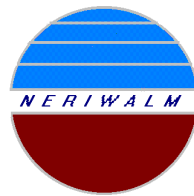


VISION DOCUMENT

(2013 – 2025)



**North Eastern Regional Institute of Water and Land Management
(NERIWALM)**

An Institute under the Ministry of Water Resources, Govt. of India
(Registered under Society Registration Act, 1860)

DOLABARI, TEZPUR – 784 027

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CHAPTER I: INTRODUCTION

Ministry of Water Resources (MoWR), RD & GR has taken over the North Eastern Regional Institute of Water and Land Management (NERIWALM) on 1st April, 2012 from North Eastern Council (NEC), Shillong. Consequently, the institute has to be administered by MoWR and the required fund will also to be given as grant- in-aid on year to year basis. For re-orientation of the institute's activities which is a registered Society, this Vision Document is prepared. Due care has been taken in spelling out the aims and objectives, training, field research, consultancy services of the institute so that they are aligned to different schemes and programmes of MoWR, RD & GR. The National Water Policy, National Water Mission Documents and other available guidelines of the MoWR, RD & GR were duly considered for drafting the Vision Document. The region specific conditions on soil, water, crop, flood, erosion, environment, legal and sociological aspects are kept in the back drop in formulating the proposed technical activities.

The activities include conduct of training, seminars, workshops, conferences, field research projects and experiments, consultancy services etc. keeping in mind needs, challenges and concerns in water sector. In North Eastern Region, the eco systems and water and land management scenarios are having their own peculiarity and hence they have also taking care off. Specific programmes are being drawn up for benefit of the tribal population as it is a justified need to extend additional benefit to them and is within the policy of Govt. of India. Separate budgetary provision will be proposed for works in tribal areas in framing the overall budget so that, such aspects are not neglected or minimized due to lack of financial resources.

The Vision Document has been prepared with a perspective up to 2025. The Vision Document has chapters on introduction, aims and objective, issues and concerns, strategies, governance, action plan and collaboration arrangements focusing on the following vision and mission:-

Vision:

To empower human resources for promoting effective management of water and land resources to ensure and promote participatory management

Mission:

Capacity building of in-service personnel in central and state departments, water users' associations, farming community etc. for co-ordinated and planned development of water and land resources and their subsequent management.

Goal:

- i. Provide all kinds of services and support for the development of ultimate irrigation potential.
- ii. Extend services to bridge the gap between potential created and utilized and increase water use efficiency and promote PIM, innovative water saving technologies.
- iii. Motivate and promote basin level planning on IWRM principle.
- iv. Motivate and promote increasing cropping intensity.
- v. Sustainable management of land resources.

CHAPTER II: AIMS AND OBJECTIVES

The objectives mentioned in the Memorandum and Articles of Associations (MoAA) of NERIWALM Society which was registered in 1989 is reproduced below:

- (a) With a view to promoting advancement of science and acquisition of scientific knowledge to provide instruction / and training in all branches of science, both theoretical and applied, and in particular in Water and Land Management for Irrigation and Agriculture.
- (b) To establish an institute for imparting instructions and training to farmers, members of Water Users' Associations and conducting research in Water and Land Management for Irrigation and Agriculture.
- (c) To prescribe courses for instruction and training in Water and Land Management for Irrigation and Agriculture and hold examinations and grant certificates, diplomas etc.
- (d) To seek affiliation of the said Institute with Universities and other appropriate academic bodies both in India and abroad and to obtain recognition of the said courses conducted at the said Institute and for the said examinations conducted by the Institute and diplomas, certificates, etc.
- (e) To provide consultancy service to the Government, Local Bodies and other organizations in Water and Land Management for Irrigation and Agriculture.
- (f) To undertake research and conduct experiments in various aspects of Water and Land Management and to collaborate with other organizations for research and Development.
- (g) To send within the country and abroad for specialized training in Water and Land Management for Irrigation and Agriculture, persons including members of staff of the said Institute and bear and pay the costs of such training.
- (h) To network with non-governmental organizations (NGOs) /private partners(PP) with a view to carrying out outreach activities effectively at the grass root level.
- (i) To start, conduct, print, publish and exhibit any magazines, periodicals, newspapers, books, pamphlets or posters that may be considered desirable for the promotion of the objectives of the Society.
- (j) To invest and deal with for funds of the Society.

- (k) To make rules and bye-laws and to make and perform such things for the conduct of the affairs of the Society and the Institute and from time to time add to, amend, vary to rescind them.
- (l) To invest and deal with for funds of the Society.
- (m) To make rules and bye-laws and to make and perform such things for the conduct of the affairs of the Society and the Institute and from time to time add to, amend, vary to rescind them.

For the purpose of vision document the important objectives are para phrased are given below as aims and objects.

1. Conducting academic programmes
2. Conducting training needs assessment
3. Conducting field research
4. Providing consultancy services
5. Focused programmes benefiting tribal populations
6. Collaboration arrangement for better impact of the activities under the above mentioned aims and objects.

CHAPTER III: ACADEMIC PROGRAMMES

A. Medium and short term training courses /seminars, workshops, conferences

i. Water resource management

The medium and short training courses on broad group of water resources will consist of the following themes:

- a. Major and medium sector
- b. Minor irrigation and watershed management sector
- c. Ground water sector
- d. IWRM and river basin planning
- e. Water saving technology including micro irrigation
- f. Flood and erosion management
- g. Environmental management
- h. Participatory Irrigation management

ii. Crop and soil management

Similarly in the broad group of crop and soil management will consist the three following themes:

- a. Crop planning and crop management
- b. Soil health management
- c. Crop water management

iii. Sociology

Similarly in the discipline of sociology the two following themes will be covered:

- a. Participatory rural appraisal
- b. Social and legal aspects of water resources projects

iv. Others

- a. Use of ICT in project and data management

- b. Training for students (M Tech/B Tech) and other professional courses in the related disciplines.

B. Long term courses –

- a. Offering M.E. degree course with affiliation of recognized universities.

C. Training of Trainers (ToT) programmes

- i. Water resource management
- ii. Crop water management

D. Field research :

This is an integral component of a training institute like NERIWALM. The field research will be carried out with funding from institute budget. Besides, the institute budget research can be taken up by getting sponsorship from many organisation. It supports in improving the training contents in a continuous manner.

E. Publicity Materials on institute activities etc.

F. Setting up of “State/Field Centres” at key locations of NE region.

CHAPTER IV: ISSUES AND CONCERNS

ISSUE I: Water Use Efficiency in irrigation schemes

- i. Most irrigation potential is not utilized
- ii. Water distribution system is not adequate
- iii. Canal operation plans are not prepared
- iv. Water user associations are not effectively functioning
- v. Cropped field are fully not developed with proper land leveling etc.
- vi. Improper drainage
- vii. Mismatch between water supply and water demand
- viii. Wasteful methods of water application
- ix. Scientific methods of water saving including micro irrigation are not adopted

ISSUE II: Integrated Water Resource Management (IWRM) and basin level planning

- i. Basin level plans are not available for any basin, canal, catchment, sub-catchment prepared on IWRM principles.
- ii. Soil erosion and Landslide are common in the region
- iii. Catchment area treatment plans using watershed concepts are not prepared
- iv. Floods are recurrent.
- v. Streams are tapped at different locations for irrigation, drinking, industries, without any coordination and consideration of water availability particularly in the lean season
- vi. There is no holistic development plans to achieve the full potential of basin water resources.

ISSUE III: Water Conservation, augmentation and preservation

- i. Lot of rain water drain out to rivers and ultimately to sea without harnessing
- ii. Ground water utilization in valley areas is very low

- iii. Lots of water bodies like beels, wet lands are in the region which needs to be preserved.
- iv. Conjunctive use is to be promoted
- v. Creation of awareness among the citizen and society on water conservation.
- vi. Plan for augmentation where the projects are not able to cover the designed requirement

ISSUE IV: Water wastage in irrigated field

- i. Water requirement are not known
- ii. Irrigation schedules are not followed
- iii. Large runoff and percolation losses

ISSUE V: Environmental Issues

- i. Catchment of water projects are subjected to degradation
- ii. Lack of EIA and EMP studies
- iii. Absence of reports and literatures on environment management plan and environment related data.
- iv. Water is contaminated with iron, arsenic, fluoride and agrochemicals and high sediment load
- v. Water resources development projects are very less and environmental clearance is taking more time due to inadequate studies
- vi. Acid mine drainage contamination and land degradation through mining activities
- vii. Sand deposition and sand casting due to sedimentation in flood water
- viii. Changing of river courses in some areas

ISSUE VI: Crop Planning and Crop Management

- i. The region is known for dominance of mono crops areas

- ii. Cropping patterns with multiple cropping for different location specific area are not in practice
- iii. Farming system with mix of crops, livestock, fishery etc. are not practiced widely
- iv. Less area coverage under HYV and hybrid varieties of paddy

ISSUE VII: Soil health

- i. Soil is acidic in nature
- ii. Balanced application of fertilizer not popular
- iii. Lack of awareness on soil health parameters, soil care and nutrient management practices.
- iv. Soil testing is not very popular among farmers

ISSUE VIII: Sociological and legal aspects

- i. PIM acts are not enacted in all states. Few states like Assam and Sikkim have enacted PIM acts but rules & appropriate executive instructions are not issued to enforce and implement the acts
- ii. Water User Associations (WUAs) are indifferent to irrigation projects due to lack of motivation and involvement.
- iii. Conflict among members of water user associations within a WUA and among WUAs in a canal
- iv. Water User/farmers still practice traditional cultivation practices, and often resort tampering of outlets, structure and canals
- v. Less awareness on the benefits of water management among the young farmers
- vi. Lack of women participation in decision making in water resource development, water resources management, crops management and soil health management at the villages or Gram Panchayat.

CHAPTER V: STRATEGIES

Issues and concerns described above cannot be solved through capacity building only. The strategies within the ambit of capacity building and field research to address issues and concerns are as follows:

i. Training needs assessment: The training programmes are envisaged to cover target groups like in – service personnel both in the officers grade and field level functionaries, members of water users association, watershed associations, farmers groups (field management committee) etc.

Assessment of training needs of different target groups will be made following prescribed procedure and methods. From these assessments training plan will be evolved.

ii. The strategy spelt out for the vision document includes.

- a. Training for three categories of groups such as officers, field functionaries, water users association and farmers.
- b. Duration of courses
 - short term course 2 to 5 days,
 - medium terms course 7 to 15 days ,
 - long term course above 3 months.

The courses may be conducted both as “**In campus**” and “**Off campus**” training programmes.

- c. Training calendar and number of courses per year:
 - Year wise training calendar will be prepared in due consultation with the departments and organizations where the target groups are employed.
 - Out of the total training proposed per year, about 60% training for officers, 30% for field functionaries and 10% for WUA and farmers etc. will be conducted.
 - Medium term course per year - 02 nos.

- Long term course per year – 01 no.
- Short terms course per year – 30 nos.

Total - at least 45-50 nos. per year

Besides, the B. Tech students can be imparted industrial training which is a compulsory part of their course system.

- d. Title of trainings and tentative contents will be updated from time to time. The Board of Studies of NERIWALM will deliberate on the contemporary requirement of the contents of training, findings of training need assessment and formulate training modules.
- e. Except for the degree/diploma courses all training will be offered free of cost.
- f. Certificate, lecture note compendium and training materials as applicable for the course will also be given free of cost.
- g. **Impact evaluation of training programme**
 - During the training, a system of evaluation of training which quantities the minimizing of knowledge gap during the course evaluation after the officers and staff implement the ideas received through the training after lapse of 6-12 months time from the date of completion of training. This evaluation will be done by NERIWALM by obtaining feed back from the sample of trainees to be chosen during the training. The results of evaluation will be compared with the gaps identified in training needs assessment for deciding modification of strategies.
- h. For conducting all the training programmes resources including guest faculty, infrastructures facilities, field visits, coordination and linkage will be made with other training institutions and other organizations where resources are available.
- i. Events like seminars/workshops/conferences will be organized to document the status, impact of ongoing programme and goals on different focused areas of government of India. Some of the focus area could be
 - Efficiency in irrigation programme
 - Integrated water resource management in basin level planning

- Water resources information system
- Participatory irrigation management
- Increasing crop production and productivity
- Legal and policy aspects etc.

The inputs of documentation made during such programme will be included in the training course as case studies, adoptable strategies, region specific approaches etc.

j. Faculty improvement programmes

The faculty of NERIWALM should be sharp and well equipped on subjects, different emerging themes and training methodology. A faculty improvement plan will be worked out. In this direction the faculties will be motivated to attend training in national and international organizations.

l. Field Researches:

Field researches are an integral component of a training institute like NERIWALM. This institute deals with farmers, professionals, crops fields, river basins, irrigation projects, flood and floods prone areas, environment management etc. Understanding the real life situation, field scenarios and orienting the training inputs, from such understanding make the trainers most effective in imparting instruction and training. The term field research encompasses understanding the field situation by conducting studies, questionnaire survey, base line studies, experiments, adoptive trials and analysis of primary data collected through studies and experiments and secondary data available in government reports and published literature.

In the context of NERIWALM and MoWR, some studies shall be taken up by the institute in different states. The field research can be funded from institute budget and also could be sponsored by a state department, organization or organization under Ministry of Water Resource. Depending on time availability,

other sponsored projects from known funding sources like INCID, DST, ICAR, MoA, NEC, UGC, DIT etc. may be taken up by the institute.

Some of the areas of field researches are:

1. Performance of irrigation in different regions/states
2. Basin wise water situations
3. Crop productions and input utilization
4. Functioning of WUAs
5. Canal automation (upstream/downstream control)
6. Volumetric water measurement

m. Consultancy Services:

The expertise of the institute for undertaking of consultancy services through which revenue can be earned. Such activities will be dependent on sponsor, their requirement in different years. The time to be devoted for such consultancy projects should not be more than 30% in a financial year. The terms and conditions for consultancy services are to be decided by the Governing Body. The existing Bye-law of NERIWALM provides for undertaking consultancy services and some of financial sharing was also decided by the Management Council in one of its meeting held some times in 1994-95.

n: Student of university and colleges as interns, research scholars, fellows and consultants can be engaged based on the realistic need of different academic activities being implemented at a particular instant of time. For payment of remunerations to such category of personnel suitable provisions are to be made while budgeting the respective academic activity.

o. Facilities for attracting and retaining faculty:

In some Govt. of India training institute, 30% of the basic pay is given as a training allowance for attracting good trainers. The institute envisions to extend

similar facility to the faculty to attract and retain faculty to this institute located in a remote place.

p. The laboratories of the institute will be further strengthened by adding instruments /equipments and modernized to get NABL accreditation. Further field equipments will be procured for use in field studies.

q. Publications of institute's various technical activities, Annual Reports, Newsletters, Proceedings of seminars, workshop and conferences etc. will be done and distribute among all user's groups and all concerned.

CHAPTER VI: GOVERNANCE

The institute is a registered Society. The affairs of NERIWALM are managed by “NERIWALM Society” and “Governing Body”. The NERIWALM Society is a broad based body which is responsible for laying policies and necessary directives for the governance of the institute. The “NERIWALM Society” is presided over by the Hon’ble Union Minister, Water Resources, RD & GR, Govt. of India.

The Secretary (WR), Ministry of Water Resources, RD & GR is the chairperson of the “Governing Body”. The Governing Body is to look after the day to day administration of the institute in tune with the policy decisions of the Society.

CHAPTER VII: ACTION PLAN

The institute will prepare Annual Action Plan showing all types of technical activities, infrastructure development, maintenance and up-gradation and other activities of recurring nature. The financial requirement commensurate with proposed physical activities will be reflected in the annual action plan. Activities which will be under the tribal sub-plan component will be shown separately and summarized in tabular format covering physical and financial aspects.

The annual action plan will reflect types of training programme, objective of the individual course, likely impacts of the course. The action plan also broadly includes the institute services serving the cause of ministry of water resources and working for any assignment entrusted by MoWR, RD & GR, . A model of Annual Action Plan is presented below for a representative year based on which action plan for other years will be planned.

Model Annual Action Plan for a representative year

Sl. No.	Items	Physical Target	Quarterly Target			
			1 st	2 nd	3 rd	4 th
1	ACADEMIC ACTIVITIES					
	a). ToT on WUE	1 No.	1 No.	-	-	-
	b) Training Courses	55 Nos.	8 Nos.	15 Nos.	15 Nos.	17 Nos.
2	Seminar/Workshop/Conference	3 Nos.	1 No.	1 No.	-	1 No.
3	M. Tech Course	1 No.	-	-	-	1 No.
4	Field Research	1 No.	-	-	1 No.	Continue
5	Library					
	a) Books	500.00	-	-	250.00	250.00
	b) Journals/Periodicals	50 Nos.	30 Nos.	-	-	50 Nos. (New & Renewal)
	c) E-Journal	02 Packages	-	1 Pack.	1 Pack.	-
6	Publication of Seminar/ Workshop & Tech materials	3 Nos.	-	1	1	1
7	Maintenance of S&T Lab equipments	-	-	✓	✓	-
8.	Maintenance of Computers & Accessories	-	-	✓	✓	-

9	Maintenance of AC's & Photostat machines, UPS, Fax, LCD projector, Camera, video camera etc.	-	-	✓	✓	✓
10	Maintenance of Residential Quarters	-	-	✓	✓	✓
11	Non Residential buildings	-	-	✓	✓	✓
12	Maintenance and up-keeping of infrastructure	-	✓	✓	✓	✓
13	Construction of staff quarters	-	-	-	✓	✓
14	Auditorium (Acoustics, Furnishing, lighting and sound system etc.)	-	-	-	✓	✓
15	Procurements of tools & plants, equipments, office furniture and D.G sets 2 nos.	-	-	✓	✓	✓
16	Improvement of utility facilities	-	-	✓	✓	✓
	Under Tribal Sub- Plan (TSP)					
17	A) Field Research in Tribal Areas	3 Nos.	-	✓	✓	✓
18	B) Events likes					
	i. Conference on IWRM in river basin planning	2 Nos.	-	✓	✓	✓
	ii. Water conservation week	2 Nos.	-	✓	✓	✓
	iii. Conference on Flood erosion, landslide and Environmental issues	3 Nos.	-	✓	✓	✓

CHAPTER VIII: LINKAGES AND COLLABORATION

The institute recognizes the fact that there are lot of resources both infrastructural and human resources in the country. The institute shall make efforts to utilise these resources for having better impact of the activities undertaken. The institute's vision is to collaborate and share with other training institutes, organizations of MoWR, RD & GR and state water related departments as an illustration. Administrative Training Institute (ATI) can be approached for availing their infrastructure which are existing or being developed for making venues and guest faculty etc. Such type of vision is the need of the hour and shall be the endeavour of NERIWALM to pursue this at all time.

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