EE of DPMU before incurring expenditure).	Vouchers to be produced in the form of certified voucher or original vouchers by the Consultant (SO/SP) as applicable.

The Payment will be made by the Payment Authority in each month after submission of that months' time sheet and satisfactory deliverables/Performance report. In case of delayed submission of required reports/deliverables payment will be delayed accordingly.

- Unnatural delay (more than one month over schedule time) in submission of reports/deliverables will be followed by a letter showing satisfactory reasons. Delay more than two months will not be entertained and may follow the termination of the engagement/contract.
- The rate of remuneration of individual may decrease by pro- rata basis on the non-availability of that key & non-key staff/(s) on working days, @ [(absent days) / 30 days] in a month.
- Tax will be reimbursed or deducted as per provision of the Government.

**Annexure-I**

**Name of Positions for Key and Non Key Expert of Support Organization (SO) with assigned blocks/WUAs (Tentative):**

<b>Sub-Group</b>	<b>Name of Position</b>	<b>Number of Position</b>	<b>Block(s) of Assignment</b>
MURSHIDABAD-1	1. Training & Documentation Coordinator	One (01)	BELDANGA-II, BERHAMPORE, BHARATPUR-II, HARIHARPARA, KHARGRAM, LALGOLA, NAWDA, NABAGRAM, RAGHUNATHGANJ-I, SAGARDIGHI, BHAGAWANGOLA-I, RANINAGAR-II, MURSHIDABAD JIYAGANJ
	2. Agriculture Expert	One (01)	
	3. Fishery Expert	One (01)	
	4. Manager cum Computer Operator	One (01)	
	5. Community Worker	Four (04)	

**Note: This list is indicative. Block, mouza and area may change as per field requirement.**



## 5.2 ANNEXURE FORMAT OF INCEPTION REPORT

Attachment-5.2

### ANNEXURE-1

Inception report to be submitted within 07 days from the date of signing of contract describing staff details etc.

#### 1. Pre-Planning stage Reporting formats for submission

-

##### 1.1. Areas visited

Sl. No.	Date of visit	Name of mws/Isolated Scheme visited	Name of the villages within the mws/ Isolated Scheme	Total area (approx) of the CCA of MI Scheme - hector	General Observation on feasibility	Lat	Long
			1				
			2				
			....				

*If required use additional rows.*

1.2. Photos of visit to the Villages with date - at least 1 photo of transect walk and 1 photo of each meeting/interaction with villagers

1.3. Maps of the area visited

##### 1.4. Suggested Schemes in MWS/ Isolated

Sl. No.	Name of Schemes	CCA (Hector)	Name of Village	No of HH					Major Occupations	Type of soil	Type of crop Produced			Type of irri. Structure suggested by community	Key Person of the village		Coordinates
				Total	Tribal	Women Headed	BPL	Annual income more than 1-2 lakh			Rabi	Kharif	Pre-Kharif		Name	Contact No.	
			1														
			2														



6	Length of mws (Km)	
7	Perimeter of mws ( Km)	
8	Elongation Ratio	
9	Average Slope of the mws in %	
10	Name of river and stream	
11	Name of river and stream or water body present in the down stream dependent on the mws which provides livelihood to habitat or forest	
12	other(if any)	

If required use additional rows.

### 1.11 Demographic profile for each village

Sl No	Date of event	Village Name	Total population (nos)	Male (nos)	ST (nos)	Total HH (nos)	Literacy Rate(M) (%)	Literacy Rate(F) (%)	Overall Literacy rate(%)

If required use additional rows.

### 1.12 Profile of prospective WUA of each scheme

Proposed no. of HHs			Initial Impression about the WUA (initiative-operation, attitude, participation)	Overall Impression	Strength of WUA	WUA weaknesses	Type & need of Capacity Building required
No. of HH with land holding	Marginal & Small farmer			Poor / Average / Good / Very good / Excellent			
	Medium						
	Large						
No. of HH with source of livelihood	Landless share cropper						
	Cultivation						
	Agriculture labour						
	Fishery						
	Service						
	Other						
	Total						

Proposed no. of members	Male						
	Female						
	General						
	ST						

If required use additional rows.

1.13 Map showing Land profile ,Land position in terms of Highland(tarn),Medium Highland(bahal),Lowland(baid),and valley land(kanali & Sali)

1.14 Land use map

1.15 Village wise land use

Statistics

Sl No.	Village Name	Single Cropped Area(ha)	Multi Cropped Land(ha)	Waste land (ha.)	Forest (ha)	<b>Total</b>

If required use additional rows.

1.16 Village wise Cropping pattern:

Sl No	Village Name	Single Crop		Double Crop		
		Crop Type	Area (ha)	Crop Type	Area (ha)	Yield/ ha

If required use additional rows.

1.17. Water budget of the Watershed if taken up.

Micro Watershed No	
NRSC Watershed No.	
BASIN	
NOS OF WATER BODY	

TOTAL AREA OF WATER BODY(HA)	
TOTAL LENGTH OF STREAM (KM)	
NO OF EXISTING CHECK DAM	
TOTAL RUN OFF(HA-M) / YEILD	
Others	

If required use additional rows.

**1.18. Mean Rainfall data Month wise**

Jan	Feb	Mar	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

**1.19. Details for CD /LI scheme**

Sl No	Stream No	Order of Stream	Width (M)		HFL (M) from bed	Period of Flow	Perennial/Non Perennial	No of scheme	
			Max	Avg				CD	LI

If required use additional rows.

**1.20. Soil Map of the micro-Watershed/isolated Scheme**

1.21. Feasibility Checking (as per preliminary feasibility) Report to be issued from DPMU. All the submitted prospective Schemes from the SO (OB) should be checked within 15 days and a letter in that respect is to be issued from DPMU before releasing Pre-Planning payment.

**2. Planning Stage Report Formats submission-**

**2.1. Details of water budget MWS if any**

Micro Watershed No		TOTAL utilizable existing water storage capacity in HA-M	
NRSC Watershed No.		TOTAL water requirement (HA-M) for double cropping of existing cultivation	
BASIN		TOTAL water requirement for CROP/HORTI development at waste land (30%)	
NOS OF WATER BODY		TOTAL requirement of irrigation water (Ha-M) for Agri+ Horti.	
TOTAL AREA OF WATER BODY(HA)		FURTHER water storage volume required (HA-M) to create for Irrigation	
TOTAL LENGTH OF STREAM (KM)		MAX.water to be used (IN %) in regard to total yield	
NO OF EXISTING CHECK DAM			
TOTAL RUN OFF(HA-M) / YEILD			

TOTAL GROUND WATER AVAILABILITY (HA-M)			
MAXIMUM STORAGE CAPACITY (HA-M) OF WATER BODIES (75% OF TOTAL)			
UTILISABLE STORAGE CAPACITY (HA-M) OF WATER BODIES (75% OF TOTAL)			
UTILISABLE WATER VOLUME (HA-M) OF WATER BODIES (75% OF ABOVE)			
TOTAL WATER STORAGES OF EXISTING CHECK DAM(ha-m)			

*If required use additional rows.*

### 2.2 Details of location of MI Schemes

Lat	Long	Mouza	Type of Structure	Source of Water	Command Area(Ha)		No of Beneficiaries
					Rabi	Kharif	

*If required use additional rows.*

### 2.3. Details of Crop Planning:

Divide the total crop land under MI Schemes with different zone and mark it in MAP and give details of crop plan of each zone with following information:

- a) Zone Mark
- b) Type of Land (position)
- c) Type of soil class (Texture)
- d) Name of suitable crop that may be suggested season wise
- e) Whether irrigation required
- f) Total volume of irrigation water to be created (in Ha-M).
- g) No of farmers will be benefitted.
- h) Total potential income/ha/year.
- i) Any other information

**2.4. Details of Watershed/Individual development Plan**

Divide the watershed of MWS into different zone and mark it in a MAP and suggest suitable plan for each MWS with following information:

- a) Name of terrain
- b) Type of Land (position)
- c) Type of top soil (top texture)
- d) Type of suggested intervention required for this zone.
- e) Details of soil conservation method to be applied
- f) Details of horticulture plan to be developed.
- g) Whether irrigation required
- h) Volume of water resources to be developed for horticulture (in Ha-M)
- i) No of Villages will be benefitted. j) Cost/ha

**2.5. Details of Fishery related information:**

Village Name	Type of Fish	Area (Ha)	Time Period (month)	Expected production (Kg)	Water required (mt)
.....					
.....					

*If required use additional rows.*

**2.6. Details of Agri-Marketing Opportunities (Village wise)**

Name and Distance of Local Market	Name and Distance of nearest Retail Market

*If required use additional rows.*

**2.7 Details of Capacity Building Need Assessment**

Sl No	Type of Training	Nos of training required	Nos of WUAs to be covered	Nos of trainees to be trained	Expected cost of training	Remarks (if any)
1	Exposer Visits					
2	Soil Use /Conservation related training					

3	Water Use /conservation related training					
4	Training on crop pattern					
5	Use of Modern Technic (Agri/Horti/Fishery)					
6	Fishery related Training					
7	Horticulture related Training					
8	Scheme operation & maintenance related training					
9	Institution Development related training					

*If required use additional rows.*

2.8 Scheme **feasibility** report

**3. SDMP Preparation (helping) & Submission as per online in MIS/offline format submission.**

**4. WUA Formation Stage Report format submission**

4.1. Basic Information regarding WUA

Name of WUA		
No. of HHs	Total	
	Women headed	
No. of HH with land holding	Marginal & Small farmer	
	Medium	
	Large	
	Landless share cropper	
No. of HH with source of livelihood	Cultivation	
	Agriculture labour	
	Fishery	
	Service	
	Other	
No. of members	Total	
	Male	
	Female	

	General	
	SC	
	ST	
% Literacy among beneficiaries	Male	ST..... SC..... Other.....
	Female	ST..... SC..... Other.....
Name. of farmers ready to donate land	Area of land to be donated in ha	Name.. Area..

If required use additional rows.

4.2. WUA Profile for each scheme

Sl No	Plot No	Name of Farmer with Father's Name/Husband Name	Male/Female	Total area in the potential command area	Waste land	Kharif					
						Crop-1 Name-			Crop-2 Name-		
						Unirrigated	Irrigated	Production	Unirrigated	Irrigated	Production
						Ha	Ha	(MT)	Ha	Ha	(MT)
1	2	3	4	5	6	7	8	9	10	11	12

Rabi Crop-						Pre Kharif crop-						Name of member & Designation of member & Whether uses Own pump set - If Electrical -E, Diesel -D, Hand -H
Crop-1 Name-			Crop-2 Name-			Crop-1 Name-			Crop-2 Name-			
Unirrigated	Irrigated	Production	Unirrigated	Irrigated	Production	Unirrigated	Irrigated	Production	Unirrigated	Irrigated	Production	

Ha	Ha	(MT)													
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

If required use additional rows.

- 4.3. Mass petition duly signed for each sub project
- 4.4. Land donation document duly signed for each sub project
- 4.5. Training/ meeting report (as in 4) with photo
- 4.6 Copy of registration certificate
- 4.7 Bank Account opening Reports: name of members for handling the account, A/c No., Branch name, IFSC Code etc.ate with application for registration

**5. Strengthening and conducting Capacity Building Reports format submission**

5.1. Report on WUA Capacity Building

Sl No	Name of WUA	Scheme Name	Village	District	Date	Training thematic ....						Exposure visit						Remarks	
						No. of training days completed	Topics covered	Name of Resource person	No. of Male participants	No. of Fem. participants	Total	Date of expo. visit	Place of visit	Purpose of visit/ subjects covered	No. of Male participants	No. of Fem. participants	Total		

If required use additional rows.

- 5.2. Documents to be submitted: Photo of training, Exposer visits, copy of attendance sheet duly signed
- 5.3. IEC materials developed

## 6. Post Implementation hand holding Reports format submission

### 6.1. Scheme hand over Report

	Name of the WUA	Type of Schemes	Date of Hand over	Remarks

#### 6.1. a. Cluster Formation Report

Sl No	Cluster	Name of the Block	Name of the GP	No of WUAs covered
	Cluster No 1			
	Cluster No 2			

*If required use additional rows.*

#### 6.2 a. WUA wise information about ASS(Agriculture support Services) activity

Events/ Activity	Nos.	Total for WUA	Documents to be submitted
No of agriculture demonstrations			Photo of demonstration with farmer name, lat. & long. of plot, copy of farmer's OK card, updating in MIS
Agri. demo (area covered) – ha			
No. of horticulture demonstration			
Horti. demonstration (area covered)-ha			
No of fishery demonstrations			
No of Farmers trained with no. of participants			Photo of training/exposure visit, copy of attendance sheet duly signed
No of Farmers taken to exposure visits with no. of participants			
No of Schemes covered under fisheries			List of schemes with photo of FIG
No. of FIG trained with no. of participants-male female, ST			Photo of training copy of attendance sheet
Area of land (in Ha)where farmers adopted improved agri. Practices			Name of farmers with photo
No of Farmers adopted SRI practices			

No of Fishery demo(area)			
No of tribal demonstration plot			

6.2 b. Documents to be submitted: Photos of demo etc, exposer visits, copy of attendance sheet duly signed

6.3 Different Livelihood information imparted to each member of WUA: Like KCC, different Pension Scheme, old age benefits etc. (Information to be collected from the District Authorities).

**7. Post Implementation Monitoring and Hand Holding including Agri-Business format submission:**

**7.1 a. WUA wise information about membership**

Events/Activity	Nos.	Total for WUA	Documents to be submitted
No. of meeting held by WUA/WUG			Photo of training/meeting/exposure visit, copy of attendance sheet duly signed;
No of members present in meeting			Copy of resolution of meetings
No of female members present in meeting			Report on Training/exposure visit
No of sub- committee meeting held			

7.1 b. Documents to be submitted: Photos of training etc, copy of attendance sheet duly signed

**7.2. a. WUA wise information**

No. of WUAs generating resources for operation and maintenance of schemes	
No. of WUAs maintaining appropriate/updated cash books, irrigation register and member register	

*If required use additional rows.*

7.2 b. Other documents to be submitted: Copy of related pages of WUA registers duly signed & updation of MIS, Copy of registration certificate & Bank details, copy of Handover documents & photo of hand over event;

**7.3 a. WUA wise information about ASS activity**

Events/ Activity	Nos.	Total for WUA	Documents to be submitted
Area covered from single to double crop			List of plot nos. with lat/long
Area covered from double to triple crop			
Area covered under new crop			

Area covered under organic farmer practices			Name of farmers, plot no., lat/long and photo of related field
Clients who have adopted an improved agri. technology promoted by the project			
Clients who have adopted an improved agri. technology promoted by the project : Female			
Clients who have adopted an improved agri. technology promoted by the project : Tribal			
Clients who have adopted an improved agri. technology promoted by the project : Small & Marginal			
Area covered under Plantation with intercropping (Ha)			
Enrolment of farmers under PADIF			
Construction of vermi compost pit			

If required use additional rows.

7.3 b. Documents to be submitted: Photos of each Activity etc.

7.4 a. Corpus Fund

Sl No.	Scheme Name	WUA/G Name	Corpus Fund As On		O & M Cost in INR	
			Cash in hand (INR)	Total (INR)	In the month(INR)	Total (INR) in season

7.4 b. Other documents to be submitted: Copy of related page of WUA registers duly signed & updating in MIS

7.5 a. Scheme Performance – Season wise

Sl. No.	Block	Scheme Name	Lat/long	Irrigated Area (Ha.)	Cultivated Area (Ha.)	Production (Mt.)	Yield	No of Farmers Cultivated	No Of Irrigation	Quantity of water used	Water Level	
											Start of season	End of season

If required use additional rows.

7.5 b. Other documents to be submitted: Copy of updating of data in WUA registers duly signed & updating in MIS

7.6 Information about Crop Production Farmer wise

Sl. No	Name of Farmer	Name of WUA	Name of Scheme	Total area	Season					
					Crop-1 Name		Crop-2 Name		Crop-3 Name	
					Cultivated area- ha	Production (MT)	Cultivated area- ha	Production (MT)	Cultivated area- ha	Production (MT)

If required use additional rows.

7.7 Details of visit plan of SO

Place from : .....			Name of Officials-			
Date	Starting time	Places visited	Purpose of visit	Person accompanying during tour	Vehicle details	

7.8 Details of vehicle / motor cycle movement under SO

Place from: .....			Vehicle Nos.			
Date	Starting Point	Persons on tour	places visited	Purpose of visit	Distance covered	
		1				
		2				

7.9 WUA level activities as an Entrepreneur

Sl No	Name of the works done through WUAs	Nos	Amount In Rs
	Construction of vermi compost Pit		
	Training		
	Exposure Visits		
	Plantation activities		

Construction of small MI schemes		
Raising of Seedling		
Raising of fingerling		
Any other ( Please Specify)		

7.10 Monitoring of WUA activities:

Specific Mobilization	Specific Reports/Comments /Action Taken	Weightage	Marks
• Regular meeting of GB and Sub-committees		5	
• Collection of member fees, charges etc & deposition in bank A/C		10	
• Maintenance of various registers for WUA Functioning		5	
• WUA Audit & Renewal		5	
• Implementation of crop diversification, advance production practices		5	
• Water use efficiency measure		10	
• Women and tribal participation in WUA meetings		5	
• Crop production and yield		10	
• Functional efficiency of the scheme		10	
• Corpus fund mobilization		5	
• Market linkage with producer groups (Names)		10	
• Income generation (Increase/Decrease)		10	
• Mobilization for crop and costly equipment's insurance		5	
• Exposer Visit to successful WUA (nos)		5	
• Overall Rating of WUA by SO		100	

7.11 WUA grading report on a) Surface water Schemes b) Ground Water Schemes to be submitted two times in a Year as per given format (to be collected from the DPMU).

**Authorised Signatory from SO.**

**N.B.**  
**Information as per Annexure-I may change time to time as per need of the Project.**  
**Each required Information as noted above must be submitted as per time schedules for verification at the field before payment.**  
**Each Format or reports should follow the authorised signatory of Support Organization(SO)/ Service Provider(SP) on Output Basis with seal.**

### 5.3 ANNEXURE - SELF APPRAISAL FORMAT FOR NGO

#### WBADMIP

#### SELF APPRAISAL FORMAT FOR NGO

( Quarterly report to be submitted within the first week of next quarter to SPMU through proper channel)

DPMU.....  
to DPMU.....

Date of Submission

Name of the NGO .....  
3<sup>rd</sup> / 4<sup>th</sup> ).....

Quarter: ( 1<sup>st</sup> / 2<sup>nd</sup> /

#### 1. General Issues:

Name of the approved position under WBADMI project in NGO, yet to be filled up, during the reporting period					
NGO personnel networking with DPMU	Excellent	Good	Moderate	Poor	Very poor

#### 2. Minor Irrigation schemes related information:

Sl No	Component	Achievement till previous quarter (cumulative)	During the quarter ( block wise scheme type wise)
A	B	C	D
	No of schemes submitted to DPMU with all requisite documents		
	Total estimated command area of submitted schemes in Ha		
	Feasibility checking done (by DPMU) to no of schemes against 1.1.		
	No of schemes rejected by DPMU after feasibility checking		
	No of schemes approved by SPMU		
	No of schemes approved but work not started		
	No of schemes approved & Work started		
	No of schemes works completed but not HO to WUA		
	No of schemes works completed and HO to WUA		

### 3. Institution related basic information

Sl No	Component	Achievement till last quarter (cumulative)	Achievement in reporting quarter (actual)
A	B	C	D
	No of WUAs formed		
	No of total actual members (male & Female)		
	No of WUAs registered under Societies Registration Act 1961		
	No of WUA opened Bank Account		
	No of WUA having up -to date Audit report		
	No of monthly meeting held during the reporting quarter with quorum		
	No of WUAs Graded A or A+		
	No of WUAs Graded B		
	No of WUAs Graded C or D		

### 4. Corpus fund

Sl No	Component	Cumulative till last quarter	Actual in reporting quarter
A	B	C	D
	Total WUA corpus in Rs.( cash in hand + cash in Bank)		
	Amount in Rs WUA received from fishery profit		
	Amount in Rs WUA received from horticulture activities		
	Amount in Rs WUA mobilized from farm equipment		
	Amount in Rs WUA mobilized from water charges and others		

### 5. Training and Capacity Building

Sl. No	Component	Achievement till last quarter (cumulative)	During the reporting quarter
A	B	C	D
	No of farmers taken to exposure		
	No of farmers received training		
	No of IEC material developed		
	Training Need Assessment (please write in points on requirement of training - thematic)	<b>Institution / ASS</b>	

**N.B. Please add a separate sheet stating component wise type of training received by number of farmers ( male and female) during the reporting quarter**

## 6. Mobile Based Advisory Services

Sl No	Component	Achievement till last quarter (cumulative)	During the reporting quarter
A	B	C	D
	No of farmers enrolled under PADIF		
	Percentage of farmers seeking advice through PADIF		

## 7. Agriculture Support services

Sl No	Component	During the crop cycle of reporting period	Block wise Figure
A	B	C	D
	Area in Ha taken under Agriculture Demonstration under WBADMIP within NGOs operational areas		
	Area in Ha taken under Horticulture Demonstration under WBADMIP within NGOs operational areas		
	Area in Ha taken under Fishery Demonstration under WBADMIP within NGOs operational areas		
	Area in Ha taken under orchard plantation		
	Area in Ha taken under intercropping within orchard plantation areas		
	Area in Ha taken under protected cultivation		

### 7.1 Convergence Initiatives

Name of the Department	Name of the Scheme/ Programme	Type of benefits received	No of Famers benefitted (male & female)	Approximate amount of benefits mobilized

**8. Number of Case Studies developed and submitted to DPMU / SPMU during the reporting quarter (attach case studies) – 2 each for Agriculture, Horticulture and Fisheries with photograph. If possible case studies on institution development also.**

**9. Other achievement / innovation done or introduced by the NGO during the reporting quarter**

**10. Any suggestion / observation that may benefit project functions**

**Signature with seal  
Competent  
authority from NGO**

**DPMU**

<b>Professional quality and deliverable skills of the NGO personnel</b>	<b>Excellent</b>	<b>Good</b>	<b>Moderate</b>	<b>Poor</b>	<b>Very poor</b>
<b>NGO personnel Networking with DPMU</b>	<b>Excellent</b>	<b>Good</b>	<b>Moderate</b>	<b>Poor</b>	<b>Very poor</b>
<b>Comments on information submitted</b>					
<b>Bill submitted by the NGO in current financial year (till date)</b>	<b>Amount in Rs.</b>				
<b>Bill yet to be submitted by the NGO in current financial year (till date)</b>	<b>Amount in Rs.</b>				
<b>Payment released to the NGO in current financial year (till date)</b>	<b>Amount in Rs.</b>				
<b>Any Observation / feedback</b>					

**Agriculture Specialist  
Specialist**

**Fishery Specialist**

**Institution Dev**

**Executive Engineer**

**Performance appraisal of SO personnel**

II	Particulars of Manpower					
	Designation	Name	Educational Qualification	Experience	Performance i.e. (Excellent / Good / moderate / poor)	Remarks

**NB: Add column as required. Remarks should include reasons for performance (point wise).**

**Executive Engineer  
DPMU, WBADMIP**

## 5.4 ANNEXURE - MEMORANDUM OF ASSOCIATION (MOA) DRAFT

### Cluster of Water Users' Association (CWUA) (Under West Bengal Societies Registration Act, 1961)

1. The name of the Cluster shall be "Hili Cluster of Water Users' Association (CWUA)". The cluster shall consist of 12 number constituent Water User Association (WUA) in Hili Block of Dakshin Dinajpur District.
2. **Address of Cluster Society :-**
  - Name :- Hili Cluster of Water Users' Association (CWUA)
  - Village:-
  - Post Office:-
  - District -
  - State-
  - Pin:-
3. **Objectives :**
  - a. To ensure regular interaction and networking among members of Constituent Water Users' Associations(WUAs) , and take up the activities that strengthen WUAs .
  - b. Formation of Cluster of WUAs and thereby augmenting farmers' capacity through internal and external linkages.
  - c. Optimization of Irrigation potential of the minor irrigation structures created under different WUAs.
  - d. Aggregation of produces of members of Constituent WUAs , and non-member local farmers, and taking necessary initiatives for remunerative price realization of their produces.
  - e. Creation of farm -implement hub for benefit of farmers.
  - f. Arrangement of Institutional loan for member farmers for livelihood activities.
  - g. Convergence with different Government and non Government Programmes.
  - h. Knowledge and skill development on institution, agriculture and allied fields through training, capacity building, exposure visits, workshop etc., and follow up adoption and replication.
  - i. Livelihood development through various economic activities in agriculture, horticulture, aquaculture and other allied fields.
  - j. Resource mobilization, corpus generation, entrepreneurship and social skill development.
  - k. Harness capacity & resources of local SHG/LAMPS members in a synergetic way.
  - l. Collective actions for climate resilient agriculture, horticulture, aquaculture, water management etc. for sustainability.
  - m. Encourage advance scientific practices with appropriate equipment and process in the field of agriculture, horticulture, aquaculture, etc.

#### **This is to certify that-**

- I. All the above objectives will be followed as per prevailing laws of the country.

II. All the above objectives of the Cluster Society shall always remain restricted within the scope of Section 4(2) of the West Bengal Societies Registration Act, 1961.

III. The income and properties of the Cluster Society whatsoever is derived or obtained shall be applied solely towards the promotion of the objectives of the Cluster Society and no portion thereof shall be paid to or divided amongst any of the constituent WUAs or the members of the CWUA by way of profits.

4. Names, Address and Description of the first and present members of the Governing Body of the Cluster Society:

Sl No	Name & Phone number of the member	Address	Name of the Constituent WUA of which the person is a member (other than Office Bearer )	Designation of the person in the New Cluster Society	Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					

10					
----	--	--	--	--	--

5. Names, Address and Description of the first and present members of the General Body of the

Cluster Society:

Sl No	Name & Phone number of the member	Address	Name of the Constituent WUA of which the person is a member (other than Office Bearer	Designation of the person in the New Cluster Society	Signature
1					
2					
3					
4					
5					
6					
7					
8					

9				
10				

We, the several persons whose names, address and occupations are hereunto subscribed are desirous of being formed into an association in pursuance of this Memorandum of Association-

SL No.	Signature	Address	Occupation
1			
	(Name)		
2			
	(Name)		
3			
	(Name)		
4			
	(Name)		
5			
	(Name)		
6			
	(Name)		
7			
	(Name)		
8			
	(Name)		

9			
	(Name)		
10			
	(Name)		

Witness of the above signature:

Signature:

Address: (Office address of the signatory with seal)

Occupation:

Dated, the .....day of 2024

**Regulations  
of  
Cluster of Water User’s Association (CWUA) under the  
West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP)**

( Unless the context otherwise requires words and expressions contained in these Regulations shall bear the same meaning as in the The West Bengal Societies Registration Act, 1961, or any statutory modifications thereof. )

**1. Membership**

All members of constituent Water Users’ Associations (WUAs) are eligible for membership with voting right of Cluster of Water Users’ Association (CWUA) Society.  
 However, a cluster may include farmer as member from outside the WUAs, for the purpose of collective buying of agri-inputs, aggregating their agricultural produce and its marketing etc. Member from outside of any constituent WUA shall not have any voting right. Every member with voting right shall have one vote.  
 All members shall constitute the General Body of the Cluster Society. For the purpose of greater co-ordination and manageability, total members of the General Body preferably not be more than four hundred (400). No eligible candidate shall be denied of membership.  
 Any person, qualified to be a member, by paying an ordinary membership fee on quarterly basis along with an admission fee payable at the time of admission, which shall be determined by the Governing Body from time to time, may be admitted as Member of the Society.

**2. Right and obligations of the Member**

Any member of the Cluster Society has the right:

- a. To elect / to be elected in any election of the Cluster Society(for members having voting rights only),

- b. To submit suggestion for discussion to the Governing Body and Sub-committee on any matter relating to the Cluster Society,
- c. To inspect the accounts , and proceedings of the meeting of the Society on appointment with the Chairperson / Secretary,
- d. To pay subscription within prescribed time.

### 3. Disqualification of membership

Any member of the Cluster Society may be disqualified on the following grounds:

- a. Not paying the subscription ,
- b. Not following the rules of the Cluster Society ,
- c. Furnishing false information or misleading Governing Body ,
- d. Not attending meeting of Governing Body repeatedly for more than four (4) times (for Governing Body members only).

### 4. Cessation of Membership

Any member of the Cluster Society shall cease to be a member

- a. on the acceptance of his/her resignation from Cluster Society , addressed to the Secretary of the Governing Body ,
- b. on his/her becoming insane or insolvent,
- c. on his/her conviction of any offence in connection with the formation, promotion, management or conduct of affairs of society or a body corporate or of any offence involving moral turpitude .
- d. on disqualification of membership ground.

### 5. Expulsion & Removal

Frequent actions of any member, if found by the Governing Body detrimental to the interest, and in violation of the regulations of the society, he/she may be after due enquiry, censured, suspended or expelled from the membership of the Governing Body / General Body.

In that case the Governing Body shall first serve the member concerned with a show cause showing therein the charges framed and ask him/her to submit his/her statement of defense within a month. On receipt of the explanation, the Governing Body shall have the power to take a suitable action against the delinquent member after allowing him to defend his/her case. If no reply to the show cause notice is received within a month, the Governing Body may take an ex parte decision.

In case of any action against any Governing Body member(s), the disciplinary action shall be initiated by other members not under scrutiny.

### 6. Register of Members

The Cluster Society shall maintain a Register of Members containing the members' name, address, occupation, date of admission and cessation of membership. Similarly, WUAs should maintain their respective Register of members with the same particulars as above. The

Register will be kept open for inspection of the members on requisition. All entries required to be made therein shall be entered within a period of one month.

#### 7. Fees

There shall be an ordinary membership fee on quarterly basis along with an admission fee payable at the time of admission, which shall be determined by the Governing Body from time to time.

Fees shall be collected through specified coupon / receipt with the help of each constituent WUA.

Constituent WUA, upon resolution, can bear partially one time Admission fee on behalf of its own members.

#### 8. Governing Body - Composition & Election

The Governing Body shall be elected by the members, with voting right, of the Cluster Society in the Annual General Meeting (AGM). Governing Body shall have minimum eight(08) members. Governing body shall have two(2) members from each Constituent WUA. The Office Bearers of Governing Body shall be composed of Chairperson, Secretary, Treasurer, and other Members. The Governing Body itself shall act as Executive Committee.

Any Office Bearer shall not hold the Office more than three times successively. Nomination of a candidate for election to Governing Body must be subscribed by at least 5 electors as proposers and 5 electors as seconders. Any Office Bearer of Constituent WUAs shall not be nominated for election.

The disqualification, cessation, and removal of the Governing Body members shall be dealt with as has been prescribed as in the case of other members noted herein before.

Resignation of any Governing Body member from Office Bearer post shall be subject to approval and clearance based on resolution of majority members of the Governing Body .Resignation letter shall be addressed to the Secretary of the Governing body.

#### 9. Term of Election

The term of office of the elected Governing Body shall ordinarily be every one year, unless it is dissolved / terminated early under unforeseen circumstances. After election, the old Governing Body will continue to function till the new Body takes over charge which shall under no circumstances be more than 30 days from the date of election.

After registration of the Cluster Society, election to Governing Body must be carried out within three (3) month convening General Meeting.

#### 10. Meeting

Meeting of the Governing Body shall be held at least once in three months at such place, date and time, as the Chairperson or the Secretary may determine. Another way, majority members of the Governing Body may requisition the meeting and the Secretary shall summon the same within seven days and failing which the Chairperson or the requisitionists may do so provided no business other than those specified in the notice shall be transacted at such a meeting.

#### 11. Notice & Quorum

Seven (7) days notice of the meeting specifying the place, date, time and agenda to be transacted shall be given to every member of the Governing Body. An Emergency Meeting may be called at 24 hours' notice. One-third members will form the quorum at any meeting of the Governing Body. If quorum is not formed within 30 minutes of the scheduled time, the members present shall adjourn the meeting. Notices for meetings of Governing Body may be given by using WhatsApp platform. Governing Body can also call via notice any Sub-Committee along with its members for the meeting.

## 12. Procedure of the Meeting

The Chairperson of the Governing Body will chair all meetings of the Governing Body. In the absence of Chairperson of the Governing Body, the members present shall elect a person (a senior member nominated for this purpose) as President of the meeting. It is desirable that all issues or matters become settled before the meeting by consensus, otherwise decision will be taken by a majority of votes, each member having one vote. The Chairperson or the President shall have a 2<sup>nd</sup> or casting vote in case of equality of votes.

## 13. Authority and Responsibilities of the Governing Body

The Governing Body shall have general power of supervision and conduct over all the affairs of the Society and in particular shall discharge the following duties:-

- i. To summon meeting.
- ii. To form Sub-Committee with such power and duties as may be considered necessary in the interest of the Society.
- iii. To accept donation, gift, subscription, movable or immovable property for the use of the society.
- iv. To sell, lease, mortgage or otherwise dispose of and deal with all or any part of the property of the society with prior approval of members at AGM.
- v. To keep proper accounts of the society and to open bank account in the name of the society in one or more bank.
- vi. To engage any person on wage/remuneration/ honorarium basis for any activities in the interest of Cluster Society.
- vii. To review and execute recommendations of Sub-Committee.

## 14. Planning Committee

There shall be a sub-committee, namely Planning Committee, comprising other Members of the Governing Body. By passing a resolution of majority members, Governing Body shall decide and select or remove member(s) of Planning Committee.

Planning Committee shall have minimum five (05) members. The office bearers of Planning Committee shall be composed of Chairperson, Secretary, and ordinary members.

Governing Body shall delegate power to Planning Committee by passing a resolution of majority members of the Governing Body, and mentioning the delegated powers specifically regarding Planning of Cluster Society in various livelihood activities related to Irrigation, Water Management, Agriculture, Horticulture, Aquaculture, Agri-Marketing etc.

Terms & procedure of meeting /decision making of Planning Committee shall be in a manner as followed by the Governing Body.

- a. Responsibilities of the Chairperson of the Planning Committee:-

- i. To preside over the regular meetings of the Planning Committee,
- ii. To sign & approve the decisions and resolutions of the Planning Committee,
- iii. To assist the constituent WUA in crop planning , livelihood development , agri-marketing , agri-input buying etc. ,
- iv. To avoid distressed selling of agri- produces, and ensure timely payment to the farmers against selling of their crops,
- v. To promote organic farming ,
- vi. To help in preparation of Annual Action Plan of Constituent WUAs / Cluster WUA,
- vii. To carry out other responsibilities as assigned by the Governing Body.

b . Responsibilities of the Secretary of the Planning Committee :-

- i. To call meetings with prior permission of the Chairperson and prepare agenda for every meeting of the Planning Committee,
- ii. To maintain a record of the proceedings of all meetings and read them out at the next meeting ,
- iii. To write resolutions made at each meeting and read them out at the same meeting ,
- iv. To prepare a register of land, water and other resources of each constituent WUA , that will help in preparation of development plan for constituent WUA(s) ,
- v. To coordinate with the constituent WUAs on water management, adoption of a suitable crop cycle depending upon irrigation available, implementation of scientific practices in all Agriculture Support Services (ASS) activities, convergence with the Programmes of State Government/ Government of India in the relevant fields ,
- vi. To prepare an actionable plan for improvement of irrigation, ASS and livelihood development activities, mobilization of Institutional finances for the cluster / WUAs, training and exposure visits or any other sphere of activities that may be resolved at the meeting of the Planning Committee and send it with the concurrence of the Chairperson, to the Governing Body for implementation ,
- vii. To assist constituent WUA(s) on any issues, with the concurrence of Chairperson that may help in ASS or livelihood development activities of member WUAs.

### 15. Maintenance of Society Records

- a. Membership, attendance, activity and resolution registers will be kept with the Secretary of Governing Body to register membership, proceedings, attendance and resolutions of all meetings and all other records not specified to other office bearer.
- b. Cash book and bank loan register will be maintained by the Treasurer who will update the position of all income and expenditure.
- c. Group Bank Pass Book to be maintained by the Treasurer and updated regularly at each deposit and withdrawal.

- d. All group records are to be made available freely for examination by each constituent WUAs during the meetings and at other times, with reasonable notice to the relevant office bearer of the Governing Body.

#### 16. **Safe Custody of Assets & Fund Utilization**

The Governing Body shall be responsible for the funds, properties and other assets of the Society.

The funds of the Society shall be kept or invested in banks/post office. The Treasurer shall be Custodian of all liquid cash.

Fund of the Cluster society shall be utilized following the principles of providence. Expenditures on

Establishment, Utilities, Meetings and Operational front have to be covered from Service Income of the Cluster Society rendered to it's members/constituent WUAs.

Funds generated out of fees, grants, and services shall primarily be used for Agri-Implements, Tools & Plants, Warehouse, Land etc. Any purchase of value above Five Thousand Rupees shall require resolution of majority members of Governing body in favour of it. Society shall be encouraged to adopt electronic mode or Cheque instrument for any transaction.

#### 17. **Bank Operation**

The cluster account shall be kept in the nearest scheduled bank. The Treasurer, Chairperson and/ or Secretary (any two) shall have joint signatory power. All withdrawals should have to be supported by a resolution of the Governing Body of the Cluster Society.

#### 18. **Books of Accounts , Inspection & Audit**

The society shall maintain books of accounts as required under sec 15(1), (a), (b) of the Act. The books of accounts and other statutory books shall be kept at the registered office of the society which shall be located at a central place within its jurisdiction and shall be open to inspection of the members at such time and place as the Governing Body directs on a written request made by any member.

The accounts shall be audited by a duly qualified auditor as stated in sec. 15(2) of the Act. The auditors shall have the right of access at audit times to the books of accounts of the society without notice and shall be entitled to enquire from the Chairpersons of the society and any other member of the society such information and explanations as may be necessary for the performance of their duties.

#### 19. **Accounting Year**

The accounting year of the society shall be from 1st day of April of each year to the 31st day of March of the following year.

#### 20. **General Meeting**

##### I. **Annual General Meeting**

a. **Notice** - The Secretary shall annually call the Annual General Meeting as per provisions of W.B.S.R. Act, 1961 within three months from the end of the last financial year, giving at least 14 day's notice to all members. The notice shall contain the place, day, time and agenda of the meeting. Notice to be handed over or to be sent by post / WhatsApp with

acknowledgement provision. Every Constituent WUA is required to act as active facilitator for organizing General Meeting. Not more than fifteen months shall elapse between two successive Annual General Meetings.

#### **b. Agenda**

The business to be transacted at the AGM shall be:

- i. To confirm the minutes of the last AGM and of Special General Meeting, if any;
- ii. To adopt with or without modification the report of the working of the cluster for the previous year;
- iii. To pass audited accounts of cluster for the previous year ended;
- iv. To appoint qualified Auditor or Auditors;
- v. To transact such business as may be fixed by the Governing Body;
- vi. To transact such other business as may be brought by giving 14 days' notice from any members, and
- vii. To conduct election to the Governing Body
- viii. To fix honorarium of the member of Governing Body or any other Committee for his/her full day engagement in any economic activities other than planning or decision making for the interest of Cluster Society.
- ix. Review the economic and livelihood activities undertaken of constituent WUAs.
- x. Overall performance of the Cluster and WUAs towards social and economic stability.

**c. Quorum of the Meeting** – One-third of the total number of members (with voting right) of the society personally present at the commencement of the meeting shall constitute the quorum.

**d. Manner and Method of Voting** –The Chairpersons of the meeting shall decide the manner and method at the very outset of the meeting.

## **II. Special General Meeting**

A Special General Meeting may be convened by the Governing Body at any time depending upon the urgency of the matter. At least 14 days' notice shall be given to every member for Special General Meeting. Chairperson or the Cluster may hold a Special General Meeting. Chairperson of the Governing Body shall convene the Special General Meeting within 14 days from the date of receipt of such request. In defaults of the Governing Body, the requisitions shall hold such meeting provided that no business other than those specified in the notice shall be transacted.

## **III. Extra-ordinary General Meeting**

The Governing Body may direct to convene an extra-ordinary general meeting for consideration of addition or modifications of the Memorandum / Regulations of the society. 21 days' notice along with the draft of proposed changes shall be sent to all members before the meeting. The resolution for change amendment, etc. of the Memorandum and Regulations be carried out if accepted by the three-fourth of the members present at the meeting and voting.

## **21. Duties , Responsibilities and Powers of Office Bearers of Governing Body**

**a. Chairperson**

- i. To preside over all Governing Body / General Body meetings of Cluster Society;
- ii. To take all disciplinary actions such as removals, dismissed etc, in consultation with the Governing Body;
- iii. To advise the Secretary in any matter requiring urgent attention;
- iv. To call for or postpones any urgent meeting;
- v. To sign (or puts thumb impression) to approve the decision and resolutions taken at various Governing Body / General Body meetings;
- vi. To check and coordinate the activities of the Secretary, Treasurer and other members;
- vii. To take effort to achieve objectives of the Cluster society.

**b. Secretary**

- i. To convene all Governing Body / General Body meetings of the Cluster Society,
- ii. To maintain minute books of all meetings, and relevant registers like membership register, attendance register etc. ,
- iii. To issue general circular and notice ,
- iv. To receive all applications for membership which shall be placed before the Governing Body,
- v. To sign on behalf of the cluster society all receipts for all sums received as subscription donation, grant etc. ,
- vi. To sign and give pay order on all bills for payments,
- vii. To get the accounts of the Cluster Society audited by a qualified Accountant in due time,
- viii. To ensure compliance with statutory requirements,
- ix. To maintain relationships within and outside the cluster, especially with the other WUAs
- x. To take active role in aggregation of agri-inputs required for farmers of constituent WUA, and procure it from manufacturer, dealers and distributors at discount and make it available to farmer members.
- xi. To take active role in selling of marketable agricultural produce of member farmers in bulk to cater larger market,
- xii. To transact all other business subject to the direction of the Governing Body.

**c. Treasurer**

- i. To collect and receive all sorts of subscriptions, donations and grant receipts thereof ;
- ii. To Preserve all important papers and documents related to monetary matters of the cluster;
- iii. To maintain and keep cash book and such other accounts as are necessary ;
- iv. To deposit all cash collected within two days of collection;
- v. To prepare annual budget in consultation with the Secretary for consideration of the Governing Body;
- vi. To Present all financial reports of the Cluster Society at Annual General Meeting (AGM);

- vii. To Take initiative to enhance cluster corpus taking different innovative approaches judiciously.

## 22. Suit and Legal Proceedings

All suits and legal proceedings by or against the Cluster shall be in the name of Chairperson/Secretary of the Governing Body or such person as shall be appointed by the Cluster.

## 23. Alternation of Memorandum and Regulations

Cluster society shall not alter its memorandum except with the previous permission of the Registrar in writing, and the votes of three-fourths of its members at Extra-ordinary General Meeting. A copy of every alteration of the memorandum and of the regulations shall be filed with the Registrar of Societies for the State of West Bengal within thirty days of such alteration.

## 24. Dissolution of the Cluster Society

Subject to the provisions of sections 24 & 27 of the West Bengal Societies Registration Act, 1961 or any statutory modifications thereof, the cluster may be dissolved by a resolution to that effect passed by 3/4<sup>th</sup> members of the cluster at a General Meeting. The said meeting shall also decide the manner of disbursement of the funds and assets of the Association, if any after dissolution. In the event of dissolution the assets of the society remaining on the date of dissolution shall under no circumstance, be distributed among the members but the same shall be transferred to other societies having similar objectives.

We, the undersigned present members of the Governing Body do hereby certify that the above is a true copy of the Rules and Regulations of the society.

Signed: (.....Office Bearers only)

1..... (Chairperson)

2..... (Secretary)

3..... (Treasurer)

4.....( Member )

5.....( Member )

6.....( Member )

7.....( Member )

8.....( Member )

9.....( Member )

10.....( Member )

Dated, ..... Day of ..... 2024....

Witness: Name: .....) Signature:.....

Signature & Seal of any officer of WBADMIP

Checked & Verified by

The Executive Engineer,  
SPMU, WBADMIP

## 6.1 ANNEXURE - SUB-BASIN WISE SURFACE WATER RESOURCE AVAILABILITY

### Sub-basin wise Surface Water Resource Availability

SubBasin	Catchment (sqkm)	Total availability of surface water(MCM)	Utilisable availability of surface water(MCM)	Major & Medium projects MCM	Water Detention storages (MCM) (Approx)	unutilised sw (MCM)
Ajoy	3252	2509	1003.6	360	520	123.6
Atrai	910	487	194.8		109	85.8
Bhagirathi-Hooghly	1170	13643	5457.2		281	5176.2
Bramhani-Dwarka	2500	1957	782.8		350	432.8
Damodar	5250	8924	3569.6	0	945	2624.6
Dwarakeswar-Gandeswari	4430	3330	1332	300	354	678
Jalangi-Bhairab-Gobra	3492	3707	1482.8		698	784.8
Kanshabati-Keleghai	8369	4378	1751.2	0	837	914.2
Khari-Gangur-Ghea	2950.73	4426.1	1770.44		295	1475.44
Mahananda-Nagor-Kulick-Tangon	9460	13334	5333.6		1703	3630.6
Mayurakshi	5470	2590	1036	0	492	544
Pagla-Bansloi-Bagmari	930	591	236.4		223	13.4
Rasulpur	1130	401	160.4		136	24.4
Silabati-Rupnarayan	2548	3256	1302.4		153	1149.4
Tidal Streams			0			0
Jaldhaka	3746	12665	5066		524	4542
Sankosh-Raidak-Torsa	3826.61	19939	7975.6		383	7592.6
Teesta	3716	32124	12849.6	5345	372	7132.6
Subarnarekha	2160	3645	1458		151	1307
Grand Total	65310.34	131906.1	52762.44	6005	8526	38231.44

Table-5

## 6.2 ANNEXURE – DISTRICT WISE CROPPING INTENSITY

### District -wise Cropping Intensity

			From Remote sensing data	From Dist Con data(agricoop.nic)	Tribal Population in %age
DISTRICT	Total Area (Sqkm)	Crop Area(SqKm)	Cropping intency	Cropping intency	
PURULIA	6256.04	3742.473	<b>1.1</b>	1.18	
DARJEELING	2094.96	956.4537	<b>1.22</b>	1.22	
ALIPURDUAR	2736.53	1174.957	<b>1.45</b>	1.42	
JALPAIGURI	3423.75	2050.261	<b>2.2</b>	1.42	
SOUTH 24 PARGANAS	7350.83	3042.753	<b>1.96</b>	1.43	
BANKURA	6871.32	4147.622	<b>1.72</b>	1.64	
BIRBHUM	4544.54	3545.372	<b>1.61</b>	1.76	
DAKSHIN DINAJPUR	2253.97	1821.849	<b>1.96</b>	1.76	
PURBA MEDINIPUR	4112.45	2266.542	<b>1.99</b>	1.78	
MALDAH	3595.79	2717.646	<b>1.86</b>	1.82	
COOCHBIHAR	3416.14	2441.945	<b>2.13</b>	1.89	
NORTH 24 PARGANAS	3985.75	1974.533	<b>2.24</b>	2.01	
HOWRAH	1484.14	785.1215	<b>2.17</b>	2.02	
UTTAR DINAJPUR	3103.24	2468.109	<b>2.13</b>	2.1	
MURSHIDABAD	5354.26	4064.463	<b>1.87</b>	2.45	
NADIA	3887.46	2942.473	<b>2.23</b>	2.49	
HOOGLY	3147.09	2279.199	<b>2.43</b>	2.49	
PASCHIM BARDHAMAN	1616.69	804.1702	<b>1.23</b>	-	
JHARGRAM	3107.71	1584.244	<b>1.74</b>	-	
KALIMPONG	1072.09	131.3806	<b>1.22</b>		
PURBA BARDHAMAN	5406.12	4199.182	<b>2.01</b>		
PASCHIM MEDINIPUR	6310.89	3954.948	1.68	1.68	

### 6.3 ANNEXURE - DISTRICT-WISE DISTRIBUTION OF MI SUB-PROJECTS UNDER THE PROJECT

#### District-wise distribution of MI sub-projects under the project

Dist	Canal	CD	LI with Solar Sprinkler	SFMIS	TW	PDW	WDS	Grand Total	GW cca Development in Ha	surface water cca Development in	Total IP (Ha)	Cost in lakh
Dakhsin Dinajpur					20		25	60	120	37.5	326.25	491.25
Uttar Dinajpur					20		25	60	120	37.5	326.25	491.25
Hooghly	1	0	5		20		25	36	120	164.5	591.75	772.25
Paschim Burdwan	0	10	0		40		100	125	240	350	1065	2545
Bankura		75				200	350	235	300	2025	3487.5	12937.5
Purulia		75					350	235	0	2025	3037.5	11437.5
COOCHBEHAR					50			236	300	0	675	525
Murshidabad			0				25	50	0	37.5	56.25	281.25
Paschim Midnapore		0	0		100		250	235	600	375	1912.5	3862.5
Malda		5	0	0	40		25	70	240	137.5	746.25	1201.25
Birbhum		75	3		100		100	78	600	1710	3960	9795
Howrah							50	79	0	75	112.5	562.5
Malda		2					25	52	0	77.5	116.25	481.25
Purba Midnapore	25						50	175	0	750	1125	2587.5
South 24 Parganas	125							125	0	3375	5062.5	10125
North 24 Parganas	125							125	0	3375	5062.5	10125
Jalpaiguri			10	10	50	50	25	120	375	252.5	1316.25	1693.75
Alipurduar		5		10	150	50	50	165	975	190	2422.5	3125
Darjeling			5	25	50		50	130	300	212.5	1068.75	1568.75
Kalimpong			5	25	50		50	130	300	212.5	1068.75	1568.75
Jhargram		50	10				350	135	0	1725	2737.5	9337.5
	276	297	38	70	690	300	1925	2656	4590	17144.5	36276.75	85514.75

## 6.4 ANNEXURE - GUIDELINES FOR DESIGN OF VARIOUS MI STRUCTURES:

### 1. CHECK DAM

- The concept of constructing a permanent check dam for irrigation purpose is comparatively new because traditionally check dams were constructed with low cost, low strength and non-permanent materials mainly for purpose of erosion control such as gully plugging on gullies. While demand for irrigation has been on a constant rise in draught prone areas where major, medium and ground water based minor irrigation projects are not feasible, necessity for constructing small permanent check dams was acutely felt on small rivers where traditional check dams prove to be unsuitable to cater the desired needs of irrigation. Since then, these types of small but permanent irrigation dams are constructed which are popularly known as check dam.
- Although it is called as check dam, the basic hydraulics and structural design for such structure is same as for barrage or weir where need of a scientific approach guided by basic engineering principles remains. On the contrary, to be economically viable it is felt that many code provisions, which are mainly meant for conventional barrage, weir, bridge and road culvert etc., need to be revisited. Considering its low impact on environment and very low severity on human settlement upon incidental, structural and hydraulic failure some modification or changes are allowed in the existing guidelines on the basis of past experience and performance of previously constructed check dams. However, with the easy availability of various data such as terrain, hydrology, land use, rainfall and with the help of remote sensing technology and other recent data the input parameters for design have become more realistic. This helps in factoring out of huge Factor of safety applied due to uncertainty of various metrological events and other topographical parameters.
- The flood discharge, which is most crucial input among all parameters, is now being calculated fairly accurately on smaller regional scale as remote sensing helps us in getting information for any smaller regional scale. Likewise for calculating intensity of rainfall as a first step of designing any hydrologic design, modern stochastic hydrological model is applied considering recent trends of metrological events.

#### 1.1 DEFINITION:

Check dams are small dams made of rock or other non-erodible material constructed across a stream or channel to act as grade-control structures for erosion control. However, in this manual check dam means a small weir or anicut across a small river or stream or reevaluate primarily for retaining water in the upstream of river or stream for irrigation purpose.

#### 1.2 PRIMARY OBJECTIVES OF A CHECKDAM:

- To tap a part of the run-off passes through the stream and leave the outfall of the stream.
- To provide assured irrigation to its full command area during kharif and to provide assured irrigation to a part of its kharif command area in Rabi as well as in pre-kharif depending on perennial nature of the stream.
- To enable ground Water recharge and cater to other needs of the villagers like bathing, washing, fishing, recreation etc. depending on location and potentiality.
- To provide drinking water facilities for the cattle in the villages along both the sides of the river after monsoon period and to create short term pisciculture opportunities.

#### 1.3 CRITERIA FOR SELECTION OF SITE:

- The Check Dams will store or divert excess water flowing to the sea at the end of monsoon. While selecting locations for construction of in-stream storage structure or check dams the following principles and priorities ought to be maintained.
- Single cropped area to be given priority.
- Areas where agrarians are using traditional irrigation by creating temporary cross bunds on tributaries or creeks or streams.
- The River which falls under Irrigation and Development department should be avoided.
- Areas where the farmers are willing to take up operation & maintenance of the structure.
- Width of Check dam to be constructed should be not more than 50 meter in general and within the existing bank.
- Location should be at sufficient distance from confluence of the stream.
- The newly constructed structure should not have any adverse impact on the hydrological efficiency of the existing, on-going and future major, medium, minor (flow) irrigation and minor (lift) irrigation projects.
- It should not affect forest area in any way.
- Proper water balance to be generated before final selection. Though the purpose of the scheme is to be demand driven, hydrologically and technically feasible sites ought to be considered and the local community has to be consulted before taking any action for implementation. The main emphasis on selection of a site will be proper use of water through people's participation.

#### **1.4 DETAILED GUIDELINES FOR CHECK DAMS WITH HEIGHT UPTO 3.0 M**

##### **1.4.1 PLANNING:**

- Study the topography by WEB GIS tool ([www.wbadmip.org](http://www.wbadmip.org)) for probable site selection. Map all the existing structures including check dams, water bodies and wells. A master plan for entire river / stream stretches within a micro watershed to be prepared with contour map with the help of WEBGIS contour initially and field verification thereafter, showing the probable proposed check dams and existing structures with a Preparation of a master planning map sheet.
- Tentative Command Area boundary should be explicitly demarcated in a map showing the natural drainage channel and proposed location of dam/s. The map should also show the latitude and longitude as grid lines.

##### **1.5 LOCATION OF CHECK DAM:**

- Check dams should be constructed to store water within the valley area of the natural drainage channel without causing submergence on channel bank in nearby area. As such there is no scope for acquisition of land.
- The location with impervious, hard rocky bed and side bank is the most suitable site for economical design of check dam. These locations are to be given priority and accordingly site may be shifted.
- Avoid the risk of submergence to any cropped lands, residential areas and other infrastructures during flash floods. Bank height may be increased economically and safely if necessary to the possible extent, considering the viability of the location from the point of view of size of command area and expenditure involved.
- Perennial rivers/ streams are preferred, for series of low height check dams.
- In no case meandering portion of the river will be allowed for the proposed site. The check dam should be constructed on the straight reach of the river with 100 metres straight reach on the U/S as well as D/S of the proposed site.
- Construction of check dam at junction of two tributaries/drains should be avoided.
- Spacing between two check dams in a particular natural drainage channel should not be less than 500 m or such that the base of the upslope dam is level with the downslope dam whichever is higher.

### **1.6 INVESTIGATION**

- Soil testing report required for proper design depending upon the site condition and depth of exploration limiting to 6 m.
- Minimum 3 trial pits/drill holes required. One on each bank, and one in the centre or deep ground level in the gorge portion. Where exposed rock is available, opinion of geologist is required.
- The soil report will ensure to cover following parameters: Soil bearing capacity, soil classification, silt factors etc.

### **1.7 SURVEY WORKS**

- Catchment area (upto 1sq km) to be demarcated with the help of Google Earth or with the help of Tools available in WEBGIS.
- All the surveys e.g. L/S, C/S, Vicinity survey have to be done based on a common GTS benchmark.
- Wherever a series of check dams are being planned to be constructed, ensure that a single common temporary benchmark (G.T.S.) is considered for all the check dams, so that the check dams do not fall under submergence with respect to the check dams in upstream or downstream.
- Vicinity survey should be done for a perpendicular distance of at least 200 m from the centerline of the stream on both sides of the river/stream.
- Verify estimates regarding maximum flood discharge and high flood level from flood marks and local inquiry at the site of the work.
- Vicinity survey to be done at 30 mx 30 m Grid preferably by Total Station in UTM 45(N) Coordinate System and its data in CSV files has to be kept for future reference.
- Mark F.R.L. and A.H.F.L. on vicinity and village submergence contour plan to ascertain that it remains within the bank.
- Take long section at the deepest point of the gorge and corresponding to the C/S chainages.
- Upstream long section survey work up to 1 Km at an interval of 30 m.
- Downstream long section survey work up to 500 m at 30 m interval.
- C/S profile by taking readings at 1 m interval but if there is shortage of time or in case of change in elevation then a maximum of 3 meters interval can be taken for taking readings.
- CSV file should be linked through lat. Long or projected coordinate system and should be transformed in Autocad Civil 3D software format. Bring the actual map behind the surface. Mark the Check Dam location with lat. and long on Autocad Civil 3D.

### **1.8 DESIGN FLOOD / PEAK DISCHARGE**

- Prefer to use Geo tool of web GIS to estimate peak discharge. In case more detailed information of rainfall is available for selected area, same may be used.
- Discharge is calculated by Dicken's and Rational formula.
  - For Bed slope steeper than 1 in 500: Maximum discharge of Dicken's and Rational
  - For bed slope flatter than 1 in 500: Average discharge of Dicken's and Rational is ta
- Rainfall : 25 Years for total catchment area less than or equal to 25 Sq.km and 50 years for total catchment area more than 25 Sq.km

### **1.9 STORAGE CAPACITY CALCULATION**

Storage capacity shall be calculated with the help of CIVIL 3D software from survey data. A gauge will be installed in the check dam and community will be provided with the gauge level-storage relationship.

### **1.10 CONSTRUCTION IN ROCKY STRATA**

- No apron is considered.
- No abutment is considered.

- Structure may be extended 1 m in both side of stream. In exposed rock, step excavation should be done instead of box cutting and anchored by 16 mm dia reinforcement.

### **1.11 COST REDUCTION**

- 1.11.1.1 No floor or a minimum on the U/S section of the weir is to provided.
- 1.11.1.2 Only boulder pitching will be allowed for bank protection with a suitable slope if required.

### **1.12 DESIGN FLOOD**

Formula used: If bed slope steeper than 1 in 500, then maximum of Dicken's and Rational and if bed slope flatter than 1 in 500, then average of Dicken's and Rational  
 Rainfall : 25 Years for total catchment area less than or equal to 25 Sq.km and 50 years for total catchment area more than 25 Sq.km

### **1.13 PERMISSIBLE LOOSENESS FACTOR**

- 1.14 1.20 – 1.00 for silt factor < 1.0 and 1.00 – 0.60 for silt factor >1.0

### **1.15 CONSTRUCTION MATERIAL TO BE USED**

- For body wall, apron/floor, cut-off : For core portion M10 Grade of concrete. Over this, skin concrete of 20 cm on body wall and top of apron/floor.M15 concrete may be used if rate is less than M10 in (case where local stone is allowed.)
- For abutment, sidewall, splay wall, return wall and toe wall : Boulder masonry or M 10 grade of concrete.

### **1.16 APRON**

- Permeable foundation bed: Thickness is as per subsurface flow. Length to be determined from exit gradient criteria and from energy dissipation provision like hydraulic jump formation.
- Rock Foundation bed: Thickness is as per flow (minimum. 0.30 m after removing uneven surface on levelling surface and maximum 0.60 m)

### **1.17 CUT OFF**

- Thickness : 0.3 m up to 2.5 m depth and 0.5 m beyond 2.5 m depth
- Foundation bottom level: U/S cut off as per 1.00 Rc ( with concentration) and D/S cut off as per 1.25 Rc ( with concentration), restricted to 1.0 m in soft rock and 0.5 m in hard rock.

### **1.18 BODY WALL/ WEIR**

- Crest width : 0.6 to 0.9 m for flood lift < 3.0 m and 1.2 m or more for flood lift > 3.0 m
- Upstream slope: To be provided as per stability ( If required)
- Foundation level: 1.0 m to 1.5 m below the deepest river bed level ( when without U/S floor)

### **1.19 ABUTMENT**

- Top width : 0.6 m
- Top level : In stable or rocky bank it isd AHFL + 0.30 m, otherwise AHFL + 0.60 m or equal to GL whichever is lower.
- Foundation level : Same as foundation level of body wall or as per scour depth (1\*Rwc)
- Length: 0.5 m + heel of U/S sloped face of body wall or 1.0 m + heel of vertical face of body wall + base width of body wall.

### **1.20 SIDE WALL**

- Top width : 0.6 m

- Top level : In stable or rocky bank it TWL + 0.30 m, otherwise TWL + 0.60 m or equal to GL whichever is lower.
- Foundation level : Same as foundation level of body wall or as per scour depth (1.25 \*Rc)
- Length: From end point of abutment to end still

### **1.21 PROTECTION WORKS**

- C.C.Blocks: May be replaced by stone boulders of size not less than 30 cm and weighing not less than 40 kg. The length should be as follows:-
  - On U/S =  $1.00 \times D_1$  (  $D_1$  is the design depth of scour below the floor level)
    - (  $D_1$  = Apron level – U/S scour level, as 1.00Rwc)
  - On D/S =  $1.50 \times D_2$  (  $D_2$  is the design depth of scour below the floor level)
    - (  $D_2$  = Apron level – D/S scour level, as 1.25Rwc)
- Launching Apron: On Permeable foundation with loose stones or boulders shall be provided to spread uniformly over scoured slopes. The size should not be less than 300 mm and no stone shall weigh less than 40 Kg.
  - Length on U/S =  $1.50 \times D_1$  (  $D_1$  = Apron level – U/S scour level, as 1.00Rwc)
  - Length on D/S =  $1.50 \times D_2$  (  $D_2$  = Apron level – D/S scour level, as 1.25Rwc)
  - Thickness as per cl.20.3.4 of IS 6966. RWC- R without concentration

### **1.22 BANK PROTECTION WORKS**

- Rip Rap or Dry rubble/Stone pitching : When AHFL is not within Bank it is to be provided as per site condition, otherwise it is provided over top of backfill material beneath abutment / sidewall.

### **1.23 SPLAY WALL**

- Rocky strata: In case of rocky bank or stable or high banks it can be avoided.
- Permeable foundation: In permeable foundation, provide at an angle of 45 degrees or as per site condition.

### **1.24 EXTENDED CUT OFF**

- Upstream: Up to toe of Abutment, when cross cut off is not provided.
- Downstream: Up to toe of Sidewall, when cross cut off is not provided.

### **1.25 RETURN WALL**

- Top width : 0.60 m
- Length: The length of the return wall on the U/s and D/s sides shall not be less than the base width of the abutment and side wall respectively.

### **1.26 TOE WALL**

- Permeable foundation: It is provided at the end of the inverted filter, between D/S C.C. Blocks & launching apron with thickness of 0.30 m and extended about 0.500 m below the bottom of inverted filter.

### **1.27 WEEP HOLE**

- Weep hole : Weep hole shall be provided as per IS code or as specified in the drawing
- Expansion joint: Necessary expansion cum construction joints should be provided.

### **1.28 Gauge**

- A gauges either painted on wall of dam or a tap will be inserted in the dam to facilitate the monitoring. This gauge level-storage relationship will be posted with the check dam as feasible.

FORMULA USED:-	Bed slope steeper than 1 in 500 = Max <sup>m</sup> of DICKEN's and RATIONAL Bed slope flatter than 1 in 500 = Avg. of DICKEN's and RATIONAL
RAINFALL :-	25 YEARS for total catchment area less than equal to 25 sq. Km. 50 YEARS for total catchment area more than 25 sq. Km.

### 1.29 PERMISSIBLE LOOSENESS FACTOR (L.F)

LOOSENESS FACTOR:-	1.20 – 1.00 for silt factor < 1.0 1.00 – 0.60 for silt factor >1.0
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### 1.30 CONSTRUCTION MATERIAL TO BE USED

BODY WALL, APRON/FLOOR, CUTOFF	M15 with local variety aggregates/M10 is used for the check Dam. Lower rate both of two grades may be accepted. M 15 for U/S and D/S cutoff
ABUTMENT, SIDEWALL, SPLAYWALL, RETURN WALL & TOE WALL	Boulder masonry or M15 with local variety aggregates/M10 is used for the check Dam. Lower rate both of two grades may be accepted.

### 1.31 APRON

PERMEABLE FOUNDATION BED:-	Thickness is as per subsurface flow.
ROCK FOUNDATION BED:-	Thickness is as per flow (min. 0.30 m after removing uneven surface on levelling surface) and Maximum 0.60 m.

### 1.32 CUT OFF

THICKNESS :-	0.30 m up to 2.5 m depth 0.50 m beyond 2.5 m depth
FOUNDATION BOTTOM LEVEL:-	U/S cut off as per 1.00 Rc (with concentration) D/S cut off as per 1.25 Rc (with concentration) Restricted to 1.0 m in soft rock and 0.5 m in hard rock.

### 1.33 BODY WALL/WEIR

CREST WIDTH:-	0.6 to 0.9 m for flood lift <3.0 m 1.2 m or more for flood lift >3.0 m
UPSTREAM SLOPE:-	Provide as per stability (if required)
FOUNDATION LEVEL:-	1.0 m to 1.5 m below the deepest river bed level. (when without U/S floor)

**1.34 ABUTMENT**

TOP WIDTH:-	0.6 m
TOP LEVEL:-	In stable or rocky bank it is AHFL + 0.30 m, otherwise AHFL + 0.60 m or equal to GL whichever is lower.
FOUNDATION LEVEL:-	Same as foundation level of body wall or as per scour depth (1X Rwc)
LENGTH :-	0.5 m + heel of U/S sloped face of Body wall or 1.0 m + heel of vertical face of Body wall + base width of body wall.

**1.35 SIDE WALL**

TOP WIDTH:-	0.6 m
TOP LEVEL:-	In stable or rocky bank it is TWL + 0.30 m, otherwise TWL + 0.60 m or equal to GL whichever is lower.
FOUNDATION LEVEL:-	Same as foundation level of body wall or as per scour depth (1.25X Rc)
LENGTH :-	From end point of abutment to end sill.

**1.36 PROTECTION WORKS**

C.C BLOCKS :-	May be replaced by stone boulders of size not less than 30 cm and weighing not less than 40 kg. The length should be as follows:- On U/S = $1.00 \times D_1$ ( $D_1$ is the design depth of scour below the floor level) ( $D_1$ = Apron level – U/S scour level, as 1.00Rwc) On D/S = $1.50 \times D_2$ ( $D_2$ is the design depth of scour below the floor level) ( $D_2$ = Apron level – U/S scour level, as 1.25Rwc)
LAUNCHING APRON :-	On Permeable foundation with loose stones or boulders shall be provided to spread uniformly over scoured slopes. The size should not be less than 300 mm and no stone shall weigh less than 40 Kg. Length on U/S = $1.50 \times D_1$ ( $D_1$ = Apron level – U/S scour level, as 1.00Rwc) Length on D/S = $1.50 \times D_2$ ( $D_2$ = Apron level – U/S scour level, as 1.25Rwc) Thickness as per cl.20.3.4 of IS 6966.

**1.37 BANK PROTECTION WORK**

RIP RAP OR DRY RUBBLE/STONE PITCHING :-	When AHFL is not within Bank it is to be provided as per site condition, otherwise it is provided over top of backfill material beneath abutment / sidewall.
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**1.38 SPLAY WALL**

ROCKY STRATA :-	In case of rocky bank or stable or high banks it can be avoided.
PERMEABLE FOUNDATION :-	In permeable foundation provide at an angle of 45° or as per site condition.

**1.39 EXTENDED CUTOFF**

UPSTREAM :-	Up to toe of Abutment, when cross cut-off is not provided.
DOWNSTREAM :-	Up to toe of Sidewall, when cross cut-off is not provided.

**1.40 RETURN WALL**

TOP WIDTH:-	0.60 m.
LENGTH :-	The length of the return wall on the U/s and D/s sides shall not be less than the base width of the abutment and side wall respectively.

**1.41 TOE WALL**

PERMEABLE FOUNDATION :-	It is provided at the end of the inverted filter, between D/S C.C. Blocks & launching apron with thickness of 0.30 m and extended about 0.500 m below the bottom of inverted filter.
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## 2. Water Detention Structure



- A Water Detention Structure (WDS) is an artificial reservoir of any size and an isolated structure in an open space to retain water, which is utilized for agricultural purposes and development of pisciculture. It is also known as reservoir, tank, Water Harvesting Tank. The major objectives for construction of a WDS is to harvest rainwater and provide irrigation to the adjoining cultivable land and development of pisciculture activities. With the increase in vegetation, the indirect benefits may include recharge to the ground water, improvement in the soil moisture condition and improvement in the sustainability of Dug well.

### **2.1 SELECTION OF SITE**

- It is suitable for all areas & all climatic zones. During selection it should be assured that the land should be voluntarily gifted by the community.
- The site should be located in such an area, which can be refilled several times in monsoon period.
- As a thumb rule the catchment area should be 10 times more than the water spread area in the tank. The site should be selected in the area, where seepage loss is minimum.
- Command area should be adjacent to the tank and the areas with rocky formation should be avoided.
- Dumping area for excess excavated materials should not be farther than 1.5Km.

### **2.2 EXECUTION OF WDS SCHEMES**

### **2.3 PLANNING:**

- Demark all the existing structures like pond, canals, tube wells and the location of proposed schemes under ADMI or any project should be shown in village base map. The map should show existing irrigated area and command area of proposed scheme and its catchment. This map should be superimposed on Google map and supported with the current photo.
- Draw the area of proposed pond/WDS on Google map.
- Depth of WDS should be fixed as much as possible at the planning stage involving and consulting WUA/ community.

#### **2.4 SURVEY OF WDS:**

- At least three TBM (Temporary bench mark) must be kept at site and the R.L. of the TBM should be approved by the Engineer-in-charge. The TBM to be kept intact till the final measurement completed or as directed by Engineering in charge.
- The pre level to be compulsorily done. Minimum 5m to 10m grid to be done as pre level before and after execution. It should be recorded in the Level book and signed by representatives of Community, Surveyor and Contractor.
- Pre-level and formation-level Grid must be signed by WUA and Photography/ videography should be done in various stages involving WUA.

#### **2.5 DESIGN:**

- Provide Pre-level and formation-level and calculate the volume of storage. In case of calculation of live storage, the evaporation loss @3mm per day and Seepage loss @2mm per day total 5 mm/day is to be considered or the actual local data can be taken.
- Test Pit / bore hole will be done for all WDS in Purulia, Bankura, Birbhum and Paschim Midnapore for assessing the percentage of soil type to be excavated.
- Top of Dyke has considered minimum 2m to 2.50m and height of dyke may be Considered minimum 2.50m giving a suitable slope of 1:1 (V:H) to 1:2 (V:H) as per land availability at site.
- Berm/Land filling is provided at least 2m away from the cutting edge of WDS.NP2 pipes are used for inlet and outlet of WDS. For laying pipes, M15 grade of Concrete is suggested at the base and surrounding area of pipe and related masonry structure is preferably be constructed with boulder masonry.
- Brick masonry may be used instead of boulder masonry if boulder is not available locally. Rate of NP2 pipe to be taken from I&W SOR Superintending Engineer Western Circle- II, Midnapore effective from 1.2.2015.
- Solar pump must be introduced for lifting water from WDS, but in Western District, diesel Pump may be used as the tribal farmers are not accustomed with the solar pump, but Authority will not take any liabilities for arrangements of Diesel Pump.
- In case of Delta region, natural vegetation can be grown naturally in the embankment of WDS and people may utilize the embankment to grow vegetables. So no need of turfing in that area.
- Strengthening of embankment of WDS can be done using Geo Jute instead of any other type of lining considering both cost effectiveness as well as eco-friendliness.

- WUA should arrange the land for dumping site. The land on which WDS is constructed should have at least 3-4 farmers and water right must be taken at planning stage by which all cultivable land in the command area will be irrigated optimally.
- Compaction of the soil placed in the dyke should be as per provision in tender and the relevant tests must be done in presence of WUA and attention to be given to illiterate WUA for the tests.
- There must be a separate item with lead of 100 meter or more instead of 1500m lead. However, till the SOR is revised the existing system of lead rate will continue.
- Catchment treatment is required, by suitable soil erosion method like nallahbundh, vegetative cover as part of the entry point activity.
- Informative Board must be fixed at site indicating every detail of the scheme before the commencement of the work.

## 2.6 GLOSSARY

- Full Reservoir Level (FRL): It is the level corresponding to the storage which includes both inactive and active storages and also the flood storage, if provided for. In fact, this is the highest reservoir level that can be maintained without spillway discharge or without passing water downstream through sluice ways.
- Storage capacity: This is the total storage capacity of reservoir that can be pumped for intended purpose.
- Post level/Formation level: It is the level after excavation.
- Pre-level : It is the existing ground level before excavation.

## 3. DUG WELL



### 3.1 INTRODUCTION

- Dug wells are simple water development structures. These are constructed normally to tap shallow water table aquifers with poor to moderate yield potential. A dug well should preferably tap a considerable thickness of the saturated zone. Dug wells are constructed by

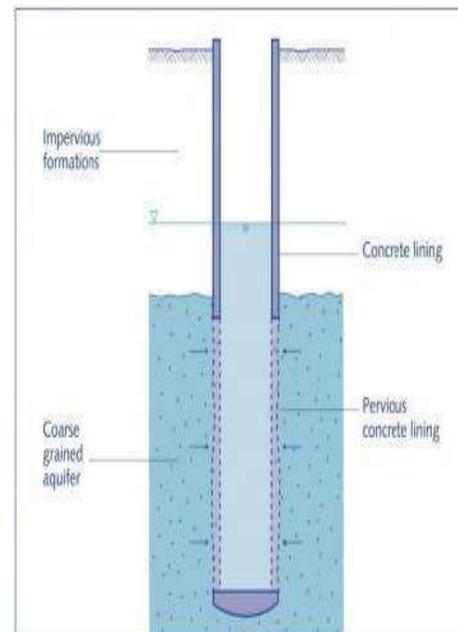
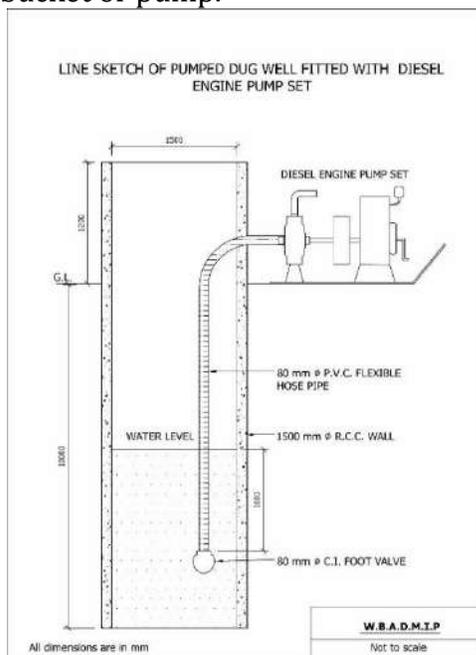
excavation and require a lining up to the depth to which the formation is loose and collapsible. In alluvial formation dug wells are lined along its entire depth.

- Dug wells in hard rock formation are partly lined and receive water as percolation through the weathered and fractured rock aquifer. Static water level in a dug well is water table which rises and falls in response to the seasonal variation in rainfall. A dug well is dried up when the water table vanishes completely or recedes below the bottom of the well. High water level fluctuation is observed in a well which receives water from an aquifer having low permeability and vice versa. Centrifugal pumps are used most appropriate to extract water from dug wells.
- In West Bengal dug wells are generally constructed in the Laterite Zone of the hard rock areas and in the areas of relatively thin deposits of highly permeable riverine alluvium. Concrete rings of 1.5 meters to 1.2 meters diameters are used as lining for dug wells in alluvial formations while brick masonry linings of 3.6 meter or higher diameters are used for rock formations. The depth of these dug wells usually varies from 10 meters to 18 meters. However, few modifications in present design of PDW are suggested in the Guidelines.

### 3.2 ELEMENTS OF A DUG WELL

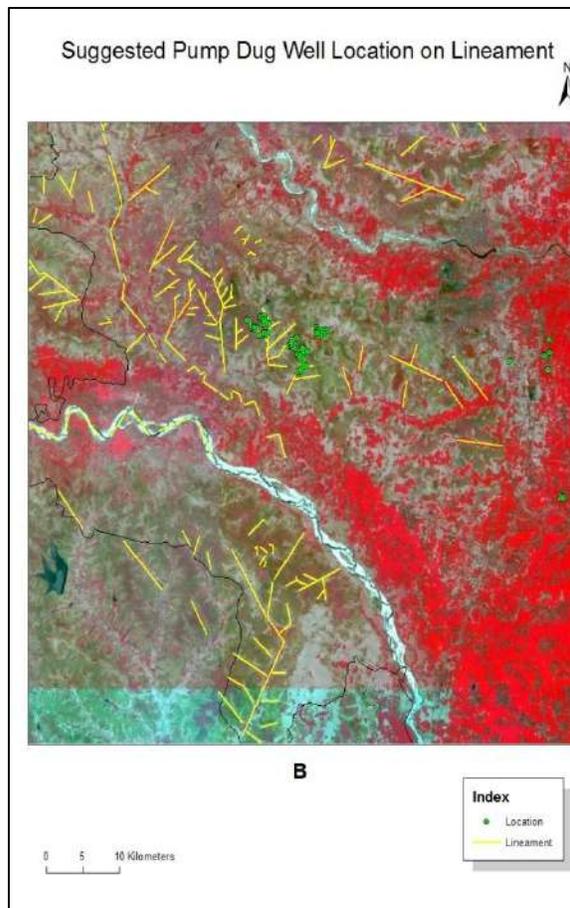
A dug well consists of three major components :

- **Well head:** This is the part of the well, which is visible above the ground. It protects the well from contamination and generally consists of a well cover or apron, a concrete seal, a manhole (for access), a drainage channel and a pump.
- **Well shaft:** This is the section of the well between the head and the intake. It is made out of a strong, durable material, which can easily be kept clean.
- **Intake:** The walls of the intake are constructed in such a way as to allow water to pass from the aquifer into the well, thus creating a storage capacity, which can be accessed either by bucket or pump.



### 3.2.1 SELECTION OF SITE

- Site selection will be made by the community with the assistance of the zonal hydro geologist. Where geophysical situation are particularly favorable, the site of the well will be determined based on observation of local geologic conditions and existing water wells. If there is uncertainty in the success rate of well, a small diameter test hole may be first bored.
- The dug wells are suitable structures in areas with shallow (<20m) aquifers (saturated sandy formation or weathered rock formations, and fractured zone) with shallow water table conditions. The dimensions of the well should be based on the formation, water table fluctuations and required storage volume. The moderately thick (<20m) top lateritic capping of older alluvium and, weathered zone can yield good amount of water through large diameter dug well. The potential location for dug wells can also be identified by observing lineaments and hydrogeology maps.
- Before starting to design and develop any kind of water source, an initial assessment should be conducted in order to effectively and efficiently manage and develop water resources. This assessment includes a water balance estimation (i.e. the collection of hydrological data, determination of the current status and trends of water supply, an input-output-analysis, and a water and material flow analysis) and water resources assessment (i.e. the evaluation and systematic study of water resources in relation to human impact, e.g. demand evaluation, trend estimation, analysis of water use and quality). When analyzing the demand side, water allocation issues play a vital role. Eventually, this assessment can lead to a water resources development plan describing the status, the management and future development of water resources in a particular area or watershed.
- Before constructing a dug well, geological suitability of the area, acceptance within the community and the capability of operating and maintaining the system have to be assessed. A thorough investigation of the area should be conducted in order to identify:
  - ❖ The type of source and soil (must allow safe excavation)
  - ❖ The existence of an shallow saturated soil aquifer or **aquitard**. Alternatively, dry riverbeds may provide a water source during dry-season.
  - ❖ The level of the groundwater (deep enough: protection against contamination of groundwater; but not too deep: safety of excavation, high effort)
  - ❖ The quantity of available water (also in the perspective of a long-term perspective); the future recharge potential
  - ❖ The quality of the water
  - ❖ The range of technically feasible options for the construction.



- Villagers and members of the neighbouring communities can be a good source of information on the presence of shallow groundwater. Also, certain types of vegetation (e.g., banana plants, bulrushes, sugar cane, date palms) can indicate presence of groundwater. Often, existing wells in close proximity indicate the presence of groundwater. Particularly, the water level status in drinking well should be fully studied. If geophysical resistivity survey equipment is available, a small-spread sounding can be conducted to get first-hand information on depth to groundwater level and compact formation. In case equipment for boring is available, a test boring can provide detailed information on subsurface formation and groundwater level

### **3.2.2 CONSTRUCTION**

- Under supervision, not skilled but physically capable workers are required in the whole construction process. During or after excavation, a permanent lining needs to be installed unless the well is constructed in consolidated ground (i.e., rock formations). The lining serves several purposes. During construction, it provides protection against caving and collapse and prevents crumbling ground from filling up the dug hole.
- Although a wide range of construction methods and materials (e.g. brick, stone, masonry, concrete cast in a shuttering inside the hole) can be used, most well

programmes recommend the use of circular, precast concrete well "rings". They can be produced on-site or in a local production centre. In very soft formations, the rings are sunk starting from the surface: digging from the inside of the ring, removing the material with a bucket and adding new rings as required. In harder, semi-consolidated formations, the rings can also be inlaid after having excavated the hole completely until the groundwater level.

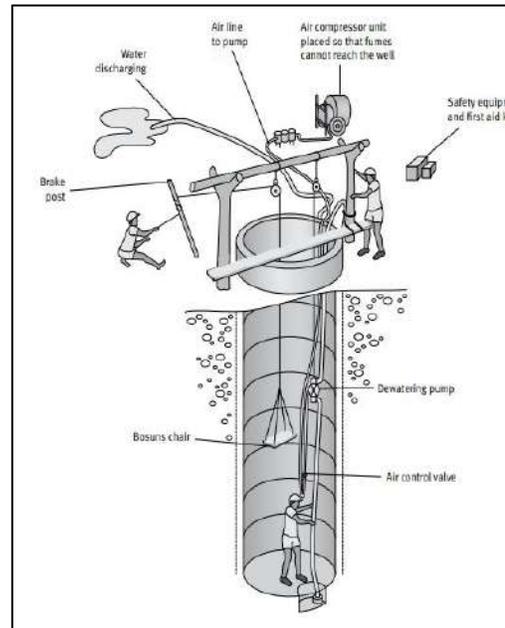


Figure: Safe construction of a dug well. SOURCE: WATERAID (2008)

- Regardless of the method that has been used to excavate the well to the water table, excavation below this level should never be attempted until the sides of the excavation have received the support of a permanent lining. Excavation below the water table should be carried out within precast concrete caisson rings of a smaller diameter than the rest of the well. In most cases, a motorised pump is required to dewater the well to allow excavation below the water table.
- Hazards of dug well concentration:
  - Falls-
    - The risk of serious accidents at the well site as well as the more minor cuts and bruises can usually be avoided through understanding the situations that can lead to such misadventures. Poor organisation of the well site can lead to numerous mishaps including loose objects being knocked in upon the worker at the bottom.
    - Lack of attention while assisting from above can result in objects or workers falling into the well, possibly through loss of control of the rope or lifting head frame. While quiet good humour on the job is desirable, loud or boisterous behaviour on the part of the workers should be forbidden. Other distractions and casual visitors should be avoided.
    - Exhaustion of the workers can lead to serious falls while entering or leaving the well. Such exhaustion must be avoided, but also the preparations for entering and leaving the well should be such that even an exhausted or injured worker can get out or be assisted out without risk.
    - Suitable design of the light lifting head frame allows workers at the top to lift the weight of a worker leaving the well without loss of control. Various forms of ladders are used for entering or leaving the well unassisted. These need to be suitably constructed to be easily gripped even in wet or slippery conditions. Rope ladders are not easy to use when one is exhausted. They can be improved considerably by suitable design and careful construction.
    - Keeping the rungs small enough to fit comfortably in the fist and keeping the rungs exactly parallel, for instance.
    - Air Quality
      - Poisonous gasses are occasionally found to occur naturally in deep excavations, but far more frequently they result from engine driven pumps, generators, or compressors used at the well site. Carbon monoxide laden exhaust is heavier than air, and therefore sinks down the well, pooling at the bottom. It is not sufficient only to avoid placing engines in the well. They should not be operated upwind of the well, or within about 8 metres in any other direction.
      - Workers should always enter the well with caution, mindful of any odours, malaise, or weakness that they experience. The team members above should also remain vigilant to assist the worker in the well without delay when needed. Any rescuers entering the well in the case of unexplained weakness or loss of consciousness should remain attached to a safety line themselves in case they should also succumb.

### **3.2.3 Planning, design and monitoring**

The geo-resistivity test will be conducted during planning stage and it will guide the design prior to preparation of final DPR and tendering.

During construction, the lithology profile of PDW will be maintained and will be shared (is possible online) information with SWID. The proposed design will be monitored in line with the actual lithology.

Finally pumping test will be conducted and this information will be also be maintained centrally.

The well be provided with painted gauge or any other mode to facilitate the monitoring of water level in PDW.

#### **4. CONSTRUCTION OF DUG WELL IN THE WESTERN PART OF WEST BENGAL**

Location and test: PDWs are to be selected on potential locations like fracture fractured zones, thick weathered zones and low lying area/field. The potential locations are to be verified with the help of SWID or may be consulted with SPMU GIS/technical cell. Resistivity test to be conducted by reputed agencies or by SWID for water availability assessment and assessing possible sub-surface strata.

#### **3.4 GUIDELINES FOR CONSTRUCTING DUG WELLS ENCOUNTERING ROCKY STRATA –**

- Diameter of the PDW should be 3.0 m or more.
- Depth of the PDW should be fixed based on resistivity data or local information but limited to maximum 15 m.
- Hard rock zone should be avoided for PDW schemes.
- Lining of hard formation may not be done so as to reduce the cost and increase the water storage.
- Suitable brick Lining may be done where it is needed with 250 mm and 315 mm preferably with locally available chiseled stones depending upon depth. The lining may preferably not be sealed with mortar/plaster as it would close the fractures resulting in decreased seepage of ground water leading to decrease in well efficiency
- Inside plastering below GL should not be done to increase the ingress of the water flow from soil formation.
- Above GL 900 mm protection brick work to be carried out.
- Sufficient numbers of adequately sized weep holes to be kept for easy water inflow.
- Solar pump to be arranged with maximum 2 hp Pump with or without drip system depending upon the proposed cropping pattern.
- The cost of solar operated 3m diameter PDW should be within 11 lakh or less.
- The Minimum command area of each PDW should be 1.5 ha.
- Minimum distance between 3.0 m or more diameter, PDW should be 100 m.

#### **5. GUIDELINES FOR CONSTRUCTING DUG WELLS ENCOUNTERING MIXED ZONE WITH INTERMITTENT ALLUVIAL LAYER-**

- In case of zones with intermittent alluvial soil formation the construction dug well should be done with RCC ring (1.5m diameter) to avoid constructional hazard by caving of soft soil.
- Solar operated pump system to be provided with 0.75 to 1 horse power pump set for each PDW.
- The command area for such RCC ring dug well should be minimum 0.4 ha.
- The cost of solar operated RCC ring PDW should be within 3.0 lakh or less.
- The minimum distance between each 1.5 diameter PDW should be 50 m.
- A model estimate and drawing of RCC ring PDW is available in SPMU and is shared with this guideline. These type of RCC PDWs will be considered in cluster of minimum 4 Nos. with formation of common WUA.
- Separate DPRs for Civil works (Dug Well) and Solar pump system to be prepared and separate bid to be floated.

#### **6. GLOSSARY OF MAIN TERMS**

- Apron: A concrete floor outside the head wall of a well. The apron provides a relatively clean environment around the well, and controls drainage of spilled water away from the well.
- Aquifer: A water bearing channel or cavity in the soil or rock. Aquifers may be relatively open cavities, or consist of porous material with water moving in the interstices.
- Concrete: A mixture of Portland cement, sand, and gravel. Other additives are sometimes used.
- Caisson Ring: Also, Caisson or Ring; A cylindrical liner, usually pre-cast concrete or steel, which may be placed in an existing hole, or sunk in place by undercutting or other methods.
- Contamination: Introduction of pathogenic organisms or toxic chemicals into the water.
- Cutting Ring: A ring placed below the caissons to facilitate undercutting and sinking. Usually of concrete, it should have a concave bottom surface, and a slightly greater outer diameter than the caissons. It is usually not necessary if the caissons are suitably designed and used.
- Destabilized Soil: Soil which has been disturbed, and is therefore at risk of collapsing or washing into the well.
- Drawdown: The amount the water level is reduced below the static water level, at a given pumping rate.
- Ground Water: Water which has been stored and filtered in the soil and rock below the surface. Such storage and filtration usually result in purification from biological contaminants. Sub-surface flows may however result in biological contaminants being carried to a well in groundwater contaminated by the mixing of surface water or other contaminants at some distance away.
- Hand Dug Wells: Wells excavated and lined by human labour, generally by entering the well with a variety of hand tools. They may be as small as 80 cm diameter, and in some traditional cultures, as large as 15 metres diameter.
- In-Situ Lining: Casting a lining in place between the soil and an inner mould.
- Logging: The process of recording the soil and rock conditions, aquifers encountered, and other relevant data on the well construction which may be of relevance in contract administration, maintenance, or in construction of other wells.
- Perforations: See Weep Holes
- Shuttering: Inner moulds used in in-situ casting of lining, or a temporary liner to support soil during excavation.
- Soil Overburden: The layers of various soils encountered above bedrock.
- Static Water Level: The level of the water in a well that has not been recently pumped. It is normal for the SWL to change seasonally.
- Surface Water: Water consisting of surface flows and therefore bearing surface contamination. If drainage conditions are not suitable, surface water may find its way into the well.
- Tripod: A three-legged structure used for lifting heavy loads such as the weight of the caisson ring. The tripod is usually combined with lifting devices such as winches or block and tackles.
- Unstable Soils: Sands, silts, and other soil mixtures which may flow or collapse when one side is unsupported.
- Weep Holes: Holes formed all the way through concrete liners to permit the free flow of water. In the case of pre-cast or caisson linings these are usually not necessary.
- Well Cap: Usually a round concrete slab used to cover the well. The cap must be suitably reinforced. Pump mounting bolts and access hatches are cast into the cap as appropriate.
- Well Head: The structural components of the well above grade level. Ie. Apron, Head Wall, Cap, and drainage.
- Winch: A lifting device intended for greater lifting capacity combined with slower motion. May consist of a drum to wind cable, linked to a crank through a gear mechanism to achieve greater mechanical advantage.
- Yield: The quantity of water that can be drawn continuously from a well. The yield, measured in litres per minute, or gallons per hour, must normally be specified at some acceptable drawdown.



## 6.5 ANNEXURE- CHECKLIST FOR SCHEME PREPARATION AND APPROVAL

### CHECK LIST

The checklist for preparation of sub project proposal and approval are given in table ....

Table ... Checklist for scheme preparation and approval

Sr. No.	Description of Activities	Response		Remarks
		Yes	No	
1.	Whether location map has been prepared and attached to the scheme report.			
2.	Whether the application from the prospective beneficiaries of the Minor Irrigation (MI) scheme has been attached.			
3.	Whether the application/proposal has been shared with Panchayat bodies, inviting their comments, to be received within a stipulated time.			
4.	Whether a socio-economic profile of the Mouza or Gram Panchayat and/or relevant other information has been given in the proposal.			
5.	Whether socioeconomic profile/information of the Mouza or Gram Panchayat has been compared with the socio-economic profiles of the block and/or the district as collected from the district administration and kept in the EE's office.			
6.	Whether a list of beneficiaries, along with gender, and their land holdings within the command area of the scheme has been submitted with the application.			
7.	Whether the participating departments have visited the site and carried out consultation with the proposed beneficiaries.			
8.	Whether socio-economic profiles of the identified beneficiaries have been collected, checked and recorded.			
9.	Whether the proposal has been examined and feasibility of the MI scheme has been ascertained by the concerned DWRID officer.			
10.	Whether an Executive Committee of the proposed WUA has been formed.			
11.	Whether the beneficiaries (through the WUA) have committed to take over the scheme after its completion, and to carry out MOM in a sustainable manner.			
12.	Whether command area contour map has been prepared, showing the locations of the key scheme features/components.			
13.	Whether social and environmental screening following the criteria developed under the project has been carried out.			
14.	Whether any land for irrigation infrastructure has been gifted (or promised to be gifted) by the beneficiaries.			

Sr. No.	Description of Activities	Response		Remarks
		Yes	No	
15.	Whether any land acquisition by the government will be required.			
16.	Whether the proposal meets the approved selection criteria for this category of MI scheme.			
17.	Whether proposed cropping pattern and water requirements have been computed and recorded.			
18.	Whether the designs and drawings, including other technical details, have been prepared.			
19.	Whether economic feasibility or B/C ratio of the scheme has been checked.			

## 1. FINANCIAL DELEGATION

### 2.1 Financial aspects:

For implementation of project in a time-bound manner, the financial delegation of various authorities shall be as under:

#### Power For acceptance of tender

SI No	Authority to whom power is delegated	Extent of power delegated
1	Chief Engineers of WRDD	Up to 500 lakhs in each case.
2	S.E.(A- I) / S.E.(A-M )	Up to 250 lakhs in each case.
3	E.E.(A- I) /E.E. (A-M )	Up to 100 lakhs in each case
4	A.E.(A-I)/A.E.(A-M) / A.E.(A-E)	Up to 5.0 lakh in each case

### 2.2 Invitation of bids :

Bids for procurement of goods and works will be invited by the District Project Director(Tech) or the concerned Executive Engineer depending on the value using appropriate bid document in relation to cost and terms and condition thereof.

#### • Opening of Bids:

Bids will be opened at the specified place and date by the District Project Director (T) ,concerned Executive Engineer as per the **GOWB**/World Bank Guidelines.

#### • Evaluation of Bids:

Bids will be evaluated by a competent team of professionals comprising District level procurement officer (trained), concerned accounts officer ,the District Project Director (T), concerned Executive Engineer, representative from concerned line department as the case may be. The head of the Evaluation Committee will be the District Project Director ( T) . The Procurement Officer will act as the Member Secretary of the Committee.

### 2.3 Procurement Committee: -

For the procurement of goods, works ,consultants and consultancy services by the SPMU and DPMU, a Procurement Committee headed by the Project Director(T) and comprising the Procurement Engineer (SPMU)/Procurement Specialist, Executive Engineer (SPMU) and Controller of Finance will be constituted, who will be responsible for clearing bid documents and evaluation reports both at state and district level.

### 2.4-Tender/ Acceptance :

The acceptance of the tenders will be done by Executive Engineer on recommendation from district level evaluation committee. District Project Director(T) will accept the tender as per

his financial power based on recommendation by the Procurement Committee. In case of tender invited by the District Project Director(T) exceeding Rs 1.25 crore, recommendation of Bid Evaluation committee at state level is necessary for tender acceptance.

Above Rs. 1.25 crores (Rs 12.5 million) a Bid Evaluation Committee (BEC) (not less than 3 members and not more than 5 members) will be appointed by the Government for evaluating tenders in respect of goods & works and recommendation thereof for acceptance by tender inviting authority. The Chairman of the said committee shall be Project Director and other members will be in the rank of Chief Engineers. Concerned District Project Coordinator( Superintending Engineer) will be the member- convener of the Committee.

### **2.5 Tender Inviting Authority:**

In case of consultant and consultancy services EOI & Request for proposals will be invited by the Project Director (ADMIP) and will be evaluated through Procurement Committee. A Govt appointed selection committee will select such consultant /consultancy services

Role of Various stakeholders during construction of sub-projects:

Quality control of construction:

Handing over of subprojects to Water user Association:

Annexure1- Format of mass petition

Annexure2- Format of Technical Feasibility

Annexure3- Format for application during statutory clearance as per ground water act 2005

Annexure4- Format of field quality control by Departmental officers

Annexure5- Format of field quality control by WUA

Annexure6- Format of field quality control by Departmental officers

## 7.1.1 Annexure- COMPONENT C - AGRICULTURAL SUPPORT SERVICES

Sl No	District	Under WBADMIP (Quintal / Ha)			
		Paddy(Hyv)Yield/ Ha		Aromatic Paddy	
		Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029
1	South 24 Parganas	27.19	45.3	16.5	22.5
2	Bankura	36.75	44.25	21.75	26.25
3	Birbhum	45	52	21	24
4	Burdwan	48	52.5	28.5	31.5
5	Coochbehar	31.8	38.2	0	0
6	Derjeeling	48	52.5	25.5	30
7	Dakhin Dinajpur	41.25	45	22.5	26.25
8	Hooghly	41.25	48.75	33.75	37.5
9	Howrah	48	54	30	35
10	Jalpaiguri	39	45	18	22.5
11	Malda	41	60	21	25
12	Murshidabad	47.25	51.75	32.25	36.75
13	Nadia	51.37	60.25	39.56	42.22
14	North 24 parganas	48.75	56.25	33.75	36
15	Paschim Medinipur	45	56	28	32
16	Jhargram	42	48	27.5	28.5
17	Purba Medinipur	48.75	57	26.25	32.5
18	Purulia	36.0	45.0	19.5	24.0
19	Uttar Dinajpur	50.5	54	22.5	25
	<b>State Average</b>	42.9	50.3	24.6	30.2

**Major intervention to improve productivity of Pulse and Oilseed :**

Increase area coverage under pulse & oilseed in commend area and outside commend area.

Area should be covered through intercropping, rainfed upland, paira cropping etc

Location specific quality seed of improved variety

Seed treatment with Bio-input like Tricoderma Viridi, Pseudomonas florescence

Timely sowing

Optimum plant population

Use of balance dose of fertilizer

Rhizobium culture in pulse crop

Better water management practice

Timely interculture operation

Timely harvesting

Follow Good agriculture practice like Timely sowing, line sowing, Skip row , harvesting and post-harvest practices should be followed .

Better water management practice

Timely interculture operation

Follow IPM practice. Regularly field inspects pest damage in field and follow its epidemic at every stage of plant growth.

Sl No	District	OILSEED Under WBADMIP (Quintal / Ha)							
		Sesame		Mustard		Groundnut		Sunflower	
		Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029
1	South 24 Parganas	9.4	10.25	6.5	7	0	0	12.35	14.95
2	Bankura	11.5	13.25	15	17.25	21.75	24	15.18	19.5
3	Birbhum	10	12	12	15	30	35	0	0
4	Burdwan	10.5	12	10.5	12.75	28.5	31.5	11.25	12.75
5	Coochbehar	7.8	8.5	7.9	8.6	10.58	13.4	12.5	13.7
6	Derjeeling	0	9	9	11.25	0	22.5	0	
7	Dakhin Dinajpur	11.25	13.5	18.75	21	33.75	34.5	0	13.5
8	Hooghly	12	13.5	12.38	14.25	26	30	13.5	16.75
9	Howrah	15	16.5	16.5	18.75	28.5	31.75	21	24.25
10	Jalpaiguri	13.15	15	10.87	14	22.5	30	13.12	16
11	Malda	0	10	11.47	15	0	30	0	30
12	Murshidabad	9.75	11.25	12	15	0	30	0	8.5
13	Nadia	13.68	14.47	12.02	14.55	27.57	29.16	26.23	28.41
14	North 24 parganas	12	14.25	13.5	15.75	22.5	28.12	14.25	18.75
15	Paschim Medinipur	8.5	11	9.5	12	26.5	28	11	15
16	Jhargram	8.5	10.5	8.75	12.25	22	25	12	16.5
17	Purba Medinipur	9.25	12.5	12	15	49.5	54.5	0	20.5
18	Purulia	8.3	12.0	9.4	11.0	16.9	19.0	12.4	16.3
19	Uttar Dinajpur	11.25	14	13.5	15	22.25	26.25	9.75	12.25
	<b>State Average</b>	9.6	13	12	15.4	21.8	30.9	9.7	17.8

Sl No	District	Pulse & Maize Under WBADMIP (Quintal / Ha)									
		Lentil		Bengal Gram		Black gram		Green gram		Lathyrus	
		Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029	Yield as on 2021	Proposed targeted yield in 2029
1	South 24 Parganas	0	0	0	0	4.5	7.5	9.375	11.25	0	0
2	Bankura	13.5	16	19.5	22.62	12	16.2	12.8	16.5	18.75	23.25
3	Birbhum	8.6	1.1	1.8	2.2	7.6	12	11	15	0	0
4	Burdwan	8.25	10.5	12	13.5	12	13.5	13.5	15	10.5	11.25
5	Coochbehar	4.82	6.36			6	7.2	10.85	11.75	8.5	9.3
6	Darjeeling	8.25	9.75			6.75	8.25		8.25		NA
7	Dakhin Dinajpur	8.4	11.25	9.75	12	6.37	9	9.75	11.5		10.5
8	Hooghly	5	8.25	12.75	16	6	12	13.5	16.5	6.75	9
9	Howrah	13.5	16.5	0	13.5	11.25	16.5	13.5	16.75	9	12.7
10	Jalpaiguri	11.25	15	13.5	18	8.62	13.12	15	18.75	12	16.12
11	Malda	8.9	12	0	10	1.1	1.5	1	1.5	0	12
12	Murshidabad	9	11.25	12	14.25	14.85	15	9.75	11.5	9.5	10.5
13	Nadia	13.27	16.79	18.87	27.68	27.82	29.77	26.18	29.19		
14	North 24 parganas	13.12	15.37	11.25	14	13.88	16	10.5	13	6	9
15	Paschim Medinipur	13	16	13.06	16.5	2.25	4.25	2.25	3.75	8.1	9
16	Jhargram	14	17	13.06	16.5	2.25	4.25	2.25	3.0	8.1	9
17	Purba Medinipur	12.5	16.5	12	15.5	11.5	13.5	0	10.5	12	14.5
18	Purulia	8.3	12.0	13.5	19.5	6.4	9.8	6.8	8.7	5.6	9.8
19	Uttar Dinajpur	11.25	15	14.5	17.75	17	18.75	11.25	13.5		
	<b>State Average</b>	10.2	12.8	11	15.8	9.3	12.1	10	12.9	8.8	12.4

### Component C1 at a glance

Area of intervention	Production MT / Ha			Area coverage (%)	
	2012	2021	2029	2021	2029
Paddy	2.9	4.2	5.3		
Aromatic Paddy	Nil	2.4	3.2		
Oilseed	0.4	1.0	1.9	10.5	20
Pulse	Nil	0.9	1.3	10.1	20



**Implementation strategy**

Step	Jan	Feb	March	Apr il	May	June	July	Aug	Sep	Oct	Nov	Dec
<b>Selection of WUA</b>												
<b>Awareness / sensitization</b>												
<b>Training</b>												
<b>Crop planning</b>												
<b>Implementation</b>												
<b>Monitoring &amp; evaluation</b>												

**Construction of threshing floor for Seed certification**

Timely delivery of good quality seed to the farmers is a prime need to get potential yield of a crop.

Project has planned to reduce dependence on NSCL / WBSSCL and decided to emphasize on seed production and create a supply chain which will be reliable and sustainable. To overcome problem of getting good quality seeds in proper time, Project took the initiative to encourage good WUAs in seed production and preservation. The project will procure these seeds from the WUAs / cluster of WUAs at prices which may be slightly less than the prices quoted by the NSCL / WBSSCL

In this context, threshing floor is a pivotal part to ensure quality seed production specially production of certified seed as proper threshing, drying and winnowing are the most important parts in those cases.

So interested seed producer WUAs having 10 Metre X 10 Metre open space (Land to be donated / lease by land owner to the concerned WUA) for construction of Threshing floor is very important for production of quality seed production.

**Concept of Product Aggregation, Value Addition and Enterprise Development Phase-2**

WBADMIP has addressed to same extent the most pressing issues confronted by small and marginal farmers in agriculture and horticulture sectors in the state. The uncertainties of crop production and productivity thrown across by vagaries of nature especially erratic rainfall has been mitigated some extent through creation of irrigation facility at community level. Further, two to three crop cycles in a year have been made possible in rain fed areas through creation of irrigation infrastructure over the years. The protected cultivation system promoted by the Project has hedged the risk of the farmers against adverse climatic conditions and therefore, fortified the scope of more remunerative crop production ecosystem in the state. The focus on crop diversification strengthening extension services, technological interventions and successful output market linkage models at WUA/S level has certainly triggered the interest of the farmers towards commercial agriculture and horticulture production system.

For collective effect and sustenance of project interventions undertaken by the Project across agriculture and horticulture domain, product aggregation, collective marketing, value addition and enterprise development across commodities value chain should necessarily be considered and taken up as viable set of interventions by the Project. To provide impetus to the agri/ horticulture sector in the state, it is vital to identify the gaps across value chains of promising agri/ horti commodities and promote setting up of enterprises at individual level/ group level to bridge the identified gaps and to

improve value chain efficiency. Thereof the gaps like inadequate availability of selected planting material, poor/ average farm mechanization, inadequate access to market information, post-harvest losses due to inadequate processing facilities at micro level (WUA level or cluster level) etc. can successfully be addressed by developing enterprises around identified gaps. Farmers at individual level usually do not have enough produce to ship it independently to distant markets and hence end up selling to local traders / mandis at lower prices. This scenario is further aggravated by poor access to market information and intelligence. Also, the access to credits, quality inputs at reasonable rates, technology, extension support system, government promoted schemes at individual level is less than adequate.

Since establishment of successful enterprises is a challenging task therefore, holistic handholding support system needed to be put in place by the Project in the form Agribusiness promotion facility (ABPF)/ cell. ABPF cell will provide handholding on all aspects of enterprise development like

- District wise cluster mapping of no. of WUA's, no. of total farmers in a cluster , range of produce , crop season wise, total quantity of each type of produce etc.
- Quantity grading of produce and adoption of scientific stage of agriculture produce.
- Aggregation of produce from various clusters by a nodal cluster to be identified by the DPMU, giving appropriate support to the nodal cluster for processing of produce if required.
- Coordination with Agri Marketing Department for sourcing storage spaces at kisan mandis located in blocks to be used by cluster for warehousing.
- Convergence with departmental programme for source's transportation vehicles is requested.
- Linkage with market through FPC's with Sufal Bangla where Agri Marketing department initially and later with other markets.
- Development of mentor mentee network.
- Product trends & packaging.

Further, to promote viability of enterprises, cut down breakeven period and to overcome funding challenges especially for first time entrepreneurs, the Project can promote Matching Grant Scheme to the tune of 40-50 percent of the ticket size of bankable business proposals/ to bridge the Critical gap.

The Project has already taken adequate steps to address the above listed challenges and WUA's now better understand the importance of collective initiatives like collective purchase of inputs and sale of outputs. Therefore, it seems that here on WUA's can be federated into larger conglomerate i.e. Farmer Producer company so as to address the challenges at individual farmer level/ WUA in more comprehensive and efficient manner. Furthermore, equipping FPCs with Common Service Centres (CSCs) through Equitable funding system will serve the purpose of meeting varied needs of member farmers at right time and at reasonable cost.

The objective of CSCs will be:

- To improve marketing capacity and in turn the income of the member farmers through aggregation, primary processing.
- Collective marketing of the output for enhanced bargaining power and bulk purchase of agri/ horticulture.
- Input directly from companies / distributors for further distribution to member farmers.
- Perceived to promote improved access to market information and intelligence.
- Better access to services like insurance, credit, logistics, packaging material, technical inputs and thus graduating over a period of time to emerge as one stop solution for the farmers.

### Use of farm machineries /implements in Agriculture

Cost of labour has gone up appreciably in recent times which have pushed up the cost of agriculture activities. Moreover shortage of agricultural labour in rural areas seriously impact the activities like preparation of soil, digging furrows for planting seeds, weeding, spraying of pesticides etc. in appropriate time. All these impact production some way or other.

So judicious use of farm machineries/implements help in various farm activities in proper time, reduces cost of manual labour, reduces drudgery, saves time and thereby reduces cost of production and improves profitability. In phase I various types of farm machineries/implements were delivered, based on actual field situations, to WUAs which has yielded very good result. It has helped in timely intervention of farm activities.

#### Types of machines delivered so far with its specification.

Name of Implements	Purpose
1. POWER TILLER	Cultivation of land and weed removed from fallow land, power take off for water pump, thresher and sprayer and carrying argil produces.
2. PADDY REAPER	Harvesting is one of the most intensive operations in production sequence A mechanical reaper which reaps crops mechanically and lays down the stems into small bundles
3. MOTORIZED PADDY TRANSPLANTER	Power driven transplanter can usually transplant six / four lines in one pass. Machine transplanting using rice transplanters requires considerably less time and labour than manual transplanting. It increases the approximate area that a person can plant from 6-.7.5 Bigha per day.
4. MOTORIZED PADDY WEEDER (SINGLE ROW )	Used to remove weeds that grows in paddy fields effectively without affecting to plants.
5. DRUM SEEDER	Drum seeding technique involves direct seeding of pre-germinated paddy seeds in drums made up of fibre material to dispense seeds evenly in lines spaced at 20 cm apart in puddle and leveled fields. About 35 to 40 kg paddy seed/ha is soaked overnight in water and allowed to sprout, Coconut plants etc.
6. SRI MARKER	S.R.I. Markers help farmers in transplanting paddy
7. CONO WEEDER	Conoweeder can be recommended in the early stages of weed growth as the better weeding efficiency, more turning of the soil and uprooting of weeds overrules the higher cost of operation
8. SINGLE WHEEL HOE	For weeding and intercultural operations in crops sown in rows. It is used in pushing and pulling mode for removing weeds. wheel hand hoes have provision for adjusting the handle height to suit people of different statures.
9. GROUNDNUT DECORTICATOR	Used to crack the outer shell of the groundnuts
10. MAIZE SHELLER (HAND DRIVEN)	Maize Sheller is used to separate grain from cobs
11. PADDY PEDAL THRESHER (DOUBBLE GEAR)	It is used for threshing of paddy crop. It easy to operate and does not require much effort in its operation as it is operated by foot. The thresher consists of rasp bar threshing cylinder, oscillating sieves, concave and winnowing and cleaning attachment
12. BATTERY OPERATED SPRAYER	It is hand aperted sprayer to spray agril like insecticides, micro-nutrients, liquid fertilizers, growth hormones, weedicides etc to field crops and vegetables and fallow lands.

## 7.2.1 ANNEXURE – HORTICULTURE - DETAILS OF CONSTRUCTION AND INSTALLATION OF POLYHOUSES

### A. Construction part:

Sl. No.	Specification	Details
1	Green house type	Open vent Tropical Saw Tooth Type, Centrally ventilated (top ridge) designed structure.
2	Size	Length – 34 M, Width – 15 M
3	Construction Area	<b>500 SQM</b> (0.125 Acre of land)
4	Structure	Structure made by <b>only ISI Pipes</b> fitted with clamps, nut bolts & aluminum channels.
5	Side Ventilation	2.5 mt. covered with Bio Net.
6	Column Height	3 mt.
7	Span	6 mt. × 4 mt. grid;
8	Gutter	GI gutter in single piece of 500 mm & 1 mm thick
9	Corridor	1.5 mt. × 2 no's = 3 mt.
10	Top Height	5.2 From ground level.

Required items for Installation of Hi-Tech Poly Green House for vegetable & flower cultivation: (Area: 500 SQM)

Sl. No.	Description of goods	Qty	Units
1	Post 60 mm OD × 2.9 mm Light Quality	117	mtr
2	Bush 48 mm OD × 2.9 mm Medium Quality	35	mtr
3	Bracing 42 mm OD × 2.6 mm Light Quality	110	mtr
4	Runner 42 mm OD × 2.6 mm Light Quality	240	mtr
5	Arch 42 mm OD × 2.6 mm Light Quality	125	mtr
6	Side Arch 42 mm OD × 2.6 mm Light Quality	90	mtr
7	Tie 32 mm OD × 2.6 mm Light Quality	120	mtr
8	Rolling system 25 mm OD × 2.6 mm Light Quality	60	mtr
9	G.I Clamp of different sizes	144	nos
10	G.I Nut & Bolts of different sizes	44	kg
11	P. V. C coated G.I wire of 14 gauge	35	kg
12	Aluminum Channel 30 mm wide × 1 mm thick	290	mtr
13	G.I Lock spring of 12 gauge	385	mtr
14	G. I angle 50 mm × 50 mm × 50 mm × 300 mm long	55	nos
15	G. I elbow & tee 25 mm	14	nos
16	Stitch Roup	2	kg
17	Shade Net 75%	320	sqm
18	200 Micron poly film (Ginegger of Israil)	1021	sqm
19	P. V. C door (4' × 6'6") with frame inserting 20 mm dia G.I pipe in the frame with locking arrangement	1	nos
20	Irrigation system (Mini sprinkler)	500	sqm
21	Cement concrete (1:2:4) with graded stone chips (20 mm down) (size 30 cm × 30 cm × 60 cm)	35	nos
22	Labour charge for bending & welding of pipe as per requirement (Skilled)	90	nos

23	Labour charge fixing of pipe, including all necessary charge (Skilled)	120	nos
24	Carrying charge of materials to work site	1	unit

**Estimated cost for Design & supply, Installation, Testing & Commissioning of High-Tech Poly House Micro Irrigation System:**

Sl. No.	Specification	Area of shed in Sq. M	Quantity	Rate in (Rs.)	Amount in (Rs.)
1	Micro Irrigation System (including supply Commissioning and Transportation) Details in Annexure (2)	500 SQM	1 No.	160.00	80,000.00
Total Amount including All Tax					80,000.00

**B. Salient Features of Micro Irrigation System:**

- (1) Crop: Vegetables / Flower
- (2) Area: 500 SQM
- (3) PP & RR Spacing: 2 FT. x 2.5 FT.

Required items for Installation of Micro irrigation system (Drip & Fogger) for HiTech Poly Green House for vegetable & flower cultivation:

**(Area: 500 SQM, required pump pressure should be: 3 - 3.5 kg/cm<sup>2</sup> & Water Source by delivery pipe line (PVC) - 50/63 mm)**

LIST OF REQUIRED ITEMS FOR MICRO IRRIGATION SYSTEM					
SL. NO.	ITEM CODE	ITEM DESCRIPTION	STANDARD	QTY	UNIT
<b>A</b>	<b>PVC PIPE:</b>				
	P0506	PVC Pipe 50 mm x 6kg/cm	(IS-4985)	30	M
	P0406	PVC Pipe 40 mm x 6 kg/cm	(IS-4985)	60	M
Sub Total					
<b>B</b>	<b>LATERALS (LLDPE) AND DRIPPERS &amp; FOGGERS:</b>				
1	PT16	Drip Poly tube 16 mm	(IS:13487)	250	M
2	L12240302R500N	LINE12MM 2.4LPH 30CM CL2RD500MTR	(IS:13487)	1050	M
3	DF28TGS4LP	Fogger 28 lph LPD LowPr. - 4 Way	(IS:13487)	80	NOS.
4	DGT001613	Gromate Take Off 16 x 13 mm		50	NOS.
5	DESO816	End stop 16 mm, 8 shape		50	NOS.
6	DJ016	Barbed Poly Joiner 16 mm		50	NOS.
7	DPMV1616	MINI VALVE 16 MM X 16 MM		24	NOS.
Sub Total					
<b>C</b>	<b>FILTRATION SYSTEM:</b>				

1	JPSF25DC	JAIN SUPER FLOW 20-25M <sup>3</sup> /HR 2"	(IS:12786)	1	NOS.
2	MPM20034	MANIFOLD PLASTIC 2" X 3/4" (IS:12786)		1	NOS
3	VA34N	VENTURY ASSEMBLY COMPLETE 3/4" PLASTIC	(IS:12786)	1	NOS
Sub Total					
<b>D</b>	<b>PVC TANK, PUMP VALVES &amp; ACCESSORIES :</b>				
1	DBV50HFF	PVC Control Valve 50 mm		3	NOS.
2	DBV40HFF	PVC Control Valve 40 mm		1	NOS.
3	DSFV50	PVC Flush Valve 50 mm		2	NOS.
4		PVC TANK 500 LITER		1	NOS.
5		1 HP mono block pump motor set		1	NOS.
Sub Total					
Grand Total A+B+C+D					
1	FA	PVC Fitting and Accessories (TEE, ELBOW, MTA, FTA, REDUCER)		8.00%	
2	GST	GST		18.00%	
3	INS	Installation Charges		500	SQM
4	TC	Transportation Charge			

## 7.2.2 ANNEXURE- HORTICULTURE COST OF ESTABLISHMENT OF MANGO NURSERY

(Mango Saplings (Amrapali & Himsagar) by Veneer Grafting Method over a period of 5 years by establishing 1 unit of Mango Nursery (capacity of 20,000 saplings / year)

Detailed estimate for construction & Supply materials etc.								
SLNo	Items	Particulars	Unit	Quantity	Rate (Rs.)	Total for 5 years span	From WBADMIP	From Community
							Amt (Rs.)	Amt (Rs.)
1	Net house	Dome Shape structure with GI foundation and green net (longevity 5-6 Years and with minimum repairing 9-10 Years)	Sqm	950	360	3,42,000	3,42,000	-
2	Potting shade	Bamboo or Wood base foundation with thatched roof covered with UV stabilized polythene (Longevity 4 Years)	Sqm	150	80	30,000	12000	18,000
3	Irrigation systems	Overhead Sprinklers along with cost of laying out	Sqm	950	185	1,75,750	1,75,750	-
4		Solar Pump system (2HP) for irrigation	Unit	0	-	-	-	-

5	Maintenance	Maintenance of net and potting shade, Servicing of Pump, etc.	Lump-Sum	Lump-Sum	Lump-Sum	26,000	-	26,000	
<b>Total cost for nursery structure and Irrigation System</b>						<b>5,73,750</b>	<b>5,29,750</b>	<b>44,000</b>	
6	Materials	Mango stone (cost Rs. 1000/- per 1000 no) for 24000	Pcs	24,000	1	1,46,522	24,000	1,22,522	
7		Poly bags , size- 6''x 7'', thickness 150-200 mm , Black , UV-stabilized, 110 pcs per Kg . 24000 pcs	Kg	218.4	156	2,08,003	34,070	1,73,933	
8		Vermi compost, 150 gm per bag for 24000 nos	Kg	3600	10	2,19,784	36,000	1,83,784	
9		Neem / Mustard oil cake, 25 gm per bag for 24000 nos	Kg	600	35	1,28,207	21,000	1,07,207	
<b>Other supplements -</b>									
10		a) Fertilizer - NPK mixture , 54 gms per plant (3gms per month) for 1.5 year for 24000 no plant (including transport cost)	Kg	1296	22	1,74,069	28,512	1,45,557	
11		b) Oil cake (Mustard oil cake) as a nutrient for 1.5 year 10 gms per plant for 24000 plants	kg	240	35	51,283	8,400	42,883	
12		c) Plant protection ( Fungicide, Insecticide & others ) for 1.5 yrs. for 24000 no plants (Rs 1.00 per plant)	pcs	24000	1	1,46,522	24,000	1,22,522	
13		d) Micro nutrients, 3 gms pre plant for 24000 plants for 1.5 yrs.	Kg	72	80	35,165	5,760	29,405	
14		Polythene Tape (100 ppm) for grafting of 24000 plants	pcs	24000	0.25	36,631	6,000	30,631	
15		Polythene cap (100 ppm) for covering the new graft for 10 days to maintain the proper moisture, 24000 no	pcs	24000	0.5	73,261	12,000	61,261	
16	Fresh soil for filling the poly bag for 24000 no plants	cft	1600	L.S	97,682	16,000	81,682		
17	Transportation cost	Lump-Sum	Lump-Sum	Lump-Sum	48,841	8,000	40,841		
<b>Total material Cost for Nursery</b>						<b>13,65,970</b>	<b>2,23,742</b>	<b>11,42,228</b>	
18	Small tools implements and consumables for Nursery set up	Cost of scion shoots (Mango-Amrapali & Himsagar)	Pcs	24000	1.00	1,46,522	24,000	1,22,522	
19		Grafting knife (Falcon)	Pcs	5	300.00	1,500	1,500	-	
20		Khurpee	Pcs	8	200.00	1,600	1,600	-	
21		Spatula for pot filling	Pcs	8	200.00	1,600	1,600	-	
22		Watering Can	Pcs	5	250.00	1,250	1,250	-	
23		Pruning Shears	Pcs	4	485.00	1,940	1,940	-	
24		Knapsack - sprayer (16 L) / Power operated	Pcs	1	3500.00	3,500	3,500	-	
25	Maintenance	Maintenance of tools, sharpening and Purchase of new grafting blades (3rd year)	Lump-Sum	Lump-Sum	Lump-Sum	5,000	-	5,000	
<b>Total cost for small implements and consumables</b>						<b>1,62,912</b>	<b>35,390</b>	<b>1,27,522</b>	
19	Person power for Grafting and management of nursery	Poly bag filling , Rs 1.00 per bag for 24000 no bag	Pcs	24000	1.00	1,46,522	24,000	1,22,522	
20		Grafting of Mango scion, Rs 3.00 per successful graft, for 20000 nos. plants	Pcs	20000	3.00	4,00,000	60,000	3,40,000	

21		Maintenance (weeding, cleaning, shifting of bags, Irrigation, manuring and others for 24000 plants for 1.5 years	Labour days	450.4	213.00	5,85,694	95,935	4,89,759
22		Arrangements' mixing of soil , manure and others for filling poly bag through labour (24000 no bag)	Labour days	20	200.00	24,420	4,000	20,420
23		Cleaning and levelling of site 950+150 =1100 sqm	Labour days	16	200.00	19,536	3,200	16,336
<b>Total cost of Person Power required for managing Nursery</b>						<b>11,76,172</b>	<b>1,87,135</b>	<b>9,89,037</b>
24	Fencing preparation for the nursery area	Vegetative fencing with local materials and labour up to height of 1.5 -2 m across running length of nursery area and contribution by community; maintenance on year to year basis	meter	345	50	28,402	-	28,402
25	Trench bed preparation	Bed cutting with 7.6 m x 0.9 m x 0.1 m each and 84 beds for 24,000 polybags	cum	57.46	145	8,332	8,332	-
<b>Total cost for Bed preparation &amp; fencing</b>						<b>36,734</b>	<b>8,332</b>	<b>28,402</b>
<b>A</b>	<b>Infrastructure + Nursery management cost to establish Mango Nursery capacity of 20000 Saplings per year for 5 consecutive years (fix assets cost for nursery is added for 1st year)</b>					<b>33,15,538</b>	<b>9,84,349</b>	<b>23,31,189</b>
<p><b>Project Cost for 1 Unit of Mango Nursery (for 5 years) : - Rs. 33, 15, 538/-</b>  <b>Contribution from WBADMIP – Rs.9,84,349/-&amp;</b>  <b>From Community Contribution – Rs.23,31,189/-</b></p>								

### 7.3 Annexure - Details Estimation of Bundh cum Hatching Pool (Carp Hatchery)

Name of Scheme- "Establishment of Freshwater Finfish Hatcheries"

Name of the Component

Establishment of Carp Hatchery

- a) Civil (Pakka) Work – overhead tank, bore well, breeding & hatching pool, shed etc.
- b) Construction of nursery – rearing and brood pond

#### Objective

- Augment overall fish production & productivity
- Timely availability of quantitative & qualitative seed
- Successful IMC culture
- Enhanced nutritional and food security
- Livelihood & Employment generation.
- Poverty alleviation & social security.

#### Eligible Beneficiary

The fish hatcheries will be given to the SHG's within WUA/ FIG within WUA who are undertaking pisciculture activities maximum 2-3 year with sufficient corpus fund of their own to finance the working capital for the Hatchery.

#### Project Location

Different Project Village in the State of WB

#### Selection procedure of beneficiary

According to the local demands and fisher's need, the WUA can apply for establishment of Carp hatchery after fulfilment of the basic requirements like water availability, nursery and brooder pond, shed etc. A technical team including engineers may visit the site and check all the facilities for establishment of carp hatchery. After getting technical & financial fit certificate (water and soil quality report, water sources information, man power availability, transportation facilities, Corpus fund, land details, etc) , then the proposal will send the SPMU as per guideline and sanctioned cost norms.

#### Over Head Tank

To supply water in all the units of hatchery a cement concrete tank having capacity 5 cubic meters shall be constructed at 2.8 metre above. With the help of the diesel pump, the underground water/ clear pond water would be supplied to the overhead tank.

#### Breeding & Hatching Pool-

As per model one single pool is required for breeding and rearing purpose; pool dia is 8 fut.

#### Nursery Pond

Two nursery ponds proposed of area having 0.13. This pond meant for raising 8-10 Lakh Fry from Spawn.

#### Brood Stocking Ponds

Two brooder tanks, each having 0.26 ha area has been proposed to rear 1000 kg brooder fishes.

Cost for Establishment of New Freshwater Finfish (Carp) Hatcheries						
Sl. No	Item	Quantity	Unit Price (Rs.)	Total Expenditure (Rs)	Project Contribution (Rs.)	Beneficiaries Contribution (Rs.)
1	Bundh Cum Hatching Pool (FRP Tank, 8 ft. dia.)	1	90,000	90,000.00	90,000.00	0
2	Shed (Made by Normal Asbestos Sheet/ tin sheet)	1	30,000	30,000.00	0	30,000.00
3	Overhead Tank (5000 lit capacity)	1	200000	200000.00	200000.00	0
4	Cost of Brooder (carp fish avg. wt 2-2.50 kg)	750	225000	225000.00	225000.00	0
5	Cost of Liming (Kg) @ 250kg /ha Initially + 10 kg/bigha for 5 months.	350	14	4900.00	0	4900.00
6	Manuring/fertilization (Cowdung, Bio-Juice, Etc)	2500	Ls	5000.00	0	5000.00
7	Inducing Hormones (ml)	210	30	6300.00	0	6300.00
8	Cost of feed (DoRB, MOC, Vit.- Mineral Mixture) @ 2 % Body wt.	2100	35	73500.00	0	73500.00
9	Feed for Spawn to Fry (DoRB, MOC, Fish meal, Vit.- Mineral Mixture)	800	45	36000.00	0	36000.00
10	Salary & wages of Farm staff for 6 months	6	5000	30000.00	0	30000.00
11	Chemical & medicine	Ls		5000.00	0	5000.00
12	Electricity & fuel	Ls		15000.00	0	15000.00
13	Miscellaneous exp.	Ls		5000.00	0	5000.00
<b>Total</b>					5,15,000.00	2,10,700.00

**Income:**

Output	Quantity	Rate (Rs./ Unit)	Amount (Rs.)
Spawn	540 lakh	Rs. 400-500/ Bati	450000.00
Fry	10 lakh	Rs. 250-300/Kg	75000.00
Brooder	750 kg	Rs. 250-300/Kg	225000.00
<b>Total</b>			750000.00

#### 7.4 Annexure- Hatchery establishment on Magur (*Clarias batrachus*), Singi (*Heteropneustes fossilis*), Koi (*Anabas testudineus*) and Tangra (*Mystus Sp.*)

##### A. Objective-

- To meet up the demand of Cat fish seedlings in village areas of West Bengal
- Cat fishes have good market price and huge scope for culture in seasonal type pond those are found in rural Bengal.
- Conservation of Indigenous fish

##### B. Place of establishment:

1. Any project village under the jurisdiction of WBADMIP.
2. Anywhere in the district where a group of farmers jointly interested to run the hatchery operation for their income generation, propagation and conservation of indigenous fish species, and mitigate local requirement.
3. Before construction a hatchery, it is mandatory to know whether the land is owned or donated by someone. If it is owned by someone, then the land has to be leased by contract. A minimum 10 year leased must be taken from the land owner.
  - (a) In case of private land the land owner/s has to agree for leasing his/her/their (private) land to WUA or FIG. The lease deed should be for a minimum period of 10 years.
  - (b) In case of multiple owners all the owners should agree to sign the lease deed. In case of public or community property Gram Panchayat has to execute the lease deed.
  - (c) Agreement will be on a judicial stamp paper between land owner/s & WUA)
  - (d) Lease amount must be mentioned in the document with year of lease along with the referred plot no & size of the plot.
  - (e) Lease amount will be handed over to land owner after completion of legal paper work or by mutual understanding of both parties.

##### C. Who would be the beneficiary?

1. A group of women selected from WUA/SHG from WUA of the project village (minimum 10 to form a FIG for magur hatchery).
2. 2/3<sup>rd</sup> of the FIG Member should preferably be women.
3. Any Landless, marginal, economically backward person, energetic unemployed youth of WUA having minimum education/literate enough to read and write in local language will be a member of FIG.
4. Poor women work as daily labour, small land holding, having small pond in their back yards etc.
5. Only one member (woman) per family may be the member of Deshi magur hatchery FIG (by using PRA technique – Support Organization/District Project Management Unit to mobilize)
6. Beneficiary needs minimum literacy to understand the training program under KVK/ State Govt. agency.
7. Willing to take part in the training program of KVK/ State Govt. Agency when project like to send them.
8. Women FIG will be encouraged.
9. In ST villages (ST population percentage will be 40% or above) percentage of ST, beneficiaries should be 60%, president and secretary of the particular FIG will be ST.

##### D. Size of water & land resources for hatchery:

For small hatchery: 2 Katha and with minimum 5-6 katha (one for brooder pond and minimum 3 nos nursery rearing) for adjacent pond are necessary. Lifesaving water arrangement for brooder, hatchery, nursery and rearing management is essential. Before selection of the site, the ground water/ pond water must be tested (soil & water pH, D.O, Hardness and Alkalinity) from the any laboratory/ Govt. agency. The test report must be sent to the SPMU with the Details Project Report.

<b>Total Estimated Cost for a Single Deshi Magur Hatchery (May Vary District to District)</b>				
Sl. No.	Item	Total Amount (Rs.)	Project Contribution (Rs.)	Beneficiaries Contribution (Rs)
1	Hatchery Fisheries Items	84302	79302	5000
2	Hatchery Construction	275545	275545	0
3	Hatchery Plumbing & Electrical	29614	29614	0
4	Overhead Tank	28800	28800	0
5	Labour charges (for 6 month)	15000	0	15000
6	Liming & Manuring for Nursery pond, & other expenses	5000	0	5000
<b>Total Amount (Rs.)</b>		<b>438261</b>	<b>413261</b>	<b>25000</b>
<b>Rupees Four Lakh Thirty Eight Thousand Two Hundred Sixty One Only</b>				

## 7.5 Annexure – Guideline for small Scale feed mill establishment

### Objectives:

- To ensure regular supply of nutritionally balanced aqua-feed at affordable price.
- To increase fish production of the state through use of formulated feed.
- Employment generation through promotion of aqua-entrepreneurship.

### **A. Place of establishment:**

- Any project village under the jurisdiction of WBADMIP.
- Anywhere in the district where a group of farmers under WUA's/ SHG's of WUA's are jointly interested to run the feed mill for their income generation, and mitigate local requirement of fish feed.
- Before construction a fish feed mill, it is mandatory to know whether the land is owned or donated by someone. If it is owned by someone, then the land has to be leased by contract. A minimum 10 year leased must be taken from the land owner.
- In case of private land the land owner/s has to agree for leasing his/her/their (private) land to WUA or FIG. The lease deed should be for a minimum period of 10 years.
- In case of multiple owners all the owners should agree to sign the lease deed. In case of public or community property Gram Panchayat has to execute the lease deed.
- Agreement will be on a judicial stamp paper between land owner/s & WUA/ SHG)
- Lease amount must be mentioned in the document with year of lease along with the referred plot no & size of the plot.
- Lease amount will be handed over to land owner after completion of legal paper work or by mutual understanding of both parties. Three phase Electricity connection is required to establish the feed mill.

### **B. Who would be the beneficiary?**

- A group of women SHG/men selected from WUA of the project village or any willing person form the project village (She/he must be WUA member before applying for the scheme) (minimum 8-10 to form a FIG under WUA for fish feed mill, mostly from women).
- 2/3<sup>rd</sup> of the FIG Member should preferably be women.
- Any Landless, marginal, economically backward person, energetic unemployed youth of WUA having minimum education/literate enough to read and write in local language will be a member of FIG.
- Only one member (either man/woman) per family may be the member of Fish Feed Mill FIG (by using PRA technique – Support Organization/District Project Management Unit to mobilize)
- Beneficiary needs minimum literacy to understand the training program under KVK/ State Govt. agency/ ICAR institute.
- Willing to take part in the training program of KVK/ State Govt. Agency/ ICAR institute when project like to send them.
- Women FIG/ SHG will be encouraged.
- In ST villages (ST population percentage will be 40% or above) percentage of ST, beneficiaries should be 60%, president and secretary of the particular FIG will be ST.

### **C. Size of warehouse for feed mill:**

For floating fish feed mill: For fish feed mill 2-5 katha area and where water logging is not appeared during rainy season is necessary.

- For establishment of Machinery equipment's: 500 Sq. ft.
- Working Place: 250 Sq. ft.
- Space for keeping raw ingredients & ready materials: 650 Sq. ft.
- Total Required area for establishment of fish feed mill 1300 sq. ft. -1500 Sq.ft

### **D. How to proceed to established feed mill in the village?**

- An application of beneficiaries forwarded to Executive Engineer, DPMU, and WBADMIP likely to establish a feed mill in their village.
- Details beneficiary list for feed mill operation is given below (Table -1)
- Land ownership/lease/rent must mention (JL no, Plot no, Lat/Long information, compulsory.
- Nearby Electricity power transformer (1/3-Phase) must be obtained.

### **E. Layout design of the Fish Feed meal shed:**

Construction of the feed mill made by the WUA/SHG/FIG by their own fund & on the other hand fish feed mill is designed by SPMU team. The details specifications is attached below (**Annex-I**).

### **F. Work Implementing agency/organization/authority:**

SPMU/DPMU in each district.

### **G. By law of this scheme:**

An agreement in non-judicial stamp paper is necessary regarding land lease, resolution for every purposes, FIG/ SHG dynamics, willingness to supply information to project, profit share to WUA , lease value, distribution of fund, profit sharing within FIG/ SHG, willing to open a separate Bank A/C, etc.

### **H. FIG dynamics:**

Gender issues: Men: Women =4:6 (10)

(Table: 1 Details Number of Beneficiary Required for Feed Mill)

Activity	Men	Women
Machine operation (Weighing & mixing of the ingredients, operation of pelletizer machine)	2	1
Drying Purpose	1	2
Packaging Purpose (Bags Packing & aligned in rows)	1	0
Cleaning Purpose	0	1
Marketing operation	1	
Monitoring and management	0	1

1. After lease value of land minimum 20% of total production value must kept in the Bank for further activity.
2. Sharing of the profit % should be negotiable between WUA & FIG. Profit percentage is given to WUA in the form of cash (received of cash must be mention in register book and dully sign by WUA president). The original receipt copy will be kept by FIG for documentation.
3. After that, the remaining amount used for purchasing the raw materials for feed production.
4. Last of all the remaining amount will be equally shared with all members of the FIG.
5. If projects is like to procure feed from that feed mill then the rate fixed as per proximate analysis, diameter of the feed

### **I. Mode of execution:**

- a) Require fund will be allotted to all respective DPMUs to implement the scheme.
- b) All activity will be time specific (must mention time schedule from tender to execution from DPMU)
- c) A list of beneficiary (with Contact no.) under different FIG / SHG group for fish feed mill and for raw ingredients (for first time only) sending by the DPMU by collate and collected through ground level staffs and final scrutiny made by competent personal of the DPMU.
- d) Selected fish feed mill beneficiary [s] will be informed by the Executive engineer of concern DPMU to collect raw ingredients and stock in their warehouse.
- e) When raw ingredients are not been collected by beneficiary (s), Executive Engineer (DPMU) may arrange by official process before starting of production, so that feed mill beneficiary can get opportunity to manage it for proper feed production.
- f) Collection/Procurement of good quality raw ingredients under feed mill, beneficiary [s]/ EE will be responsible.
- g) Feed mill beneficiaries shall start production by January middle. Fisheries concern person from DPMU shall remain attached on day to day basis to all the beneficiaries in selected district.
  - Contact number of master operator of feed mill for critical assistance (essential).
  - II. Contact number of EE, DPMU & Fishery Personal for administrative & technical assistance may be provided to all beneficiaries after final selection of beneficiary (s) (essential).
  - III. Contact number of EE, DPMU/competent personal for Both DPMU level and SPMU level personal shall keep a close watch on its progress towards achieving success / objective and submit report to the Project Director WBADMIP, however, primary responsibility will be allied with Fishery specialist/responsible person of the DPMU. PD, WBADMIP may review the progress at every three months or as per the need / convenience. Fisheries personal of each DPMU arrange a capacity building training as well as refresher training to teach the operation & maintaining of feed mill, packaging, loading etc.

### **J. Two different kinds of goal:**

- One is technical part: - confirm that all trainees are practically sound have good hand and efficient to operate the machine for increase their economic level.
- Second one is proper market linkage of produced fish feed.

### **K. Role & responsibility of the DPMU Fisheries Personal:**

#### **a. During Machine Operation:**

At the beginning of the work, it is necessary to monitor regularly whether the members are able to operate the machine properly by DPMU fisheries personal.

#### **b. During Production:**

- Assure any kind of meeting held for raising feed production.
- Confirm all kinds of input deliver to selected beneficiary on time.
- Assure the input or raw ingredients are in good condition.
- Confirm beneficiary applying any kind of items as per DPMU / SPMU suggested.
- Confirm beneficiary maintaining register book.
- Hands holding practice information to all beneficiaries as guided by DPMU /SPMU.
- Daily monitoring of all Production units and documenting.
- Daily work documentation for individual fish feed mill (daily data, photos etc.).
- Coordination between FIG/ SHG & DPMU, SO & SP Fisheries Personal.
- Organize meeting among beneficiaries for any kind of assistance, awareness etc.

- Every month's progress report is expecting from the DPMU Fisheries personal about any kind of activity performed at FIG/ SHG level (meeting/implementation/Production/selling) etc.

**C. Sharing production (Feed):**

- If WBADMIP procure fish feed for WUA's fisher's in project village then the rate will be fixed as per feed specification (Mesh size, Protein content, Fat content). The fish feed sample will be collected randomly and send it to SAU/ ICAR Institute for testing purpose (Proximate analysis). After getting test report, the rate of fish feed will be fixed.
- Rest may be under control of FIG/ SHG members of the feed meal, they are decided to sale in locally by their own rate else department will purchase it for their own interest as per rate furnished by the department.
- Resolution must be written and signed by each FIG/ SHG member. One copy of resolution must be submitted to DPMU office of their own District.
- A percentage of profit (40%) may be deposit/kept in a Bank account else confirm the sufficient amount of fund in hand for next year implementation (**mention in agreement**) and rest can be share within beneficiary equally or decide by their own.

### 7.5.1 Annexure- Small Scale Fish Feed Mill

Culture of commercially important species of fishes has gained huge popularity in recent years. Scientific interventions from the project have been intensified to standardize culture practices of several diversified fish species of fresh water, brackish water. Feeding with formulated feed in combination with optimum management practice can increase production to many folds. While it has been established that there are about 40 essential dietary nutrients required by fish which can only be met up through supplementary feeding and feeding practice in an aquaculture operation accounts for over 60% of total input cost, there has always been a shortage of supply of well formulated feed for aquaculture resulting in disrupted balance of demand and supply. In this situation, Project has decided to establish feed mill at farmer's level for easy availability of feed to the common fisher's. Apart from that, these schemes also have created opportunity of self-employment to the WUA's farmers at village level. In addition of that, low cost fish feed also help to lowering the culture cost, which seriously effect in net profit of the culture.

**Name of the Scheme:** Establishment of Small Scale Fish Feed Mill with capacity of 0.6-0.7 Ton per day (Maximum)

**Project Summary:** There are vast and varied fisheries resources in a state like West Bengal. Lack of nutritionally balanced formulated feed has always been a hindrance to increase production to optimum level. Establishment of mini feed mill with a capacity of 0.6-0.7 Ton per day in different Project Village of the state can ensure availability of balanced feed at affordable price. The pelleted feed produced in such mills can be marketed locally as well as used to meet up the project requirements in the districts itself as there is high demand but inadequate supply in every locality.

- a. Items to be manufactured: Fish Feed
- b. Capacity of the plant: 0.6-0.7 Ton/day
- c. Source of power generation/electricity: Electricity form WBSEDCL
- d. Source of water supply: Own Bore well
- e. Connectivity to road/railways: SH/Pucca Road
- f. Mode of transport: Pickup/Truck/Others
- g. Market: Through distributors/ local market /Govt. Requirements
- h. Employment Generation: 5 nos.
- i. Waste disposal: Solid Waste Management (bio-degradable)

#### Objectives:

- To ensure regular supply of nutritionally balanced aqua-feed at affordable price.
- To increase fish production of the state through use of formulated feed.
- Employment generation through promotion of aqua-entrepreneurship to the WUA farmers.

#### Technical Details:

1. **Feed Formulation process:** i) Selection of Ingredients Selection of ingredients for formulation of fish feed is based on nutritional requirement of fish, nutritional value of the ingredients, their availability in the locality, cost of the ingredients and digestibility. Several agro-based ingredients have been identified for their use in fish feed formulation including ground nut oil cake, soybean meal, mustard oil cake, wheat flour, rice polish, rice bran, fish meal etc.

2. **Grinding:** Grinding or particle-size reduction is a major function of feed manufacturing. Many feed mills pass all incoming ingredients through a grinder for several reasons: a) clumps and large fragments are reduced in size, b) some moisture is removed due to aeration, and (c) additives such as antioxidants may be blended. The grinding of ingredients generally improves feed digestibility, acceptability, mixing properties, pellet ability, and increases the bulk density of some ingredients.

It is accomplished by many types of manual and mechanical operations involving impact, attrition, and cutting. A hammer grinding machine fish feed hammer mill processes feed stuffs of various granularity into small pieces. Working principle of this machine: a hammer hits and breaks raw materials in the crushing chamber with high-speed rotation; then the broken materials move with continuous friction and crash against the hammer, toothed plate and sieve for crushing

3. **Mixing:** It is the efficient mixing process that is the key to high quality fish feed production. Some materials with smaller particle size have bad fluidity, so they need to be mixed for longer time for even mixture. Total blending time is such crucial and is affected by the composition of fish feed formula. A fish feed mixer, also called ribbon blender can mix various fluid and thick, pasty and granular materials. With excellent design and easy operation, it is made of high quality stainless steel, contributing to its wear-resistant strength and long lifespan
4. **Pelleting:** The transformation of a soft, often dusty feed into a hard pellet is accomplished by compression, extrusion, and adhesion. The general process involves passing a feed mixture through a conditioning chamber where 4 to 6 percent water (usually as steam) may be added. Moisture provides lubrication for compression and extrusion and in the presence of heat causes some gelatinization of raw starch present on the surface of vegetative ingredients, resulting in adhesion. Within 20 seconds of entering the pellet mill, feed goes from an air-dry (about 10-12 percent moisture) condition at ambient temperature, to 15-16 percent moisture at 80-90°C. During subsequent compression and extrusion through holes in a ring' die, friction further increases feed temperature to nearly 92°C. Pellets discharged onto a screen belt of a horizontal tunnel drier or into a vertical screened hopper are air-cooled within 10 minutes to slightly above ambient temperatures and dried to below 13 percent moisture.
5. **Drying:** Pellets need to be dried after extruding so as to remove the redundant water content by fish feed dryer via drying process technology. With this drying machine, materials can enter the channel through conveyor belt and be dried via hot air, after that, the temperature would be lowered quickly to ambient and the moisture would be decreased to around 8% for convenient storage.
6. **Weighing & Packaging:** The dried fish feed pellets should be automatically weighed and packed in bags with machine, especially for large- capacity feed production plant. With high accuracy, fast speed, automatic weighing and packing function and excellent operating performance, an automated packing machine can protect fish feed from being contaminated when moving or transporting. This device not only adds productivity but also lower labour intensity, it is also suitable for bagging materials, such as fish feed pellets, seeds, grains, organic fertilizer.

**Expenditure on Unit Construction:** The estimated project cost of Establishment of Small Scale Fish Feed Mill with production capacity of 0.6-0.7 Ton per day for one unit has been worked out as 10.00 lakhs (approx.) as per guidelines.

### Details Cost Estimation for Construction of Small Scale Fish Feed Mill with capacity

#### Civil Construction (I):

Sl. No	Particulars	Quantity/ Nos.	Total Amount (in lakh Rs.)	Project Contribution (Rs.)	Beneficiaries Contribution (Rs.)
1	Plant Area	500 sq. ft.	250000.00	0.00	250000.00

2	Raw materials cum finished product storage cum office	650 sq.	100000.00	0.00	100000.00
3	Overhead tank (1000 lit) with pipe line	Ls	50000.00	0.00	50000.00
Sub Total (Rs.)			400000.00	0.00	400000.00

II. Details Specification of Floating Fish Feed Machine (PLANT & MACHINERY)			
S. No.	Item	Capacity	Specifications
A.	<b>Feed Mill</b>		<b>Floating fish feed with minimum 1.5-2 hour float in water</b>
1	Capacity	60-70 kg/hr	Depending on Die size from 0.5mm/1mm/2mm/3mm/4mm/5mm/6mm
2	Main Motor	7.5 HP / 10 kWatt	3 phase, 1440 RPM, IE2 Energy Saving motor, Crompton/Havells make
3	Feed Motor	2 HP / 1.5 kWatt	3 phase, 1440 RPM, IE2 Energy Saving motor, Crompton/Havells make Speed control using 2 HP VFD with speed control from 0 to 100 RPM
4	Cutter Motor	0.5HP / 0.67 kWatt	3 phase, 2800 RPM, IE2 Energy Saving motor, Crompton/Havells make
5	Material Hopper	7 kg	280 x 240 x 340 mm
6	Feed Inlet hopper	Continuous	210 x 200 x 190 mm
7	Main Drive		Frame Housing 190 X 190 X 245 mm, Diameter 145 mm, Drive length 363 mm, Diameter 50 mm
8	Secondary Drive		Length 250 mm , Diameter 90 mm
9	Feeder Drive		Chain sproket with moter side 48 teeth driven side 24 tech , 1/2 inch pitch, Length 363 mm, Dia 58 mm, material EN09
10	Feed Die		Die size 0.5/1/2/3/4/5/6 mm options
11	Feeder Screw		Length-500 mm, Diameter-48.5 mm, Double start pitch threading 35 mm, Material EN09
12	Feeder Nozzle		Diameter- 48 mm, Length- 38 mm , material EN09
13	Cutter		Four blades cutter with 45 <sup>o</sup> angle, Replicable blades with allenkeys, Adjustable gap for Cutter blades
14	Flanges		2 flanges with 145 mm diameter
15	Feeder Speed		Feeder sped control from 0 to 40 RPM using VFD drive, VFD Crompton/Delta make
16	Body		Body base frame 1000 X 1110 X 1300 mm, gauge 5 mm Feed Dispenser height minimum 450 mm from ground Safety guards for all 3 drive belts and chain/sprokets
17	Temp Sensor		Temperature sensor on Feeder Screw for sensing temperature on control panel display

18	Heating Element	2 HP/1.5 kWatt	Ceramic Heating element with temperature control , maximum temperature 150 <sup>0</sup> Celsius
19	Control Panel		RYB 3 ph power indicator, PID controller for temperature control of extruder
			2 HP 3 phase 415 Volts VFD controller for cutter , VFD and Cutter ON/OFF Switch
			Analogue Display of Ammeter and Voltmeter, MCB for Input power, Overload
			cut-off of main motor
20	<b>ACCESSORIES</b>		
A	Moisture Meter	1 to 50% Humidity	Digital display with 4 pin sensors,
B	Gease Gun	1 kg	With extension pipe/nozzel/knob, Tata/Eastman make
C	Spanner set	All required size	Ring and D spanners, Make Taparia/Eastman
D	Screw Driver	6 inch, 14 inch	Make Taparia/Eastman
E	<b>Grinder</b>		5 HP MOTOR WITH GRIND COMPLETE
F	<b>Dryer</b>	33" L X 30" HX 20" D with 6 nos tray	0.5 HP AC motor for blower, 0.5 KW - 4 Heater
G	<b>Mixture</b>		2 HP Motor
H	Bag stitching machine		Good quality stitching machine

Particulars	Quantity/ Nos.	Total Amount (in lakh Rs.)	Project Contribution (Rs.)	Beneficiaries Contribution (Rs.)
All Type of Accessories for Feed Mill & Other Machine	01	700000.00	700000.00	0.00
Sub Total (Rs.)		700000.00	700000.00	0.00

<b>III Tentative RECURRING COST/OPERATIONAL - (for one month)</b>							
Sl. No	Item	Contribution (Project/Beneficiary)	Total Amount	Unit Price (Rs.)	Total Amount (Rs.)	Project Contribution (Rs.)	Beneficiaries Contribution (Rs.)
1	Raw material for feed		10000 kg	Rs. 22.51/kg	225100.00	225100.00	0.00
	a. Rice Bran	Project					
	b. Mustard Oil Cake	Project					
	c. Soyabean	Project					
	d. Wheat/ Broken rice	Project					
	e. Maize	Project					
	f. Vit-min mixture	Project					
	g. Veg oil	Project					
h. Salt (@400 kg./day for 275 days)	Project						

2	Electricity	Beneficiary	1200 unit	48 unit/day	10043.00	0.00	10043.00
3	Maintenance	Beneficiary		LS	500.00	0.00	500.00
4	Packaging Cost (25 kg bag)/ Kg	Beneficiary	400 Pkt.	Rs. 0.5/ Kg	5000.00	0.00	5000.00
<b>Total (Rs.)</b>					<b>2,40,643.00</b>		

**ESTIMATES OF OUTPUT AND VALUE OF OUTPUT-**

ESTIMATES OF OUTPUT AND VALUE OF OUTPUT									
Year	Capacity of the plant (Kg/Day)	No. of Operating shifts/day	No. of working days in a Year (nos)	Raw material Consumption (Kg)/ Day	Cost of Fish Feed (25-26% protein, 6% fat) (Rs./Kg)	Feed produced /Day (Kg)	Quantity of feed manufactured (kg)	Selling Price (Rs.)/ Kg	Total Amount from selling of Fish feed (Rs.)
1 <sup>st</sup>	480	2	275	400	23.9	400	110000.00	33	3630000.00
2 <sup>nd</sup>	480	2	275	400	23.9	400	110000.00	33	3630000.00
3 <sup>rd</sup>	480	2	275	400	23.9	400	110000.00	33	3630000.00
4 <sup>th</sup>	480	2	275	400	23.9	400	110000.00	33	3630000.00
5 <sup>th</sup>	480	2	275	400	23.9	400	110000.00	33	3630000.00
<b>Total</b>							550000.00		18150000.00

## 7.6 Annexure- Artificial propagation, seed production and flow-through hatchery for Chocolate/Golden Mahseer

**Problem statement:** Mahseer is the most prized sport fish distributed in all the Himalayan waters. Presently, this species has been recognized as endangered one and decline in its catches is reported in almost all natural resources due to illegal methods of fishing, habitat deterioration and introduction of exotic species. To rehabilitate this species, artificial propagation is of prime requisite.

**Description of technology:** A specific hatchery suitable for incubation and hatching of eggs through control of water flow and volume has been designed and developed. The developed hatchery structure comprised of a set of troughs under containing trays of specific size and mesh, nursery tanks and rearing tanks with continuous water flow. Overhead tank of the capacity of 1000L is installed at the height of 5 m for continuous supply of water to the hatchery. Rectangular trough of the size of 220cm x 50cm x 40cm is used to hold the trays having fertilized eggs. Trays of the size of 50cm x 30cm x 10cm are used to incubate 5000-6000 eggs/tray. Galvanised iron sheet or fibre glass tank of the size of 200 x 60 x 30cm are used for rearing of fry. 1 LPM water flow is required for incubation of 2000 eggs at 20-28 °c water temperature. 3-4 LPM water flow is required for rearing of 2000 fry at 20-28°C water temperature. Structure is suitable for the production of spawn and fingerlings in Coldwater conditions. Healthy and quality seed of the Mahseer fish can be produced in controlled condition.

**Applicability/Situation:** A flow through Mahseer hatchery has been designed for the mass seed production of this fish species. The system is simple and farmers friendly for breeding, egg incubation and larval rearing with continuous water flow. Artificial mass seed production of this species would be helpful for the rehabilitation of this species through ranching in the uplands water bodies and also for enhancement of aquaculture production.

**Economics/ Cost involved:** Estimated cost of the hatchery for 0.5 lakh eggs capacity- Rs. 4 lakh



**Flow-through Mahseer hatchery and seed production**

## 7.7 Annexure- CONSTRUCTION OF INTENSIVE FISH FARMING (RACEWAY FOR TROUT CULTURE)

### CONSTRUCTION OF INTENSIVE FISH FARMING (RACEWAY FOR TROUT CULTURE)

Total Cost for Raceway - 2, 31,133

Total cost for Desilting Tank- 68,663

Total Project Cost- 2,99,797 Say 3,00,000 (Rupees Three Lakh Only)

### Name of the Scheme: Raceway based Trout Rearing Unit

In order to utilize the cold water resource, number of fast growing and economically viable species have been introduced, which include species of Carp and Trout. The Rainbow Trout (*Oncorhynchus mykiss*) is a temperate region (cold water) carnivorous fish species which needs crystal clear and highly oxygenated water, thus well suited for water systems of Himalayan states. Rainbow Trout farming has great potential in India since Trout is one of the high value species and having high demand in both domestic and international market. Trout farming is commonly being undertaken in the neighbouring state of Sikkim due to the suitable temperature range (5°C to 18°C). The Himalayan region of Darjeeling hills in the state of West Bengal has similar altitude and climatic conditions (temperature ranges) that has been found to be suitable for trout farming. The region has ample cold water resources and is suitable for the culture of high value cold water fish like trout.

#### Objectives:-

- Enhance fish production & productivity
- Livelihood & Employment generation.
- Ensuring Nutritional Security.

#### Justification of the Scheme:-

a) **Advantages of Raceway Culture-** Trout culture in raceways has been traditionally practised for hatchery production of fish where a flow-through system is maintained to provide the required level of water quality.

- I. Environmental and water quantity parameters are easier to manage in raceways than in pond systems.
- II. Flowing water flushes wastes from the culture units and also forces the fishes to exercise thus help in the better survival of the fish.
- III. The shallow water in raceways allows visual observation of the fish so that diet and/or disease problems can be promptly corrected.
- IV. Feeding and harvesting are generally easier in raceway systems.

b) **Demand of Rainbow Trout in Darjeeling Hills**

Darjeeling, being a famous tourist destination with hundreds of hotels, restaurants and homestays, the demand for an exotic cold water fish like **rainbow trout** is quite high. The farmers culturing the said species shall not face much pullback in selling their produce.

c) **Employment Generation and Rural upliftment**

Culture of Rainbow trout in raceways is labour intensive as it requires proper management of water quality and flow. The unemployed youth of the hills can avail the said scheme and uplift themselves financially as it is a profitable venture.

#### Benefits from Implementation of Plan:-

Following benefits after implementation of plan:-

- Increased production & productivity of fish.
- Increased per capita income
- Availability of fish (Nutritional security).
- Additional gainful livelihood and employment

#### Time line for Project Implementation:-

Activity	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Submitting DPR	■	■										
Approval of DPR		■	■									
Beneficiary selection and approval		■	■	■								
Purchase of unit			■	■	■	■						
Physical verification					■	■	■	■	■			
Assessment and evaluation					■	■	■	■	■			
									■	■	■	■

#### Model Technical Specification for Trout culture in raceway:-

Title	Description
Name of Species	Rainbow Trout ( <i>Oncorhynchus mykiss</i> )
Raceway Size	17mX2mX2m
Effective water volume	50m <sup>3</sup> /raceway
No. of raceways	1
Effective water depth	1.5 m
Stocking Size	10 gm
Stocking density	60/m <sup>3</sup>
Stocking Nos.	3500/Raceway
Survival rate	80%
FCR	1.5:1
Culture period/crop duration	8-10 months
Cost of Seed	Rs. 20/seed
Cost of feed (crude protein > 40%)	Rs 148 to 158 per kg
Total feed required	1050 kgs
Size at the time of harvest	250-300 gms
Expected Total Biomass	700 kgs
Sale Price	Rs. 700/kg

**Inputs for Trout rearing Units (for 1 unit):-**

Sl. No.	Particulars	Project Contribution (Rs.)	Beneficiaries Contribution (Rs.)
1.	Cost of Seed (fingerlings) including transportation @ Rs. 20/pc for 3500 nos. (3500 nos./tank)	Rs. 70000.00	
2.	Cost of feed @ Rs. 158/kg for 1050 kgs	Rs. 1,65,900.00	
3.	Manpower @ Rs. 10,000 for 8 months		Rs. 10,000.00
4.	Prophylactics (methylene blue dust /potassium permanganate dust ) & Miscellaneous expenses		Rs. 4100.00
	<b>Total</b>		Rs. 2,50,000.00

**Economics:-**

Sl. No.	Particulars	Total
1.	Expected Production (Considering 80% survival with an average body weight of 250 gms with 8 months culture period)	700 kgs
2.	Income from Sale of Fish (Considering sale of fish @ Rs. 700.00/kg)	Rs. 4,90,000.00
3.	Net Profit [Income - Cultural cost] i.e. Rs. 4,90,000.00 - Rs. 2,50,000.00= Rs. 2,40,000.00	Rs. 2,40,000.00

*Note: The prices of the above-mentioned items are indicative only. The actual prices of the items may vary as per the local marketing conditions.*

## **8.1 ANNEXURE - ANNUAL WORK PLAN, BUDGET AND PROCUREMENT PLAN**

## 8.2 ANNEXURE - RESULTS FRAME WORK AND MONITORING

Project Development Objectives(s)								
The PDO is to augment water availability and strengthen water user associations for improved irrigated agriculture in project areas of West Bengal.								
Project Development Objective Indicators								
Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Augment water availability and strengthen water user associations for improved irrigated agriculture</b>								
Water harnessed through new irrigation schemes (Cubic meters/year)		0.00	20,000,000.00	50,000,000.00	70,000,000.00	80,000,000.00	110,000,000.00	120,000,000.00
Well performing WUAs operating and maintaining irrigation schemes successfully (Percentage)		0.00	30.00	40.00	40.00	50.00	60.00	60.00
Value Weighted index for Agricultural outputs (fixed base price) (Percentage)		90.00	100.00	110.00	120.00	130.00	140.00	150.00
Production of Oilseed (Metric tons/year)		1,500.00	5,000.00	10,000.00	12,000.00	13,000.00	15,000.00	17,000.00
Production of pulses (Metric tons/year)		250.00	500.00	1,000.00	2,000.00	3,500.00	4,500.00	5,600.00
Production of Fish (Metric tons/year)		500.00	1,000.00	2,000.00	4,000.00	6,000.00	8,000.00	10,000.00
Beneficiaries provided with improved irrigated agriculture and allied services (Number)		0.00	20,000.00	60,000.00	100,000.00	150,000.00	200,000.00	240,000.00

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
of whom are small and marginal farmers (Percentage)		0.00	10.00	30.00	50.00	60.00	75.00	85.00
of whom are farmers belonging to tribal communities (Percentage)		0.00	1.00	3.00	5.00	6.00	9.00	11.00
of whom are female farmers (Percentage)		0.00	4.00	7.00	11.00	15.00	18.00	20.00

**Intermediate Results Indicators by Components**

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Component A: Strengthening community-based institutions</b>								
Water user associations created or strengthened (Number)		0.00	500.00	1,200.00	1,800.00	2,400.00	3,100.00	3,800.00
Beneficiaries satisfied with the services (Percentage)		0.00	10.00	15.00	20.00	30.00	40.00	50.00
Water user association with women in leadership role (Percentage)		0.00	5.00	10.00	15.00	20.00	23.00	25.00
<b>Component B: Minor irrigation services</b>								
Area improved with new/improved irrigation services (Hectare(Ha))		0.00	5,000.00	10,000.00	15,000.00	20,000.00	27,000.00	32,000.00
Increase in cropping intensity (Percentage)		0.00	5.00	10.00	20.00	25.00	35.00	40.00

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Farm lands improved with water management practices (Hectare(Ha))		0.00	1,000.00	2,000.00	4,000.00	5,000.00	8,000.00	10,000.00
Area irrigated with green energy (Hectare(Ha))		0.00	1,000.00	2,000.00	4,000.00	6,000.00	8,000.00	10,000.00
<b>Component C: Agricultural support services</b>								
Area diversified to high value crops (Hectare(Ha))		0.00	2,000.00	4,000.00	6,000.00	8,000.00	10,000.00	12,000.00
Area under plantation (Hectare(Ha))		0.00	500.00	1,000.00	1,500.00	2,000.00	2,200.00	2,500.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Water harnessed through new irrigation schemes	This indicator relates to improved irrigation services newly established in phase2 and accounts for both rainfall runoff water harvesting and groundwater pumping from wells. This will represent for improved water availability for both irrigation and fish and hence improved irrigation service delivery. The water storage capacity will be determined with respect to total number of fillings of surface storages	Annual	MIS	For surface water schemes, both in situ data collection for water storage capacity and remote sensing will be used. For GW pumping, the yield and pumping hours will be measured in sample tube wells. Additionally solar systems will be equipped with real time monitoring system for power usage that will provide indirect estimate of water use.	DPMU and SPMU engineering team. SO and WUAs

	during a crop year. The GW harnessed will be estimated with respect to amount of water pumped during a crop year.				
Well performing WUAs operating and maintaining irrigation schemes successfully	This indicator measures the institutional strengthening and empowerment of WUAs. A well performing WUA is one that provide as evidenced from improved irrigation service delivery for Rabi crop and fisheries.. Using WUA grading methodology, the WUAs with A and/or B will be considered as well performing. . The WUAs from phase 1 (2700) and phase 2 (1100) totalling to 3800 WUAs will be targeted.	Annual	MIS	The project has introduced grading system that will be continue to be updated. Currently the grading methodology comprise of: (i) 28 indicators comprehensively covering governance, roles, functioning and performance results of WUAs capturing all round performance areas; and (ii) qualitative indicators bringing in more rigor to the learning. The project is using two separate grading formats depending upon the type of schemes – surface water and ground water. WUAs acquiring ‘A+’ grade was considered as ‘matured’, ‘A’ as performing, ‘B’ as	SPMU

				fledging, 'C' needing attention and 'D' needing immediate attention.	
Value Weighted index for Agricultural outputs (fixed base price)	<p>This indicator measures the effectiveness of the agriculture service delivery and is a composite indicator accounting for crop intensification, diversification to high value crops.</p> <p>The project will assess using both field and remote sensing data, the cropping pattern, crop yields.. The methodology will be scaled up. The data collection for fisheries or crop yields.. The methodology will be scaled up. The data collection for fisheries or maintained data</p> <p>commodity will be fixed at base price so price inflation will not impact this indicator. This will be estimated as the ratio of composite value at baseline and post implementation.</p>		MIS and WUA		Support organizations and DPMUs would collect the data while SPMU will compile in MIS.
Production of Oilseed	<p>This indicator is also measuring the effectiveness of the agricultural services through crop diversification, soil health through crop rotation and water saving for irrigation. Both change in yield of oilseed and increase in area of Oilseed crops of both during Kharif and Rabi will be accounted. This indicator would apply</p>	Annual	MIS and WUAs	<p>The combination of approaches will be used including farmers interview, crop cutting experiments and remote sensing based assessments to determine the cropped areas and their respective yield.</p>	<p>WUA, Support organization would update through DPMUs and SPMUs will verify at central level.</p>

	to new irrigated area of 21000 ha of phase 2 and 11,000 ha of phase 1.				
Production of pulses	Again measures crop diversification, soil health through crop rotation, improvements in nutritional status and water saving by including all kind of pulses in Kharif and Rabi seasons. This indicator is accounting for both improvement in increase in yield and increase in area as a result of water availability from new irrigated areas of schemes (21,000 ha of phase 2 and 11,000 ha of phase 1).	Seasonal	MIS		DPMU and SPMUs
Production of Fish	This indicator measures diversification of primary livelihood activities from improved water availability. The indicator will include production of fisheries, as well as production of fingerlings on monthly basis. This would apply to WDS of around 500 ha developed during phase 2 and new WDS developed during last two years where communities are yet to be trained.	Monthly	MIS	WUAs through fisheries group/s (FIGs) will be trained to keep account of production as they tend to use for home consumption. SOs and DPMUs will also continue to update in selected schemes with intensive monitoring.	Support organization, DPMUs and SPMUs

Beneficiaries provided with improved irrigated agriculture and allied services	This indicator measures direct beneficiaries of irrigation and agricultural services provided by the project. The indicator accounts for 80,000 farm households benefited by the new irrigation schemes and additional 150000 households benefiting from agriculture, horticulture and fisheries livelihood support activities.	Annual	MIS	Farm households are members in WUAs which in turn have sub groups of fisheries groups (FIGs) and higher level institutions of producer groups.	SPMU
of whom are small and marginal farmers					
of whom are farmers belonging to tribal communities					
of whom are female farmers					

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Water user associations created or strengthened	The water user associations are the immediate outcome of strengthening community based institutions of farmers which include support to existing as well as new WUAs. This indicator will account for all WUAs including existing ones from phase 1 (2700), and newly	annual	MIS	All WUA registered and in operation will be accounted for in this indicator.	SPMU

	created under Phase 2 (1100).				
Beneficiaries satisfied with the services	Measures the accountability and governance of the WUA and project management support. This is measured through satisfaction levels of beneficiary farmers particularly with the new irrigation services.	Bi annual	Survey and M&E	The users will be provided to give feedback through various modes including mobile and focused survey of beneficiaries.	DPMU
Water user association with women in leadership role	Measures the inclusion and equity aspects of WUAs strengthening in phase 2 WUAs. The indicator is accounted for women members occupying positions within the executive committee of WUA, having leadership position, of office bearer. During phase 1, 7% WUA had women in leadership position now it would be targeting to improve during phase 2 in new WUAs (1100 numbers).	Annual	MIS	Each WUA will maintain an updated MIS of its executive committee members.	DPMU and SOs: Social unit
Area improved with new/improved irrigation services	The indicator measures the impact of the project in transforming rainfed areas cultivated during a single crop season to irrigated cultivation with multiple crop seasons. The indicator includes command areas of the	Seasonally	MIS	The project would use field and remote sensing based assessment. Selected schemes will be assessed in detail through out the project cycle.	DPMUs and SPMU

	<p>new irrigation services established (21,000 Ha) and an additional area of 11,000 Ha developed during the last batches of scheme from Phase-I of the project. The transformation to irrigation cultivation happens not only through assured irrigation but also adoption of water management practices, utilization of assured solar pumping, support with production technologies and marketing related services. Farmers need time to convince themselves in taking the risk of additional crops and normally take initially 2-3 years continued work with farmers.</p>				
<p>Increase in cropping intensity</p>	<p>This indicator measures how irrigation is benefitting to grow multiple season crops in rainfed areas. The indicator will be accounted using ratio of Gross cropped area to command area of irrigation schemes. This indicator will be applied to all new irrigation schemes and 11,000 ha of phase 1 where schemes have been commissioned recently.</p>	<p>Annual</p>	<p>MIS</p>	<p>Both field measurement and remote sensing based assessment will be used to assess the change in cropping intensity in command areas of schemes.</p>	<p>SPMU and DPMUs</p>

Farm lands improved with water management practices	This indicator measures the convergence of agriculture support services within the command areas of schemes commissioned. The indicator will account for command areas served with improved water management practices including sprinkler, drip irrigation systems, vermi compost, irrigation scheduling supported by soil moisture measurement or other agri-advisory support service.	Annual	MIS	MIS will maintain the areas benefitted with various interventions for each scheme. WUAs, SO and agricultural team will contribute to this assessment.	DPMUs
Area irrigated with green energy	This indicator measures the effectiveness of using green/renewable (predominantly solar) energy for powering the irrigation schemes and serving the command area. This will be provided to both phase 1 and phase 2 schemes.	Annual	MIS	Project progress reports	DPMU engineers unit
Area diversified to high value crops	This indicator measures the effectiveness of agriculture support services. The indicator will account command areas cultivating newer crops than the traditional ones including high value crops like	Annual	MIS	WUAs will be trained to map cropping pattern. SO and DPMU staff shall update the cropping pattern in various schemes. Based on their ground truthing	DPMUs, SOs and SPMUs

	vegetables, flowers, fruits and other horticulture crops. The command area benefitted from phase 1 and 2 schemes will be considered.			remote sensing based assessment will be improved to identify various crops.	
Area under plantation	This indicator measures resilience efforts for catchment management and shifting from risky seasonal crops to tree and plantation crops as a mitigation against climate uncertainties. The indicator will account for command areas brought under cultivation mixed fruit plantation and other tree crops especially on the fringes of WDS and other water harvesting structures and catchment areas.	Annual	MIS	The field team shall update in MIS/GIS system including their survival status.	DPMUs/WUAs

## **9 Annexure – Human Resources**

**TO BE INCLUDED SOON**

### 13.1 ANNEXURE - ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP)

MATERIAL MEASURES AND ACTIONS		TIMEFRAME	RESPONSIBLE ENTITY
<b>MONITORING AND REPORTING</b>			
A	<p><b>REGULAR REPORTING</b></p> <p>Prepare and submit to the World Bank regular monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project, including but not limited to the implementation of the ESCP, status of preparation and implementation of E&amp;S instruments required under the ESCP, stakeholder engagement activities, and functioning of the grievance mechanism(s)</p>	<p><i>Quarterly not later than 15 days from end of a calendar quarter</i></p>	<p>SPMU, DWRID Funding from the project budget</p>
B	<p>An independent Environmental and Social Audit at mid-term and End term</p>	<p><i>At the end of third year for mid-term audit and end of fifth year for end term audit (depending on project implementation timeline)</i></p>	<p>SPMU, DWRID</p>
B	<p><b>INCIDENTS AND ACCIDENTS</b> [notification of incidents and accidents is an important requirement of ESS1].</p> <p>Promptly notify the World Bank of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including, inter alia, cases of sexual exploitation and abuse (SEA), sexual harassment (SH), and accidents that result in death, serious or multiple injury.. Provide sufficient detail regarding the scope, severity, and possible causes of the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor and/or supervising firm, as appropriate.</p> <p>Subsequently, at the World Bank’s request, prepare a report on the incident or accident and propose any measures to address it and prevent its recurrence.</p>	<p>Notify the World Bank no later than 48 hours after learning of the incident or accident.</p> <p>Provide subsequent report to the World Bank within a timeframe acceptable to the World Bank.</p>	<p>SPMU, DWRID</p>

ESS 1: ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS		
MATERIAL MEASURES AND ACTIONS	TIMEFRAME	RESPONSIBLE ENTITY
<p>1.1 <b>ORGANISATIONAL STRUCTURE</b></p> <p>Establish and maintain an SPMU and DPMU with qualified staff and resources to support the management of ESHS risks and impacts of the Project Institutional Development Specialist and Environment Specialist, gender social specialist, at SPMU and Environmental Officer and Institutional Development Specialist of DPMU for ESHS management</p>	<p>The Institutional Development Specialist of both SPMU and DPMU are already in place. The environmental Specialist of the SPMU is already in place, The environment specialists at the DPMU level and the Gender specialist at the SPMU level will be hired no later than 60 days from the date of effectiveness and thereafter maintain these positions throughout Project implementation.</p>	<p>SPMU, DWRID</p>
<p>1.2 <b>ENVIRONMENTAL AND SOCIAL INSTRUMENTS</b>                      [Specify any E&amp;S instruments developed or to be developed under ESS1, such as ESIA, ESMF, ESMPs, etc. See a few <a href="#">examples</a> of actions below.]</p> <p>1. Adopt and implement an Environmental and Social Management Framework (ESMF) for the Project, consistent with the relevant ESSs.</p> <p>2. Subprojects will be screened per ESMF to screen out ecologically sensitive sites, including subprojects that may have significant impacts on natural and critical habitats and legally protected and internationally recognised protected areas, involuntary resettlement or impacts on livelihoods.</p> <p>3. DWRID to adopt and implement the subproject Environmental and Social Impact Assessment (ESIA) including carrying out a hydrological assessment for each of the subprojects and Environmental and Social Management Plan (ESMP as set out in the ESMF. The proposed subprojects described in the exclusion list set out in the ESMF shall be ineligible to receive financing under the Project.</p>	<p>1. Adopt the ESMF prior to appraisal, and thereafter implement the ESMF throughout Project implementation.</p> <p>2. Screening of all sub-projects to be completed at Feasibility stage.</p> <p>3. Adopt the ESMP before launching the bidding process for the respective subproject. Once adopted, implement the respective ESMP throughout Project implementation.</p>	<p>1. SPMU, DWRID</p> <p>2. Support Organisation and DPMU, DWRID</p> <p>3. Support Organisation and DPMU, DWRID</p>

1.3	<p><b>MANAGEMENT OF CONTRACTORS</b></p> <p>Incorporate the relevant aspects of the ESCP, including, inter alia, the relevant E&amp;S instruments, the Labor Management Procedures, and code of conduct, into the ESHS specifications of the procurement documents and contracts with contractors and supervising firms. Thereafter ensure that the contractors and supervising firms comply and cause subcontractors to comply with the ESHS specifications of their respective contracts.</p>	<p><i>Prior to commencement of bidding process</i></p>	<p>DPMU, DWRID</p>
<p><b>MATERIAL MEASURES AND ACTIONS</b></p>		<p><b>TIMEFRAME</b></p>	<p><b>RESPONSIBLE ENTITY</b></p>
1.4	<p><b>ACTIVITIES SUBJECT TO RETROACTIVE FINANCING</b></p> <p>Conduct an E&amp;S audit and prepare a corrective action plan if needed for sub projects eligible for retroactive financing.</p>	<p>E&amp;S audit is completed prior to project effectiveness to determine the eligibility as per ESMF provisions. In case of eligible contracts for retroactive financing, E&amp;S audit measures are implemented before submission of retroactive claims.</p>	<p>SPMU, DWRID</p>
1.5	<p><b>Monitoring &amp; Evaluation Questionnaire:</b> The Monitoring and evaluation questionnaire shall be prepared considering the monitoring indicators specified in the ESMF. However, additional parameters can be considered.</p>	<p><i>ESMF has provided a list of indicators, the Questionnaire must be developed within 90 days from the effectiveness of the loan</i></p> <p><i>The Terms of Reference for the External E&amp;S Audit will be prepared and approved (by The World Bank) by the end of Year 2.</i></p>	<p>SPMU DWRID</p>

<b>ESS 2: LABOR AND WORKING CONDITIONS</b>			
2.1	<b>LABOR MANAGEMENT PROCEDURES</b> [Adopt and implement the Labor Management Procedures (LMP) for the Project, including, inter alia, provisions on working conditions, management of workers relationships, occupational health and safety (including personal protective equipment, and emergency preparedness and response), code of conduct (including relating to SEA and SH), forced labor, child labor, grievance arrangements for Project workers, and applicable requirements for contractors, subcontractors, and supervising firms.	Adopt the LMP prior to mobilization, and thereafter implement the LMP throughout Project implementation.	DPMU, DWRID
2.2	<b>GRIEVANCE MECHANISM FOR PROJECT WORKERS</b> Establish and operate a grievance mechanism for Project workers, as described in the LMP and consistent with ESS2.	Establish grievance mechanism prior to engaging Project workers and thereafter maintain and operate it throughout Project implementation].	DPMU, SPMU
<b>ESS 3: RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>			
3.1	<b>WASTE MANAGEMENT PLAN</b> Adopt and implement a Waste Management Plan (WMP), to manage hazardous and non-hazardous wastes, consistent with ESS3.	Adopt the WMP within 60 days of Project effectiveness, and thereafter implement the WMP throughout Project implementation.	DPMU, SPMU
3.2	<b>RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b> Incorporate resource efficiency and pollution prevention and management measures in the ESMP to be prepared under action 1.2 above.	Same timeframe as for the adoption and implementation of the ESMP	DPMU, SPMU
<b>MATERIAL MEASURES AND ACTIONS</b>		<b>TIMEFRAME</b>	<b>RESPONSIBLE ENTITY</b>
3.2	Prepare 'Good Aquaculture Practice' guidelines (incorporating use of organic fish feeds or HAACP certified feeds) in a manner acceptable to the Bank covering training, monitoring, supervision and reporting	<i>Within 60 days of project's effectiveness</i>	SPMU, DWRID

<b>ESS 4: COMMUNITY HEALTH AND SAFETY</b>			
4.1	<b>SEA and SH RISKS:</b> The sub project specific ESMP will include a stand-alone Gender-Based Violence Action Plan (GBV Action Plan), to assess and manage the risks of gender-based violence (GBV) and sexual exploitation and abuse (SEA).	Before the commencement of bidding process	<b>DPMU</b>
<b>ESS 5: LAND ACQUISITION, RESTRICTIONS ON LAND USE AND INVOLUNTARY RESETTLEMENT - Not Relevant</b>			
<b>ESS 6: BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>			
6.1	<b>BIODIVERSITY RISKS AND IMPACTS</b> <b>Not Relevant</b>		
<b>ESS 7: INDIGENOUS PEOPLES/SUB-SAHARAN AFRICAN HISTORICALLY UNDERSERVED TRADITIONAL LOCAL COMMUNITIES</b>			
7.1	<b>INDIGENOUS PEOPLES PLAN</b>  Tribal Development Framework to be prepared for the project consistent with the requirements of ESS7, in a manner acceptable to the Bank.	<i>Where relevant, sub-project-specific tribal development plans will be prepared along with ESIA and shared with the Bank prior to issuing bid document</i>	SPMU, DWRID
<b>ESS 8: CULTURAL HERITAGE</b>			
8.1	<b>CULTURAL HERITAGE RISKS AND IMPACTS</b>  Use the Screening checklist developed based on the exclusion criteria in the ESMF to screen all subprojects to ensure that the sub-projects are not allowed within 100 m of the archaeological structure and within the sacred grove and consistent with ESS8.	Screening should be completed during the Feasibility Stage	SPMU, DWRID
8.2	<b>CHANCE FINDS</b> Describe and implement the chance finds procedures, as part of the ESMP of the Sub-Project.	The chance find procedures in the Sub-project ESMP should be prepared and included in the bidding document and Implement the procedures throughout Project implementation].	SPMU, DWRID
<b>ESS 9: FINANCIAL INTERMEDIARIES [This standard is only relevant for Projects involving Financial Intermediaries (FIs).]</b>			
9.1	<b>No FI are expected to participate in the project</b>		

MATERIAL MEASURES AND ACTIONS		TIMEFRAME	RESPONSIBLE ENTITY
<b>ESS 10: STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>			
10.1	<p><b>STAKEHOLDER ENGAGEMENT PLAN PREPARATION AND IMPLEMENTATION</b></p> <p>Adopt and implement a Stakeholder Engagement Plan (SEP) for the Project, consistent with ESS10, which shall include measures to, inter alia, provide stakeholders with timely, relevant, understandable and accessible information, and consult with them in a culturally appropriate manner, which is free of manipulation, interference, coercion, discrimination and intimidation.</p>	SEP has been prepared and disclosed	SPMU
10.2	<p><b>PROJECT GRIEVANCE MECHANISM</b></p> <p>Establish, publicize, maintain, and operate an accessible grievance mechanism, to receive and facilitate resolution of concerns and grievances in relation to the Project, promptly and effectively, in a transparent manner that is culturally appropriate and readily accessible to all Project-affected parties, at no cost and without retribution, including concerns and grievances filed anonymously, in a manner consistent with ESS10.</p> <p>The grievance mechanism shall be equipped to receive, register, and facilitate the resolution of SEA/SH complaints, including through the referral of survivors to relevant gender-based violence service providers, all in a safe, confidential, and survivor-centered manner.</p>	<i>Within 90 days of Project effectiveness</i>	SPMU, DWRID
<b>CAPACITY SUPPORT</b>			
CS1	<p>Training and capacity building plan for relevant stakeholders on ESMF (including TDF), ESMP, Gender Action Plan, GBV and SEA/SH, and Labour Management Procedure at state level, Integrated Pest Management, Integrated Nutrient Management, Good Aquaculture Management Guidelines, and with follow-up monitoring and refresher trainings shall be conducted at identified timeline and provided with appropriate budget.</p>	<i>Within 90 days of effectiveness for first year and January of every calendar year for the respective year.</i>	SPMU, DWRID

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