M.P. Water and Land
Management Institute

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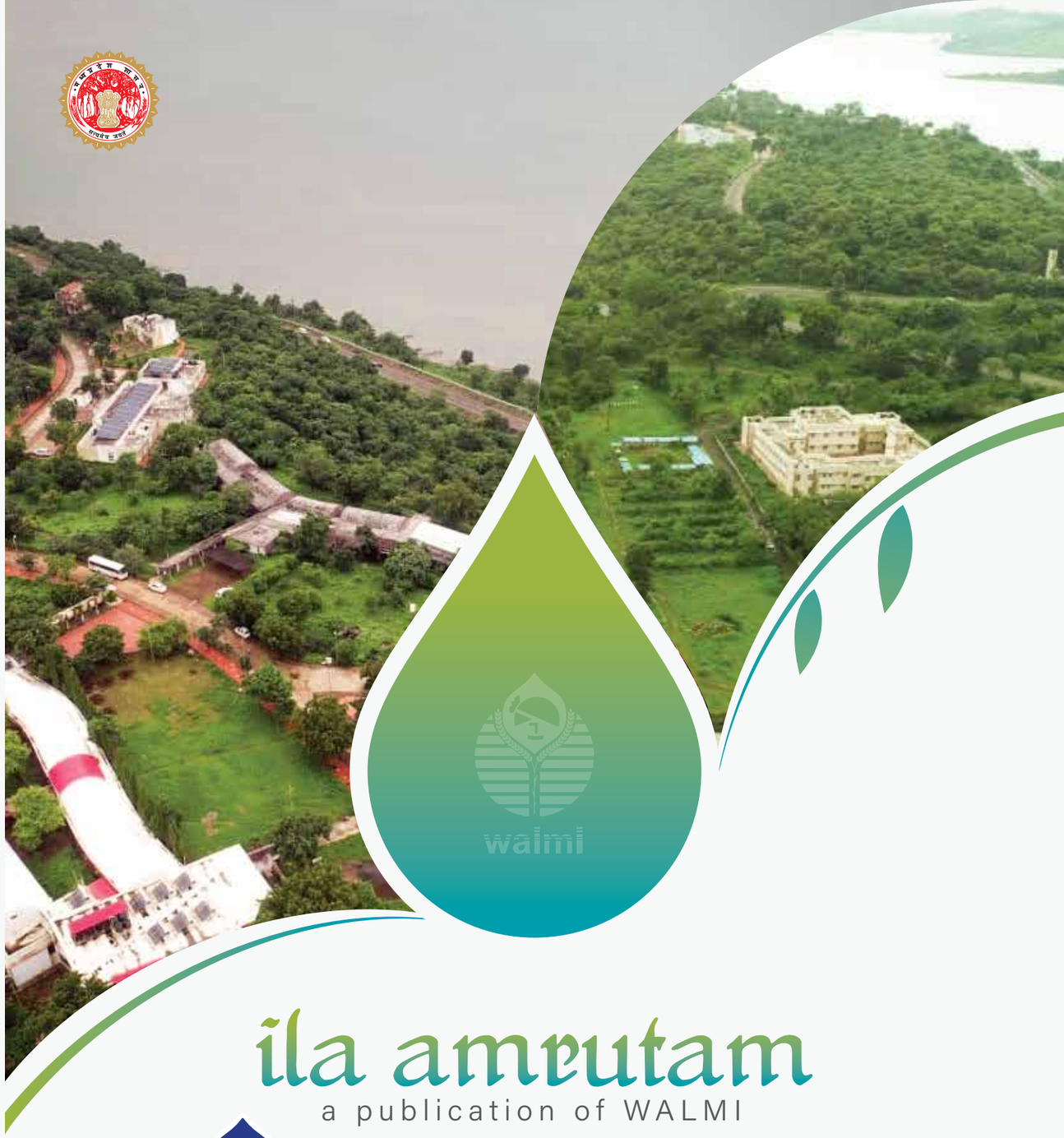

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a publication of WALMI

M.P. Water and Land Management Institute, Bhopal

Special Moments

CONTENTS

Special Honour

M.P. Water and Land Management Institute, Bhopal was awarded by the Honourable Governor of Madhya Pradesh Mrs. Anandi Ben Patel for Excellent Contribution in the field of Natural Resources Conservation and Management.

Introduction

WALMI is a premiere autonomous training institute, working in the field of natural resources management as a part of Panchayat and the Rural Development Department, Govt. of M.P. It was registered under M.P. Societies Registration Act 1973 on 31st August, 1985. It is spread over 89 hectares of land on the right bank of Kaliyasot Dam.

Objectives

1. To promote advancement of science and technology and acquisition of techno-scientific knowledge.
2. To undertake research and conduct experiments on various aspects of Irrigation, Watershed Management, Land Development and Rural Development and to collaborate with other organizations with similar objectives.
3. To organize trainings for staff and beneficiaries of the schemes in Irrigation Management, Watershed Management Programme and Rural Development programmes.
4. To promote active participation of social organizations and beneficiaries of the Rural Development, Irrigation and Watershed Management Schemes.
5. To organize special trainings for capacity building of the staff engaged in the implementation of Rural Development, Watershed and Irrigation Management programmes.
6. To organize, audit and evaluate the impact of irrigation, watershed management and rural development programmes.
7. To provide consultancy services to the Government, local bodies and other organizations in Irrigation Management, Watershed Management and Rural Development activities.

Key Functional Areas

1. Training
2. Research
3. Co-ordination
4. Extension
5. Consultancy services
6. Transfer of technology
7. Information technology
8. Human resources development
9. Auditing and evaluation

Infrastructural Facilities

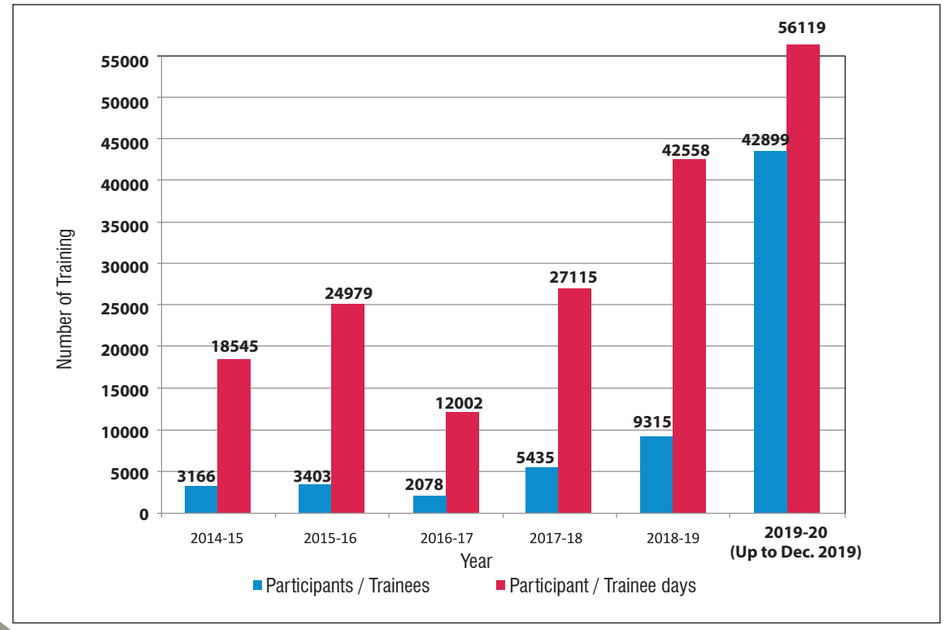
Infrastructural facilities available in the institute for attaining its objectives are:

- Residential facilities for total 234 trainees in hostels and dormitories (Bhoj Parisar number 1, number 2 and number 3 (air-conditioned)).
- 8 lecture halls with 30 to 50 persons seating capacity (5 air-conditioned).
- 1 air-conditioned auditorium with 170 persons seating capacity.
- 1 air-conditioned conference hall with 60 persons seating capacity.
- 1 air-conditioned meeting hall with 25 persons seating capacity.
- Well equipped Computer lab with frequent WI-FI facility, soil science lab and meteorological observatory.
- WALMI has a 30 hectare Water, Land, Forest and Bio-diversity Management demonstration farm.
- Air-conditioned Library with all relevant literatures, periodicals, magazines, newspapers etc.
- Facilities for sports, yoga, cultural programs etc.
- Mess

Achievements

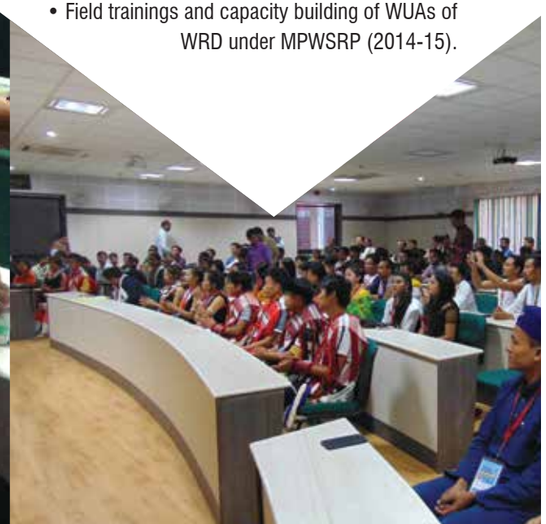
Programmes / Trainings

Details of programmes organized by the institute in previous five years are given below:-



Projects :

- An agreement was signed between WALMI and RGMWM on 23-01-2019 for evaluation of 331 IWMP projects in Madhya Pradesh covering 1864770 ha. Total evaluation cost of the project is Rs. 3,63,63,015 for 30% of watershed project area 559431 ha @ Rs. 65/ ha.
- Third party concurrent evaluation of 10 CADWM Projects.
- Developing State Specific Action Plan for Madhya Pradesh.
- Survey of WUAs/Farmers to compare the effects of MPWSRP Project (2015-16).
- Field trainings and capacity building of WUAs of WRD under MPWSRP (2014-15).

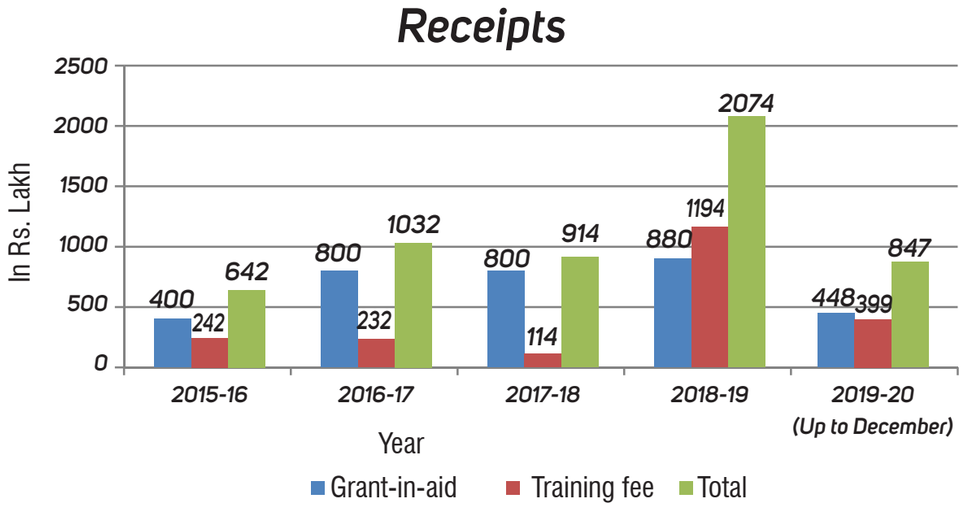


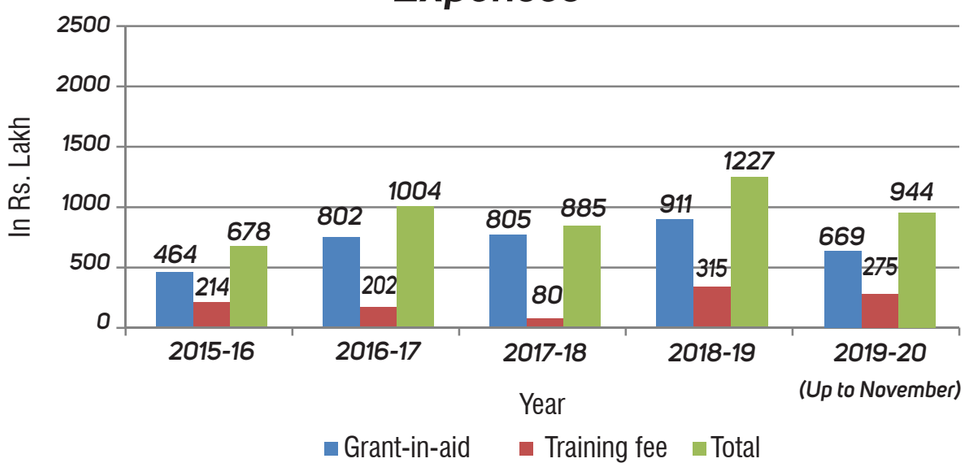
- Preparation of Command Area Development Plan of Omkareshwar Sagar Project, Madhya Pradesh (2010)
- Development of GIS Based Urban Runoff Model for four cities of Madhya Pradesh (2009)
- Geo hydro environmental investigations for Exploring the possibilities of reactivation of buried reservoir and associated channels of Om Valley Betwa Basin M.P. (DST Assistance) (2008)
- Farmers' Participatory Action Research Programme (2007-2012)
- Training Need Analysis of WRD (2007)
- Perspective Plans of Hoshangabad and Jabalpur District under NREGS-MP (2006-07)
- Post Project Performance Evaluation Study of Samrat Ashok Sagar Project (2006)
- Perspective Plan of Barwani District under NFFWP (2005)
- Impact evaluation of Village Level Institutions in Ratlam Dhar and Jhabua District of M.P. under DANIDA Authority, Danish embassy (2004)

- Evaluation of Paani Roko Abhiyaan in selected districts of MP (2003)
- Part Development of Dhaboti Micro watershed, Dist. Sehore (1998)
- Development of Semri Micro watershed, Dist. Sehore (1997-2002)
- Establishment of Community based Sprinkler Irrigation Scheme in Barna Project (1997)
- Development of Action Plan for Baghela Watershed Dist. Rajgarh (1996)
- Study on Soil Salinity and Alkalinity in Chambal Command(1996)
- Preparation of Computerised Operation Plan of Barna Irrigation Project (1995-97)
- Socioeconomic Benchmark Study of SAS Project (1993)
- Management and Maintenance Study of Chambal Project Phase II (1993)
- Study on Pre-sowing (Palewa) Irrigation (1992)
- Economics of Farmers Organisation in LIS in Pitkuhi Village (1992)
- Guidelines for System Operations and Water Releases (1990)
- Manpower Assessment Study of WR Dept. (1989)
- Study of Farmer's Organisation in Irrigation Projects (1988-1993)
- Action Research Programme in Selected Irrigation Projects in MP (1987-93)

FINANCE

The financial source and expenditure of the Institute for the last five years are as under:





i) Introducing the concept and approach of Nano Watershed for Land Development

At present, watershed development schemes are being implemented in the country under Pradhan Mantri Krishi Sinchai Yojna (PMKSY) with the main objectives to conserve the continuously diminishing natural resources viz. land, water and vegetation to develop, maintain and safeguard the ecological balance of the area for future, while, simultaneously bringing socio-economic development of the area.

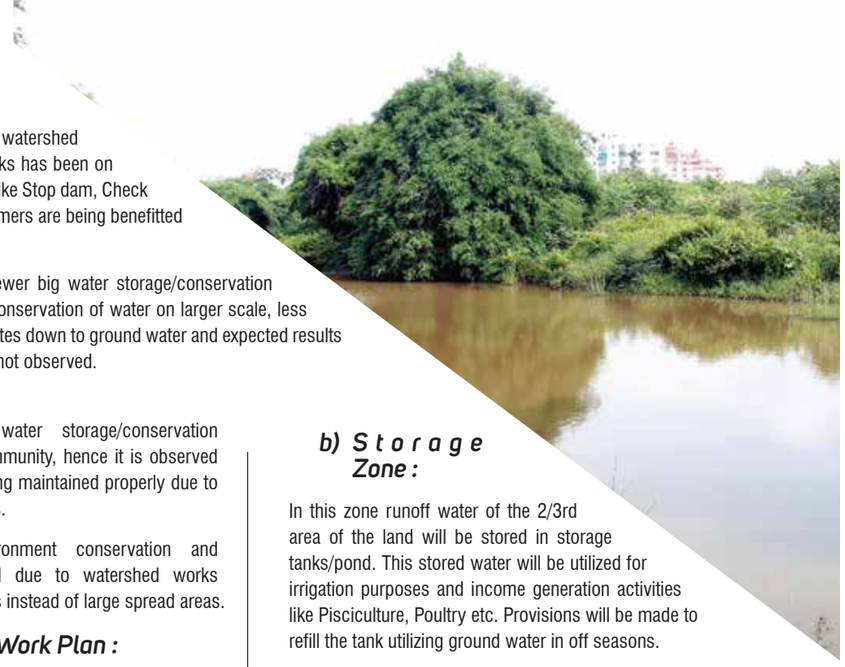
What is a Watershed?

It is a geo-hydrological unit draining at a common point by a system of streams. Depending upon the area and extent of hydrological unit watershed area has been classified as Region, Basin, Catchment, Sub-catchment, Watershed, Milli Watershed and Micro Watershed. The smallest unit for implementing the development work on watershed concept is Micro watershed in which treatment and development works are executed by village level watershed committees under the technical guidance of Project Coordinators. Depending upon the need of the community, an action plan is prepared in which various soil and water conservation works along with other works permissible in the guidelines are included and approval of the action plan is taken from Gram Sabha.

Why Nano Watershed?

MP Water and Land Management Institute, Bhopal is continuously imparting the training programmes on watershed development for many years. The Institute, as a third party, is also evaluating the IWMP Projects of the state. Based on the feedback of various training programmes and Group discussions conducted with village community, following important points have emerged out :

1. Most of the work in watershed development programmes are community focused and many times a large number of individual farmers are not benefitted by the work.



2. It has been observed that in watershed projects the focus area of works has been on construction of big structures like Stop dam, Check dam etc. and only very few farmers are being benefitted by them.
3. Because of construction of fewer big water storage/conservation structures, instead of in situ conservation of water on larger scale, less amount of runoff water percolates down to ground water and expected results on ground water recharge are not observed.
4. As the maintenance of water storage/conservation structures is entrusted to community, hence it is observed that the structures are not being maintained properly due to lack of sense of belongingness.
5. Expected results on environment conservation and protection are not observed due to watershed works confinement to certain pockets instead of large spread areas.

Nature of Nano Watershed Work Plan :

With the objective to extend the benefits of watershed concept and works to each and every farmer of Micro watershed, WALMI, Bhopal has developed "Nano Watershed approach" and it has been successfully implemented at the demonstration farm of the Institute.

Nano watershed is the smallest area of the land which is developed and treated on watershed basis. It can be as small or as big area so as to cover the whole land of a farmer on which various watershed development measures are taken for complete development. Thus in each micro watershed, nano watersheds will be demarcated taking farm boundaries of farmers as a criteria to distinguish two nano watersheds.

- Development model will be prepared for each nano watershed for the complete development of the land.
- Depending upon the capability of the land will be divided into various segments for land use planning.
- Depending upon the slope of land the whole area will have 3 regions. For 1 ha. area the distribution of land will be as follows :

a)	Recharge Zone	30% area.
b)	Storage zone	30% area
c)	Utilization Zone	40% area

a) Recharge Zone :

In recharge zone various activities to conserve runoff for recharging ground water and/or diverting water to storage zone will be taken. These activities may include contour bunds, trenches, gully plug, Dense Forestation on Contours, Diversion drain etc.

b) Storage Zone :

In this zone runoff water of the 2/3rd area of the land will be stored in storage tanks/pond. This stored water will be utilized for irrigation purposes and income generation activities like Pisciculture, Poultry etc. Provisions will be made to refill the tank utilizing ground water in off seasons.

c) Utilization Zone :

The lowest portion of the land is demarcated for growing crops viz. Field Crops, Vegetables, Flowers and other high value crops. The water from the storage tank will be utilized for irrigation purpose with the aim to achieve the highest water use efficiency. All the plantation work is to be carried out against the slopes on contours to recharge ground water of the area.

In order to obtain more income from this piece of land, activities like Bee-keeping, Mushroom Cultivation etc. will be promoted. Similarly preference will be given to methods of organic farming to improve the quality of produce and to increase water storage capacity of the soil.

Expected Outcomes :

1) Small and marginal farmers with degraded and waste lands will be able to harness the benefits of Nano watershed development works resulting higher income generation for them from such lands.
2) Around 25 lakh hectare waste land of the state, which is not being cultivated at present, can be converted to fertile land by adopting Nano watershed concept and additional income can be obtained from such lands.
3) Ground water recharging by adopting Nano watershed technology will result in additional sources of irrigation by which irrigated area and crop production can be increased.
4) In Nano Watershed concept, a larger area is used for water storage and recharge purposes, by which large amount of water get the opportunity to percolate down to the ground water, thus increasing the base flow, which ultimately will result in river flow revival.
5) Irrigation facilities which are developed thorough Nano Watershed approach will help farmers to increase the production level of the crops, thus they will be benefitted economically. Scientific planning for land use will also improve the quality of lands.
6) Soil and water conservation measures adopted in the approach will reduce the loss of fertile soil by erosion and thus will conserve the nutrient elements. Indirectly the ultimate benefit will be in terms of increased crop production and higher income generation in the state.
7) In Nano Watershed approach model various elements viz. Forestry, Horticulture, Beekeeping, Fisheries, Mushroom cultivation etc. have been incorporated to benefit small and marginal farmers.
8) While making policy for the approach, provisions will be made to subsidise livelihood generation, micro irrigation activities etc.
9) Expected outcome from the whole concept and technology is around Rs. 5 lacs/ha. annually.
10) The concept of Nano watershed development is eco friendly, in which natural cycle of birds, animals and aquatic creatures is maintained.

ii) Nano Watershed Based Development of Demonstration Farm of the Institute

The whole concept and technique of Nano Watershed Development has been demonstrated as a model in 30 ha. Demonstration farm of the Institute.

Various soil and water conservation, management and utilization techniques in line with the concept of watershed development are adopted in the farm and barren land of different land capability classes has been converted to productive land. As the demonstration farm of the Institute is located adjacent to hillocks and the slope range in the farm varies from 30 percent to 1 percent, hence speedy runoff in raining season was resulting in soil erosion and loss of productive soils. Safe disposal of this runoff has been done by making different soil and water conservation structures/ treatments viz. Contour bunds and trenches, Loose Boulder structures, Sand bag structures, Gully plugs, Gabion Structures, Water harvesting tanks, contour farming etc.

Also as per land capability classes, land use planning was done and accordingly the land is being used for forestry development, Orchards, Crop production, Pisciculture, Apiculture etc. Integrated watershed development activities in the farm are not only eco friendly but their adoption has converted waste land into fertilile and productive land, which in turn has resulted in economic benefits. Instead of using costly inorganic fertilizers, organic farming is being practiced in the farm and it not only resulted in cost cutting but proved beneficial in terms of soil health and productivity.

M.P. Water and Land Management Institute, Bhopal has also made provision to provide consultancy and trainings on Nano watershed development schemes.

iii) Introducing Stress free training idea in regular training :

It is observed that in long-term training programs, the monotony and long spells of technical sessions bring fatigue in the trainee officers and the reception level goes down with the time. Thus, Walmi has introduced this idea. The main components of this idea are:

- Leadership development
- Team building & bonding
- Capacity building
- Management skills
- Integrity
- Dedication
- Moral values and ethics
- Personality development

The strategy:

1. Trainings for more than one week period are included in this category.
2. Like regular trainings, these trainings also have complete coverage of the content by developing course modules.
3. In these trainings, various sessions are conducted by the participants. For this, they start lectures by giving brief introduction of the speakers of the institute/guest speakers and subjects of their lecture. They also give thanks at the end of the lecture. This action is carried out on a cyclic basis to ensure participation of all trainees.
4. After the conclusion of all lectures and sessions that take place every day, participants conduct a participatory review of the activities and lectures of that day. A participant nominated for this task on that day conducts the session playing the role of Chairman. The second participant plays the role of a rapporteur and gives a report to the training coordinator after the session. The role of training coordinator is as an observer. Necessary efforts are made to ensure participation of all trainees under participatory review. The ranking of lectures/presentations given by individuals are to be marked with as A-excellent, B-good and C-average grade. Participatory reviews are also conducted on a cyclic basis and on every day different participants play the role of chairman and rapporteur. This schedule is prepared by the coordinator.
5. Several groups of participants are formed in the first week of the training program. There are three to four participants in a group. Various subjects related to training are given for presentation to these groups. The subjects allotted to these groups are presented in the last week of the training program in front of the panel of experts. The group making outstanding presentations is also rewarded at the time of completion of the training.
6. Yoga classes are organized at the Bhoj premises or other suitable venues in training programme for the physical and mental development of the participants.
7. Sessions of soft skills like leadership development, team building, team bonding, time management, office management, stress management etc. are also organized for the personality development of the trainees.
8. Sports activities for the participants are also conducted following the systematic process. Different groups are formed to play team based sports like basketball, cricket, volleyball etc. Nominations for individual sports like Chess, Carrom, Badminton, and Table Tennis are taken and tournaments are organized. The final matches are conducted in the last week of training in the evening or on holidays. Winners are also rewarded.
9. Training activities are also selected and implemented by the participants for labour donation. Cleaning, planting, construction of soil and water structures or any other appropriate activity as labour donation is carried out, which helps in the development of the institute. Such activities also involve the officers, staff and permanent staff of the Institute.
10. Drawing competition, debate competition etc. are also organized on holidays or at appropriate time.
11. Cultural programmes are also organized by the participants in the last fortnight of the training programme for which the participants are informed at the time of commencement of training so that they get enough time for preparation. The programme is conducted entirely by the participants. Persons associated with the nodal/training provider department and other related organizations are also invited. Outstanding presenters are also rewarded. An informal dinner is also held at the end of the program to provide an opportunity in a good atmosphere for the participants to discuss with the staff of the Institute and the guests from other departments.
12. Adventure sports, tracking and other activities are organized to make the training program more interesting. The security of the participants in these activities is taken care of.
13. Field tours are kept in long-term training for at least three to four days. During this, the participants visit the nearby popular and sightseeing area.
14. Weekly evaluation and final evaluation of the participants are made during the training. Outstanding participants are rewarded at the closing ceremony.
15. Photography/videography of various activities of the entire training program such as classroom training, excursion activities, practical, group presentations, sports competitions, cultural events etc. is done and photographs and videos of these events are given to the media cell of the institute in soft and hard copies.

Benefits for participants:

- In this innovation of stress-free training academic sessions and soft skill sessions organized for the personality development of participants will lead to the development of qualities such as leadership development, team building, management skills, team bonding, capacity building, ethical development, loyalty and dedication in them.
- The inclusion of these sessions has brought changes in the approach of working in the trainees and the successful implementation of the information gained in the training.
- Yoga classes and sports competitions are organized under the concept of 'healthy body, healthy mind'. These activities have created a healthy and clean environment and had a positive impact on the participants' ability to capture the subject.
- Proper arrangements for the entertainment of the participants removed the monotony of the day-long training sessions, thereby refreshing the participants mentally and physically.
- The cultural events not only infused enthusiasm among the participants, but also gave them an opportunity to showcase their talents.
- We have very good results from task based development activities of the institute such as sanitation, horticulture, forestry, water conservation etc. Such activities have shown an increase in inter-connectivity among the trainees and to the institute.

Benefits to the institute:

- The institute does not require special efforts to keep the participants disciplined, but the participants themselves remain disciplined.
- The techniques and skills mentioned in the various lecture sessions enhance the knowledge capture ability of the participants, making it possible to learn more in a short time.
- As the officers and staff of the institute and participants are in constant touch, the process of distance learning and feedback continues.
- Effective training will be possible.
- The trainees will participate in the training programs with clear minds.
- The training institutes will have additional human resources as participants in the training period.
- Participants will develop intimacy and bonding towards the training institute.
- Actual feedback will be available.
- A genuine fulfillment of the training objectives will be possible.

Benefits to the Government:

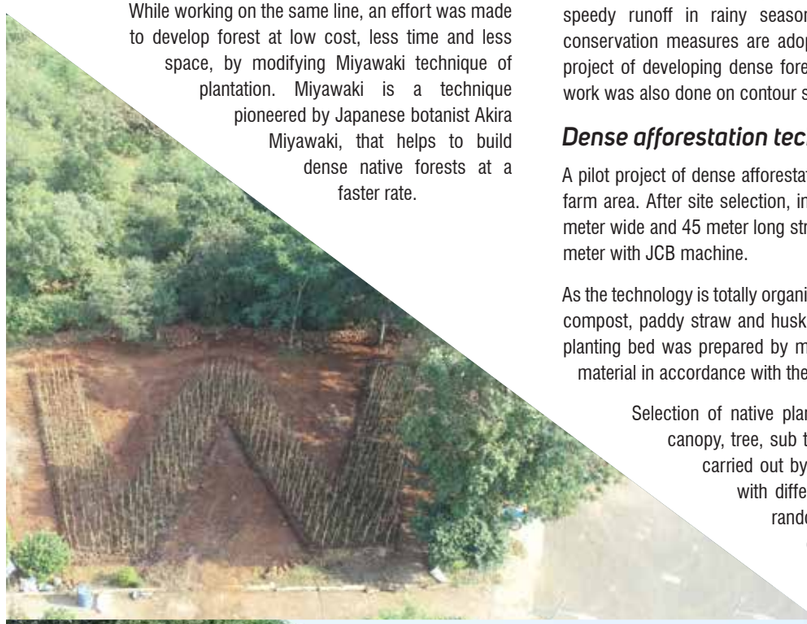
If stress free training is conducted by all governmental/non-governmental training institutes, the following benefits will definitely be achieved:

- The objective for which the participants are enrolled for training by the government will be truly met.
- After effective training, the quality of work being done by the participants will improve, which will effectively implement the schemes of the Government and also enhance the benefits to the beneficiaries.
- A positive effect will also be seen in the work efficiency by way of leadership, team work, bonding etc. development among the participants.

iv) Developing Walmiyawaki Forest in One Year

Madhya Pradesh Water and Land Management Institute, Bhopal is the state's premier training institute in the field of natural resource management. Various innovative efforts have been made by the institute for environment protection, conservation, enhancement and management.

While working on the same line, an effort was made to develop forest at low cost, less time and less space, by modifying Miyawaki technique of plantation. Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps to build dense native forests at a faster rate.



The technical staff of WALMI, Bhopal was given training on Miyawaki technique of plantation and then by way of using local resources and changing nutrient supplier, perforators and water retainer WALMI, Bhopal conducted various experiments in 7 replicas at the demonstration farm. The results were very encouraging and plant growth was better in comparison to original Miyawaki technique. The Institute named it “Walmiyawaki” technique of plantation.

Demonstration farm of the institute has varied land capability classes with slopes ranging from 1 per cent to 30 per cent. Depending upon the class of lands, they are being used for silvi pasture, orchards, field crops etc. As the slopes are steep, hence speedy runoff in rainy season causes soil erosion. Various soil and water conservation measures are adopted and demonstrated in farm lands. In the pilot project of developing dense forest by modified Miyawaki technique, the plantation work was also done on contour strips to reduce the soil erosion.

Dense afforestation technique

A pilot project of dense afforestation technology was launched in the demonstration farm area. After site selection, initial soil survey and soil testing was carried out. 3 meter wide and 45 meter long strips were demarcated and excavated to a depth of 1 meter with JCB machine.

As the technology is totally organic in nature hence biomass in the form of FYM, vermi compost, paddy straw and husk, jeeva amrut, ghana amrut etc. was procured and planting bed was prepared by mixing the soil of excavated strips with this organic material in accordance with the technology.

Selection of native plant species having different growth characters viz. canopy, tree, sub tree and shrub was made and plantation work was carried out by trained staff in August 2018. The plantation work with different species in different proportions was done on random basis so that there should not be any competition for sun light, water, nutrients etc. between the species. The planting density was kept around 3 plants per square meter. Paddy straw was used as mulching

- Lower cost requirement due to utilization of local resources.
- Easy and effective technique of water and soil conservation.
- Increased soil fertility is achieved by developing the life cycle of micro-organisms present in the soil.
- Food chains and habitats of insects of different species, birds, vegetarian and carnivorous animals.
- Setting up of suitable ecosystems and maintaining the balance of gases like oxygen, carbon dioxide, nitrogen and others present in the atmosphere.
- Growth and development of varieties of medicinal, flowers, fruits and wooden trees and shrubs.
- Development of social and cultural civilization by nature's enhancement and conservation of water, forest and land.
- Great potential for environment protection and conservation in urban areas where vacant lands are available in very small quantity.

material to reduce evaporation losses of water. Seven plots were developed with different input treatments and 42 native forest species.

The results of the project are very encouraging and within 6-8 months plants have attained height up to 10-12 feet with dense canopy formation.

Benefits to the institute:

- Higher growth rate i.e. 10 times faster is obtained as compared to normal conditions.
- Guaranteed height of trees upto 10 to 15 feet in a period of one year, and dense forest in 3 years.
- Water requirement @ 5 liters/per square meter per day for dense forestation is very less as compare to normal plantation.
- Completely organic technique.

Scope

Generally, open lands are available in government or private institutions, departments and industrial areas which gradually become dumping yards. It will be a unique effort to conserve environment, if dense afforestation techniques are adopted in such small, open spaces and lands. Further, the runoff water, which rapidly discharges from these areas and also erode the soil, will get an opportunity and time to be absorbed in the ground and recharge ground water aquifers. This small dense forest of different species and varieties will also be a source of medicinal and other useful produce. Beautification of the campus will be an additional benefit. The technology can be very helpful in achieving Government's plan to bring 30 percent of the area under forest cover. If this technology is adopted in a big way, it will be a very effective initiative in terms of environmental protection, enhancement and safety.

v) Clean WALMI, Green WALMI

Healthy life can only be achieved, if we live in a healthy environment and in the forthcoming years environment conservation and management will be the biggest challenge before human beings.

M.P. Water and Land Management Institute (WALMI) is continuously making efforts for environment conservation by way of training, action research, advisory services, consultancy etc. Recently the Institute has made a new theme "Clean WALMI – Green WALMI" with the objective to motivate and generate awareness in its employees towards environmental security and cleanliness. By doing so the employees of the Institute are not only keeping the institute premises clean and environment friendly, but the trainee officers coming to the institute for training purpose see and learn such techniques and they in turn then act as Environment Ambassadors and extend the techniques in their respective areas.

WALMI, Bhopal is a premier training institute of the state for providing trainings in the field of Natural Resources Managements (NRM) and Rural Development. It is also executing Action Research, providing consultancy services and extending related technologies to grass root levels. The Institute is spread over an area of 89 hectares in which infrastructural facilities have been developed to carry out its activities successfully. In order to cater the training needs of the officers and field functionaries of various client departments of the state, well equipped training halls, hostels, dormitories, mess facilities, sports etc. have been developed in the premises and to make the institute's training programmes more practical oriented and meaningful, a demonstration farm is developed in 30 hectares area in which various soil and water conservation and management technologies, different methods of irrigation to increase water use efficiency (WUE) plantation technologies, organic farming etc. are demonstrated. Land Use Planning of the farm for forestry, pastures, horticulture development, field crops etc. is based on its Land Capability Classes.

In consequence to various human resource development activities in the Institute, some problems related to environment pollution and cleanliness also emerged out, which were analyzed by the Institute and to overcome such problems the concept of "Clean WALMI-Green WALMI" was developed and worked upon.

On one hand due to increased number of training programmes (Around 30,000 trainee days per year) the quantity of kitchen waste and other wastes obtained from hostels increased considerably, which was in addition to the waste obtained from staff quarters and office. Similarly grasses, weeds etc. obtained from the open area of the institute premises and farm land after weeding operations was also

creating problems. Poor unscientific management of these waste materials was making the atmosphere dirty and was polluting the micro environment of the area. On the other hand increased plantation activities on farm land and other areas were demanding heavy nutrient supply and irrigation water for survival. In order to cope up with these problems, the institute worked on the strategy of "Clean WALMI – Green WALMI".

Scientific Disposal and Utilization of Waste Material:

The quantity of organic waste generated from different units of the Institute was estimated and its types were analyzed and then according to the type of the waste material, suitable techniques were adopted for its disposal.

Kitchen waste obtained from Mess :

Around 30,000 trainees come to the Institute annually and use dining facilities in the Mess, as a result, lot of organic waste in the form of peels of fruits and vegetables, food remains etc. is generated. This organic waste in converted to compost by 3 methods of composting.

- ***Cage Vermin Compost :***

  Peels of fruits and vegetables and saltless organic waste materials are converted to vermi compost in portable cages. Eisenia foeteda species of earth worms is used for making vermi compost.

- ***4 Pit Cyclic Method :***

  The quantity of organic waste generated from the Mess varies day to day depending upon the number of participants attending different training programmes in the institute. Such organic waste material is converted to compost by using 4 Pit Cyclic Method, in which 4 equal sized pits are made by using bricks and cement and the partioning between the pits is kept perforated. Organic waste received on daily basis is filled first in one pit containing earthworms, cow dung and soil. This operation is continued till that pit is filled completely. Then second, third and fourth pits are filled in the same way. By the time fourth pit is filled completely, vermi-compost gets ready to use in the first pit, which is then emptied and refilling of first pit by organic waste starts. In this way utilization of organic waste for making compost is being done on continuous basis.

- ***Nadep Method :***

  The dry organic waste obtained from the Mess, salty organic waste, weeds and grasses obtained from weeding operations etc. are converted to compost by using Nadep Method of composting. A Nadep unit has been constructed in the hostel premises. Two tonnes of compost is produced every 4 months using Nadep method of composting.

- ***Compost Making Machine***

  A Compost making machine is installed in Bhoj Parisar-1 on 4th June 2018 by which dry organic waste obtained from farm land and open areas of Institute premises as

weeds, grasses, leaves, pruning of trees, other intercultural operations is converted into compost. The operation and maintenance of the machine, and storage, distribution and marketing of compost obtained from the machine is done by the maintenance cell of the Institute. In order to transport the waste material from various places of institute's premises to Bhoj Parisar–1, two hand trolleys have been procured. Segregation of waste material as organic and inorganic waste, salty and non-salty organic waste, farm litter etc. is done by a cleaning agency and then as per the methods recommended, waste material is sent to different compost making units.

The compost making machine is operated once in 3 days and compost obtained from the machine is packed in 20 kg and 2 kg bags for sale and distribution. Waste received from the residential complex is returned to the respective residence in the form of compost in 2 kg packings. Till now around 300 kg compost has been used in plantation work of the Institute. The compost made from the machine can be

purchased by the staff members/other outsiders `@ Rs. 15/- per kg by depositing the amount in Account Section. A sale register is maintained in the maintenance cell in which details of the amount of compost obtained, sale records etc. are entered.

Any resident from staff campus of Institute, can also avail the facility of machine and convert the organic waste, brought by him, to compost and use it in his/her kitchen garden. Two staff members are trained to operate and use the machine.

As a result of this waste management strategy the organic waste of the campus is managed scientifically and not only the pollution from this waste has been reduced completely, but the nutrient requirement of the trees/ crops of the campus has been fulfilled successfully. The Institute is presently working on the concept of chemical free cultivation.

- ***E-Auction of non useful material :***

  The non useful materials like broken wooden furniture, revolving chairs, plastic chairs, plastic mugs, buckets, defunct water coolers, geysers, tyre-tubes, mess material and old mattresses etc. were collected from various faculties and sections and e-auction was made. An amount of Rs. 7.55 lacs was obtained from the auction. By doing so the institute not only earned money but as these non useful materials were occupying various quarters and other spaces in Bhoj Parisar, were emptied and now used for actual purposes.

Cleanliness Awards:

With the objective to encourage the officers and staff of the Institute towards cleanliness, various types of awards have been announced and given to them:

1. Self-cleanliness award: It is given on the basis of cleanliness of self, his/her life style, presentation etc.
2. Individual's space cleanliness award: Based on how one keeps his office space clean.
3. Team's Cleanliness Award: Based on the cleanliness of whole faculty,

Benefits to the Institute:

The organic waste which was being produced in the Institute and causing pollution and dirty atmosphere and had become a serious problem is now being utilized as a nutrient resource. 6 quintals of vermi compost and 3 quintals of compost produced from compost making machine has been utilized till now. Also the compost obtained from various methods is being packed in different size packets and being sold.

Benefits to residents / employees:

The residents of the staff colony bring the organic wastes of their houses to compost making machine, get it converted to compost and use this high quality compost in their kitchen gardens. The expenditures on buying high cost inorganically produced vegetables/ fruits have also been reduced considerably.

Benefits to Environment:

If other Institutes like WALMI plan a strategy in a similar way i.e. quantify the organic waste generated in their campuses, convert them into compost and use it as a nutrient source, then not only organic waste will be a resource but it will be a very effective step towards environmental security.

vi) Learning with earning

Many under graduate and post graduate students from various colleges of the state specially College of Agricultural Engineering, Jabalpur, B.S.S. College, Carrer College, L.N.C.T. College, Oriental College, College of Excellence in Higher Education etc. come to WALMI, Bhopal for Internship programmes. In these programmes, WALMI, on nominal fee basis, engages the interns in various technical works for practical skill development. As these interns do not get any stipend or financial assistance from their colleges, they bear the boarding/lodging expenditures on their own for internship period, generally in low cost residences on sharing basis and WALMI, Bhopal, as per its norms tries to provide best possible assistance to these interns.

A Success Story – B.Tech Interns:

In the year 2018-19, a list of 30 students of B.Tech Final year were received from College of Agricultural Engineering, Jabalpur for a 4 month Internship Programme (January-April, 2019). At the same time an MoU was signed between WALMI, Bhopal and Rajiv Gandhi Mission for Watershed Management (RGMWM), Rural Development Department, M.P. in which evaluation work of watershed development programmes under IWMP Projects (year 2010-11, 2011-12, 2012-13, 2013-14 and 2014-15) spread over 51 districts was entrusted to WALMI. The projects are to be evaluated on the basis of technical works, progress, procedures, financial aspects, social dynamics etc.

There were 331 IWMP projects in an area of 18.64 lac hectares, of which 30% area i.e. 5.56 lac hectares was required to be evaluated on random basis. WALMI, Bhopal agreed to conduct the task at the rate of Rs. 65/- per hectare.

Discussions were made in the Institute for finding out the possibilities of engaging the Interns for the evaluation work in terms of physical verification, documentation and procedural verification, on site works etc. It was found that during B.Tech. the interns studied all the technical components of watershed development projects but they lacked the practical exposures in these fields. Thus a strategy was made and the interns were involved in evaluation work as follows:

Work Strategy:

1. A 15 days training programme was organised in the Institute for interns in which all the subjects/works of watershed development were covered.
2. Detailed information on various evaluation formats developed for evaluation works was given in the training programme.
3. Detailed guidelines were provided to interns to monitor and evaluate the works of preparatory phase and work phase of IWMP projects separately.
4. Practicals and demonstrations were conducted at the demonstration farm of the Institute in which details of various watershed area development treatments/SWC measures like contour line demarcation, loose boulders structures, gabion structures, water harvesting ponds etc. were described.
5. On site evaluation of 3 micro watersheds in Sehore district was also done as a part of training programme, in which interns evaluated these watersheds under the guidance and supervision of subject matter specialists.
6. Soil and water conservation works, procedural guidelines, quality parameters, impact of watershed development works, focused group discussions with the community, interviews, record keeping, PRA exercise etc. were included in these evaluations.
7. The outcomes and expectations of RGMWM from these evaluation studies were also discussed by the officers of RGMWM.
8. Following provisions were made for the interns :
   a. Honorarium of Rs. 1250/- per day.
   b. Travel expenses from Bhopal to concerned districts/ blocks.
   c. Vehicle facility for evaluation work.

d. Boarding/ Lodging charges @ Rs. 1000/- per day per interns.

As of now, evaluation work of 249 projects in 38 districts has been completed successfully by interns. Very positive and effective results are obtained by this new intervention which are as follows:

a. Interns:

a. Interest was developed in interns for learning the technical aspects of watershed development.

b. Practical knowledge and working skills were developed.

c. Courage is developed in interns to face field challenges in future works.

d. In future carrer, there will be benefit of field experience gained during evaluation.

e. Interns have gained confidence in deciding their carrers.

f. The practical training and work experience have given the interns a higher esteem and they will be benefitted by it in the future.

g. It is observed that there are remarkable changes in interns in terms of work satisfaction, working in a team, leadership qualities, mutual coordination and attitude towards working.

h. Each intern has earned more than 1 lac rupees till now for the evaluation work and Learning with Earning has proved to be a very successful new intervention.

If this concept is followed in other similar training and education institutions, then students will not only be benefitted to gain practical knowledge in the fields but the potential of the youths will be utilized in true sense besides economic gains to them.

b. WALMI, Bhopal :

a. As the interns engaged for the work were not associated with any public or private organization, hence an unbiased and fair evaluation was possible.

b. Due to young age of interns a higher level of enthusiasm was obtained which resulted in approaching difficult and distant places during physical evaluation.

c. As the new generation is computer savvy hence it created ease in data entry and management.

d. The location wise pictures of soil and water conservation and other works were taken with the correct angles very effectively.

e. Adjustability factor of interns to cope with the field circumstances and conditions was higher due to young age and no special demand was raised by them during evaluation work.

f. The projects allocated to the Institute are time based in nature and if regular staff is engaged or recruited for it than institute has to spend more on the salaries, facilities etc. as per the service conditions, while no such liability was faced by the institute with these new interventions.

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vii) Live fencing

In recent years, with the development of new colonies and slums around the farm area of the Institute, entry of stray cattle and unwanted elements had become a regular feature, resulting in loss of farm's technical resources. A boundary wall to prevent such entries was made but it was broken at various places by unsocial elements and protection of the farm area from intruders was a big challenge. Under such circumstances a concept of live fencing emerged out. According to the world Agro Forestry Centre, Nairobi, Kenya live fencing is rows of trees and shrubs grown on the boundaries of farm to protect it from cattle and wild animals. Various kinds of plant species like Bamboo, Sunhamp, Hill tamarind, Subabul (Leucaena leucocephala) and other thorny species are selected for live fencing. The roots of these species do not go very deep and hold the soil tightly by which soil erosion is reduced. Bio-mass, generation, wind break, soil enrichment, food for honeybees etc. are some extra benefits obtained from live fencing.

WALMI, Bhopal undertook a new intervention in this regard and selected Bougain Villea species as live fencing material. The nutrient and water requirement of Bougain Villea is very less and cattle do not use it as their feeding material. About 2.5 kms. of farm boundary, where boundary wall is not constructed, was planted with Bougain Villea in 3-4 rows with a close spacing of 30 cm.

Benefits to the Institute :

- This new intervention of WALMI is not only economical but it is also eco-friendly.
- Estimated cost of concrete boundary wall was about Rs. 2500-3000/- per meter, while this live fencing was done @ Rs. 500/- per meter.
- The nutrient, irrigation and other maintenance requirement of Bougain Villea is very low thus recurring expenditures are also very less.
- Cattle do not use it as feeding material hence damages by cattle to the fencing are very less.
- The technique is purely organic in nature.
- Locally available materials can be use for cost cutting.
- It is very effective soil conservation measure in sloppy areas.
- While concrete wall reduces the infiltration of rain water/runoff into the soil, the fencing with Bougain Villea helps in ground water recharging.
- Leaves, flowers and wood of Bougain Villea has no use thus least damage occurs to its plantation.
- The thorns of Bougain Villea are poisonous in nature, which helps in restricting the unwanted entries of stray cattle & humans.
- It is a perennial plant hence useful throughout the year.
- Different shapes can be made in plantation of closely spaced Bougain Villea for beautification.
- In summer its flowers create a beautiful scenario.
- Bougain Villea is not self propagating species, hence it does not spread in other areas.

If the technologies of live fencing using Bougain Villea is adopted in other government/ non-government organizations for security, then not only huge cost curtailment can be made in comparison to concrete walls, but it will increase the opportunity of rainwater/ runoff in percolating into the soil thereby helping in ground water recharge.

viii) Developing WALMI as a Biodiversity Heritage

The Biodiversity (variety of living organisms) around us is one of the greatest wonders of life on earth. Biodiversity encompasses the variety of all life on earth including terrestrial, marine and aquatic ecosystem. It comprises diversity at three levels : Genetic diversity (within sps), Species diversity (between species) and ecosystem diversity.

India is one the 17 mega biodiversity countries with 2.4 percent of the global land area and 4 percent of water. It accounts for 7 to 8 percent of the recorded species of world. India is also rich in cultural diversity and in traditional knowledge available with tribal community.

All human life is contained within its biological matrix : an endlessly subtle and complex web of activity from micro organism. The word biodiversity is short hand for biological diversity, our planet is teaming with life and we say that an area has a high biodiversity if it has an abundance of different organisms. One measure of biodiversity is the number of species in an area but the range of different life forms is also important to continental habitat. There are many guesses of the number of species in the world but it is clear that they are being lost at the fear some rate on many grounds – ecological, economical and ethical. There is an urgent need to halt such catastrophic destruction.

It is astonishing many people still seem to believe that humanity is in conflict with the forces of nature and that the wildness has got to be framed and brought under control.

Why we have to conserve biodiversity.

- To ensure ecological security.
- To ensure food security.
- To ensure livelihood for tribal community.

Biodiversity benefits human societies in numerous ways by providing a wide range of ecological, economic, social, educational, scientific, cultural and aesthetic services.

Campus of WALMI is being developed as a hot spot of Biodiversity. It will give so many non consumptive values like aesthetic, valuing nature and its creatures, recreation, adventure and education. Repository of future gene bank of about 200 species of plants already existing in campus.

It will be useful for delivering indirect values of Biodiversity.

- Watershed values – oxygen bank and water retention and catchment treatment for Kaliasot Dam.
- Amelioration of environment.
- Social and cultural values because various sacred holy plants are worshipped and have ethical values.
- Aesthetic value of natural landscapes & undisturbed places.
- Recreational activities add to eco-tourism which sensitizes closeness with nature.

ix) Keeping up Social Responsibilities for Environment conservation and management

Carbon emissions are the harmful gases we release into the environment as a natural part of our day to day lives. Travel, household appliances and numerous other activities emit carbon dioxide into the atmosphere. Carbon dioxide is a greenhouse gas, which means that it contributes to global warming or the greenhouse effect. Reducing carbon emissions is essential in slowing down and stopping global warming.

Carbon dioxide is not the only greenhouse gas, however it is the one that has the most negative effect on the environment and contributes the most to global warming. It is important to reduce all greenhouse gases, however reducing carbon dioxide will have the most significant effect.

Carbon offsetting is the term used to describe any positive steps that are taken to reduce carbon dioxide in the environment. These include the planting of trees or the preservation of woodland. Trees are important as they reduce CO2 by a process known as carbon sequestration, meaning they breathe in CO2 and exhale harmless oxygen.

In recent past many development progresses have resulted in severe deterioration of Environment. Serious thought and proper strategy are needed in preserving, conserving, and managing the environmental challenges. It is also necessary to develop awareness and understanding in the youths of the country towards the importance of environment conservation because then only a safe future can be imagined.

Many rallies, seminars, workshops etc. are organised every year for environment conservation but " How to proceed ?" and "What to do?" remain unanswered many times as a result, effects of such programmes are fewer seen on ground.

M.P. Water and Land Management Institute, Bhopal has made an intervention in this regard and started organizing technical workshops for the youths of various colleges of the city. In these workshops besides awareness generating sessions of various resource persons on environment security and conservation, technical information to the participants on "Do it yourself (DIY)" mode was also given. This is followed by practical sessions, during which participants were asked to practice the information gained on scientific technologies at the demonstration farm of the Institute.

On July 27, 2018, the Institute organised "Technique-Based Workshop on Plantation" at the Demonstration farm, in which participants from various colleges of Bhopal, Nehru Yuva Kendra, IDBI Bank, SBI Bank etc. participated. The officers and staff of the institute also participated in the workshop.

Simple, correct and Land type based techniques of plantation were described and demonstrated in the workshop. Selection of plants species as per land capability and their plantation techniques was also described. Species of plants, their requirements and practical methods of plantation in wastelands were also informed. Plantation work was carried out by the participants in different land categories at the demonstration farm. By way of doing so, Institute was also benefitted economically as the labour component was saved in plantation work.

Looking at the success of the workshop various other institutions are approaching WALMI to organise more such workshops for their institutions.

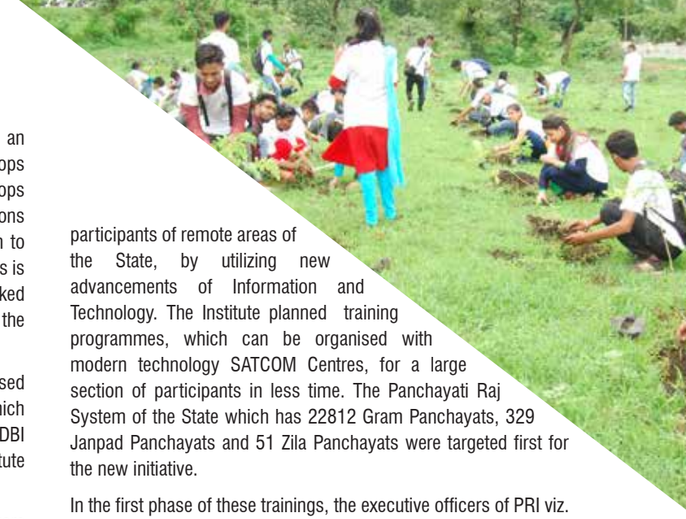
Similarly, in order to extend the technology of "Waste Management" to the common man, a workshop on "Waste Management Technology" was organised on September 29, 2018 during the Cleanliness Week (Swachhata Pakhwada). In the workshop participants/students from various colleges learnt the techniques of waste management. The weeds obtained from inter-culture operations in the demonstration farm of the institute were processed for conversion into compost by various methods. Important methods of compost making viz. Nadep, Vermi-Compost, Bangalore Method, Indore Method etc. were described to the participants. The workshop was organised free of cost as a CSR activity in which institute's staff members also participated.

Such technology-based workshops have proven to be very useful and effective and based on the positive feedback received from these workshops, the Institute is planning to organise more number of such workshops.

x) Virtual Training via Satcom Centres

As a new intervention M.P. Water and Land Management Institute, Bhopal organised Virtual training programmes through Satcom Centres and trained thousands of participants sitting in remote areas of the State. It was a big success and achievement of the Institute which was appreciated at all administrative levels.

Looking to the time spent by the participants in various training programmes and financial requirements in organising them, WALMI, Bhopal came up with a new idea of providing trainings to the participants of remote areas of the State, by utilizing new advancements of Information and Technology. The Institute planned training programmes, which can be organised with modern technology SATCOM Centres, for a large section of participants in less time. The Panchayati Raj System of the State which has 22812 Gram Panchayats, 329 Janpad Panchayats and 51 Zila Panchayats were targeted first for the new initiative.



In the first phase of these trainings, the executive officers of PRI viz. GP Secretaries, Gram Rojgar Sahayak, Assistant Account officers at block level, Block Panchayat Officers, Panchayat Coordination Officers etc. were planned to be trained. The Panchayat Coordination officers were made Nodal Officers for their areas for these training programmes.

Four sessions were organised each day for 10 days continuously at the studios of SATCOM Centres from 2.00 pm to 5.00 pm in which 35-40 GP Secretaries and Gram Rojgar Sahayaks working in the area of 2 Panchayat Coordinator Officers were given trainings in virtual classrooms. The feedback of these trainings in terms of quality, effectiveness and benefits was taken continuously for each pay. The participants of the training programme were also examined for the coverage and learning of the subject by providing questionnaire of 20 questions. The main achievement of these training programmes was providing training to the participants at their block headquarters which saved lot of time, travel expenses and boarding/lodging expenses. Direct dialogue with senior officers of the State was also possible in these training programmes. 33698 participants were trained through virtual training programmes and it was a big achievement of the Institute.

xi) Workshop on Regenerating Natural Capital Land, Water and Forest

M.P. Water And Land Management Institute organised a 2 day Workshop on Regenerating Natural Capital Land, Water and Forest. This workshop was organized in Association with Club of Rome, Development Alternatives and Rajiv Gandhi Institute for Contemporary Studies on 27th and 28th August 2019. In this workshop, 162 participants from different states participated. Shri Kamleshwar Patel Hon'ble Minister Panchayat and Rural Development Department, Shri Jaivardhan Singh, Hon'ble Minister of Urban Administration Department and Shri PC Sharma, Hon'ble Minister of Public Relations Department and Science and Technology department also participated in the workshop. Shri Kamleshwar Patel stressed the need of joint efforts of Government and Society for conservation of land, water and forest. Shri Jaivardhan Singh expressed his deep concern on uncontrolled exploitation of groundwater and advocated highest priority to water recharging for solving the problem of water scarcity in urban areas. Shri PC Sharma said that land, water and forest should not be considered as separate resources but they should be considered as mutually supporting resources. Therefore, integrated efforts are essential for their conservation. Lieutenant General Arun Kumar Sahani, Dr. Ashok Khosla, renowned environmentalist, Mr Vijay Mahajan, Lieutenant General Singh Sandhu, Shri Kirit Parekh, former member of Planning Commission, Shri NK Parmar, Secretary, GoMP, Mining Department, Ms. Shilpa Gupta, Chief Executive Officer, MGNREGA, Mrs. Urmila Shukla, Director WALMI, also actively participated in the workshop along with other well known experts in the domain. After detailed discussions important recommendations were made for improving condition of land, water and forest, especially development of Panchmukhi Samvay for making development of land, water and forest sustainable.

xii) Roof Water Harvesting

In Water and Land Management Institute, there are many tubewells located nearby administrative block, residential campus, mess and hostel. In view of increasing demand of water for hostel and landscaping, installation of rainwater harvesting system was planned, with principal objective recharging the tubewell. Installation of the system would also serve to increase awareness of artificial recharge among trainees.

Roof water harvesting is the technique through which rainwater is conserved. Through this technique the rainwater is collected and stored in surface for underground tanks or recharged directly to shallow or deep aquifers. The main objective of roof water harvesting is to ensure water availability in future. The rooftop rainwater harvesting system in WALMI was installed with the consultation of National Institute of Hydrology. In the system, rainwater rainwater received on 250 square metre of hostel roof area has been diverted to nearby tubewell. Bhopal receives an average rainfall of 1100 mm annually. Conservation capacity is normally taken as 0.8. On multiplying area of only one roof with average rainfall and conservation capacity, it is estimated that total 2.2 lac liters could be conserved annually for recharging the tubewell.

xiii) Workshop on Establishing Standard Benchmarks for State Level Traning Institute

A National Workshop on Establishing Standard Benchmarks For State Level Training Institutions was organised on April 24-25, 2019 in which 112 participants participated from various States. In the workshop, discussions where held regarding establishing academic benchmarks, infrastructural benchmarks, management and procedural standards, and inter institutional linkages for any training institution.

Recommendations of the workshop were presented before the Additional Chief Secretary, Panchayat and Rural Development Department and were also forwarded to various institutions.

Based on recommendations of the workshop, MP WALMI has commenced analysis of its own performance further improving quality of its deliverables.

xiv) Green Wall and Green Frames

All urban areas are witnessing increasing level of air pollution. It is a well known fact that green cover and plantation are very efficient measures to combat pollution. With shrinking spaces for plantation, especially in urban areas, there is a need for easy and economical DIY greening innovations. MP Water and Land Management Institute has developed a green wall in the institute building which is being maintained by employees of the institute. This technique does not require any soil medium for the growth of plants. The plants grow on organic and wall base.

Inspired from the success of green wall, further innovation was development of green frames. These frames use a base other than walls like wooden pallets, along with moisture retaining organic material. This makes it a portable live green creation, which may be used anywhere for eco-friendly decoration purposes.

xv) Jal Mitra

During the discussion with various stakeholders and trainees it was learnt that many of them are not able to execute water conservation works on their own despite of their willingness, mainly due to lack of technical guidance. On realising this, MP Water And Land Management Institute (WALMI) identified youths as "Jalmitra" and conducted five day capacity building programme for them under CSR activities. The objective of this programme was to impart necessary technical knowledge and skills to Jal Mitras to help masses in improving self sufficiency in water supplies, maximise water conservation to ensure sufficient water availability in future. The five day programme was organised from 22 July to 26th July 2019. In the programme, participants were appraised in detail with technical knowledge of rainwater harvesting methods like roof water harvesting, soak pit, small tanks, various ground water recharge techniques, etc. along with water recycling aspects and techniques. The programme also included field visits and practical sessions.

Presently most of the urban areas are witnessing scarcity of water. This can largely be attributed to urbanisation and lack of decentralised water conservation. Traditionally we used to harvest water at every stage i.e. house, colony, village level and city level, so as to enable groundwater recharge during rains for easy water availability throughout the year. Now, this tradition has been forgotten and we have become dependent on government for water conservation works. Presently there is a need to conserve water at every household level.

Earlier	Now
• In situ water conservation	Water is imported through transportation
• Limited extraction of groundwater	Excessive exploitation of groundwater
• Limited water use	Uncontrolled use of water
• Decentralized water conservation	Centralised water storage
• Intensive participation of community in water conservation works	Over dependence on government
• Easy and local construction Technologies which did not have a special need of experts.	Lack of normal knowledge regarding water conservation among community
• Easy Availability of knowledge of water conservation techniques within community	Complicated inexpensive techniques of water conservation due to lack of indigenous technical knowledge
• Water conservation was a family issue	Water conservation is a global affair
• Water conservation and harvesting was a part of solution	Water conservation and harvesting is part of problem

Participants for 5 day technical training program were identified through interviews by the head of the institution. Program began with need utility and sensitivity of water conservation in current context. Other features included various ponding and injection technique of water conservation. Practical session for construction of filter was conducted and the intricacies of water harvesting were explained through field visit demonstration and interaction of users. The methodology included lectures, field demonstrations as well as group tasks and presentation by the participants. The understanding of the subject was tested through end term test.

Trained Jal Mitras will guide various willing stakeholders regarding planning and execution of various water conservation works especially in urban areas. No fee was charged from participants of the training program. Stakeholders who are willing for implementing water conservation works may contact MP Water and Land Management Institute at phone number (0755) 408 2521 for free of charge technical guidance. List of Jal Mitras is also available at institute's website www.mpwalmi.org.

xvi) Fundamental Course on GIS

M.P. Water and Land Management Institute is organising a fundamental course of GIS and Remote Sensing for the officers of Water Resources Department. In the program, the participants are being trained for the use of open source software for developing skills for applying GIS technique in various works. This course included basic concepts, introduction to software, digitising, preparation of digital elevation model, geo-referencing, watershed delineation, land use and land cover and other important techniques. This is a skill based course which provides adequate opportunity for hands-on practice for developing and refining skills in GIS Technology. The aim of this fundamental course is to impart adequate skills for using the GIS techniques in regulator departmental and technical use for planning, development and monitoring of various project development works as well as water management. This is being imparted as a basic course on GIS. After this course, the interested participants which can further go for specialised courses for GIS and remote sensing applications related to their work domain.

xvii) Other Activities

- ***Institute's Exhibition in Panchayati Raj Sammelan :***

  Under the chairmanship of Honorable Chief Minister of the State Shri Kamal Nath, a Panchayati Raj Sammelan was organised on February 23, 2019 at Dashera Maidan, BHEL, Bhopal. An exhibition was arranged on the occasion in which WALMI, Bhopal also participated. Exhibits of various activities of the Institute, its Vision, Mission and Objectives, Physical and Financial progress, New interventions viz. Nano Watershed, Live Fencing, Water Harvesting, Water Management Technologies etc. were shown in the exhibition. Hon'ble Chief Minister appreciated Institute's efforts for Natural Resources Management.

- ***Plantation Work :***

  Plantation of various fruit and forest saplings at the hilltop premises of the Institute was done by staff members. Near Hostel premises, plantation of palm and Ashok saplings was made. Similarly at the demonstration farm of the Institute, staff members and participants planted Drum sticks, Neem, Aonla and other local species. The motto behind such plantation work is to propagate the message "Save Environment – Plant Trees".

- ***Rejuvenation of Senile Orchards :***

  WALMI, Bhopal organises long term induction training courses for newly recruited "Rural Horticulture Extension Officers (RHEO)" of Department of Horticulture and Farm Forestry of the state. In order to make these training programmes more practical, effective and meaningful participants of the training programmes were allotted old dried, and infected trees of Mango, Aonla, Sapata, Cashew nut etc. of senile orchards with the task to rejuvenate them. Technical guidelines on rejuvenation of senile orchards were given to the participants. They were also provided necessary equipments and facilities like manure, fertilizers, insecticides, irrigation water, soil digging equipments etc. to accomplish the task. Participants took great interest in the activity and completed the task very successfully. New leaves, flowers and fruits have started emerging out of old trees. An attachment of the participants with the trees allotted to them was also observed and during the free time in training programme, they used to take care of allotted trees. However, due to lack of maintenance, after the training programme, the survival rate of old trees went down and whole effort has proven to be a failure.

Water Availability through Watershed Development:

In order to meet out the water requirement of demonstration farm of the Institute, a new tube well is constructed as the old tube well was dried up. New ground water recharging structures have been made and old existing soil and water conservation structures viz. Loose boulder structures, Brush wood checks, Contour trenches/bunds, Gabion structures, Water harvesting tanks etc. were repaired to channelize the runoff water and use it for recharging the tube wells. Positive effects of these activities are observed in terms of reduced soil erosion and increased ground water levels.

- ***Soil Liquid Waste Management :***

  In order to demonstrate various methods of solid and liquid waste management and to utilize this resource for making compost, a solid liquid waste management park is developed at demonstration farm in collaboration with Institute's partner NGO "Water Aids". Prototypes of different methods of composting, ground water recharge technique, solid and liquid waste disposal techniques with description of the methods are depicted in the park.

- ***Honey Bee Keeping and Honey Processing Training and Research Centre :***

  A honey bee keeping centre with processing units of Honey is developed in 700 m2 area at the demonstration farm of the institute to demonstrate the techniques of Bee Keeping and Honey Processing to the participants of training programmes organised for SHG members and others under income generation activities. Special trainings on Bee Keeping have also been organised in the Institute and practicals are conducted at the centre. Students from various colleges and schools also visit the centre and see the technology from education point of view.

- ***Construction of New Water Harvesting Tank :***

  Runoff water from Institute's hilltop campus and roads used to enter the farm through a culvert in a haphazard manner causing soil erosion and water stagnation in many areas. This runoff water was channelized and a new water harvesting tank was made to store it. It will help in recharging of ground water at the farm. Provisions of pisciculture and poultry farming have also been made to utilize the harvested water at its fullest level.

- ***Seminar on Water Literacy on World Water Day :***

  On the occasion of "World Water Day" the institute organized a seminar on "Water Literacy" on 27 March, 2019 in which students of several colleges/universities and officers and staff members of WALMI participated. Various subject matter specialists delivered effective talks on water conservation and management technologies on the occasion in which around 250 participants were benefitted.

- ***Visit of Honorable Minister of Panchayat and Rural Development Department to Demonstration Farm :***

  Honorable Minister of Panchayat and Rural Development Department of the State Shri Kamleshwar Patel visited the Demonstration Farm of the Institute on 09 March, 2019 and observed various activities / new interventions viz. Dense forestation, SLWM Park, Bee Keeping research and training centre, Water Harvesting Tank and other Watershed Development activities at farm. During his visit "Lokarpan" of SLWM park and "Bhumi Pujan" of proposed boundary wall of the farm was also made.

- ***Workshop on Right to Water***

  One day workshop on "Right to Water" was organised in the Institute on 13th September, 2019 in collaboration with Human Right Commission (HRC) of the state. Around 200 participants were registered in the workshop. Various burning issues on "Right to Water" and water management aspects were dealt by subject matter specialists. Honorable Chief Minister of the State Shri Kamal Nath inaugurated the occasion and launched a software on Right to Water. Dr. Rajendra Singh, a Magsaysay award winner, also known as waterman of India, also delivered a very effective talk on the occasion.

- ***Workshop on Budget Preparation :***

  Madhya Pradesh Water and Land Management Institute (WALMI), Bhopal organised a two day workshop, for all the training institutions functioning under Panchayat and Rural Development Department, Government of M.P., from April

8-9, 2019. The Account Section of the Institute with the assistance of a Chartered Accountant provided training on following new interventions :

- Budget preparation of various training institutions, utilization of the funds from Income-Expenditure balances, creation of income generating resources.
- Preparation of training wise and participant wise income expenditure account for 1 financial year was also explained in the workshop, with the data of respective training institutions.

Discussions were also made on infrastructural upgradation proposals of training institutions prepared by EPCO.

MPSEDC proposed to develop a software for carrying out the training and administrative activities of various training institutions smoothly and successfully.

Training Need Analysis (TNA), training allotments and preparation of training calendar were some other important issues covered in the workshop.

The main objective of the workshop was preparation of income – expenditure account of training programmes, preparation of training budget and efficiently utilizing the available resources for development of training institutions.

- ***Publication and Research Papers :***
  - Based on discussions and recommendations of the workshop on Establishing Standard Benchmarks for state level training institutions, a paper entitled *"Is Quality In Capacity Building and Training Institution Development Matters the Most? Setting Benchmarking Process and Benchmark Standards for Training Institutions WALMI Bhopal a ca se in Point."* by Urmila Shukla, Vivek Bhatt, Amod Khanna, Dr. Arun R Joshi, Dr. Sandhya Choudhary in International Journal of Advances in Agriculture in science and Technology Extension.
  - A paper on Water Availability in urban areas : Need of small interventions on a mass scale by Urmila Shukla and Vivek Bhatt was included in India Water Week 2019 organised by National Water Development Agency at Vigyan Bhawan, New Delhi during 24 to 28 Sept 2019. Authors were also members of discussion panel members.
- ***Installation of Sanitary Napkin Vending Machine :***

  In the various training programmes of the Institute, lady participants from different areas used to participate and stay in the Hostels. Thus for their convenience, sanitary napkin vending machines have been installed at two places in the hostel premises.
- ***Capacity Building of Institute's Staff :***

  Two capacity building programmes for the staff of WALMI were also organized in which the staff members of the institute visited WALMI, Anand, Gujrat and WALMI, Dharwad, Karnataka and observed agricultural, irrigation and other improved technologies of those states. Office management system followed in these WALMIs was also part of the curriculum
- ***Security :***

  The Institute is spread across 89 hectares of land possesses valuable properties in laboratories, Hostel, Mess, Community Hall, training halls, conference hall, auditorium, demonstration farm etc. A Boundary wall covering the campus is required utmost and the work of its construction is in progress. At present security arrangement is outsourced to a private agency.
- ***Development Work :***
  - Training programmes are the main and continuing activity of the Institute and for residential trainings, well equipped hostels with 61 double bedded rooms, dormitories, community hall etc. are available in the Institute, 24 rooms of new hostel are air-conditioned while remaining ones are air-cooled. All the rooms have been planned by air-conditioning facilities. Solar geysers have been installed for hot water.
  - Bhoj Parisar has been established for community training purposes in which stay arrangement for 100 participants has been made.
  - Most of the lecture halls of the institute are air-conditioned and equipped with the latest Audio-Video projector systems.
  - Old hostel has been renovated by way of water proofing, white wash, electrification, sanitary arrangements etc.
  - Renovation work of the Mess and Kitchen has also been done. Water coolers with R.O. have been installed at various places.
  - The library of the Institute has been made Air-Conditioned.
  - Benches.
  - Open Gym in hostel.
- ***Workshop on Groundwater Modeling***

  A workshop on ground water modeling was organized from the 4th to the 6th of September 2018 jointly by MP WALMI and National Institute of Hydrology. 21 participants participated in the programme. MODFOW model for groundwater modeling was discussed in detail along with finite element approach and other related issues.

- ***Inter-State Program and Fairs of Nehru Yuva Kendra***

  Vatan Ko Jano

  The Kashmiri Youth Exchange Program was organized on 'Vatan Ko Jano' for the youth of Kashmir between 1st to 6th December 2018. Total 128 youths from Srinagar, Anantnag, Kupwara, Baramulla, Bargam and Pulwama districts of Jammu and Kashmir state participated in the program. Introductory sessions, outlines of events, intellectual sessions, language and culture, catering, self-identity, lectures on nation building, panel discussion were part of the programme. In addition to them, visit to Sanchi & Tajul Masjid were also organized. Food festival, handicrafts fair, cultural presentations, etc. were also attractions of various activities during this one week program.

  The main objective of the Vatan Ko Jano program is to encourage participation of youth in nation building activities. The program seeks to provide improvement opportunities to the youth of sensitive districts of the Kashmir Valley.
- ***One India–best India***

  The Inter-State Youth Exchange Program 2018 was organized in Walmi from 7th to 21st December 2018 under the One India-Best India program. A total of 39 young individuals from north-eastern state Manipur and Nagaland and 61 from Madhya Pradesh participated in the program. The participants discussed on national integration, one India–best India, Sankalp to Siddhi, Swachh Bharat, Digital India, Gandhi Darshan and Gandhi-150 along with various arts, culture and contemporary topics. Intellectual and discussion sessions were held to explain the flagship schemes run by the Government of India. Tours to various places of historical, cultural, religious and educational importance were also organized, which included Sanchi Stupa (Raisen), Sant Hirdaram College, Shourya Smarak Bhopal, Indira Gandhi National Human Museum Bhopal, Shiva Temple Bhojpur, Lake View, and New Market. The youth from both of the states gave a message of social harmony through performances like folk dance, singing and drama.

  These programs were organized by WALMI for the Nehru Yuva Kendra Sanghtan, Bhopal.
- ***Micro level activities for water conservation:***

  Due to rapid development, the large portion land cover in urban landscape is being converted to impervious cover which restricts natural recharge of water into the ground. Consequently, groundwater levels in the area are constantly declining. There is a need to counter this effect of urbanization. In this perspective, to reduce the negative effects of development. There is a need for implementing small interventions on a large scale. This will inculcate the awareness about water conservation among masses on one hand, while on the other hand will also help in improving micro-environment. The institute has constructed a pervious pathway of about 40 sqm. In addition to this, waste water from air- conditioners and ROs is also being utilized for recharge and gardening.
- ***ISO 21001-2018 Certification Training***

Efforts are being made on behalf of the institute to get ISO 21001-2018 certification. Prior to the commencement of the process of Stage-I audit by Quality Austria Central Asia Pvt. Ltd., (the agency prescribed by NABET), WALMI organised training of Internal Auditors for officers in charge of various activities and branches of the institute. The training included the management system documentation of the Institute covering quality manual procedures, instructions and formats etc. In this three-day training conducted from 1st August to 3rd August 2019, the officers of the institute were trained on various stages and their compliance requirements to qualify for ISO 21001-2018. The Institute is in process to get ISO 21001-2018 certification.

FUTURE PLANS

- Construction of Boundary wall for Demonstration Farm of Institute.
- Development works of Training Centres for Apiculture, Pisciculture, Mushroom Cultivation etc.
- Maintenance and Development of SWC structures at Demonstration Farm.
- Works on Nano Watershed concept.
- Production of compost from Water Hyacinth obtained from Municipal Corporation from different lakes of Bhopal.
- Research works on Dense Forestation – City Forest.
- Workshops on Natural Resource Conservation and Management under CSR activity.
- Enhancing productivity of farm lands by Green Manuring.
- Developing Smart Class Rooms.
- Hi-Speed Internet facilities in all class rooms.
- Renovation of class room number 4 and 5.
- Renovation of Administrative Block and Residential Quarters.
- Upgradation of Play Ground.
- Construction of Stadium.
- Construction of Guest House.
- Development of Watershed Park.
- Publications – Ila Amrutam, Proceeding and minutes of Workshops and Seminars.

Organogram

Government body

Chief Secretary - Chairman

- Additional Chief Secretary/Principal Secretary, Department of Panchayat and Rural Development - Member
- Commissioner of Agricultural Production, Madhya Pradesh - Member
- Additional Chief Secretary/ Principal Secretary, Department of Finance - Member
- Additional Chief Secretary/ Principal Secretary, Department of Water Resources - Member
- Additional Chief Secretary/ Principal Secretary, Narmada Valley Development Department - Member
- Principal Secretary, Department of Farmers Welfare and Agricultural Development - Member
- Principal Secretary, Department of Horticulture - Member
- Principal Secretary, Department of Fisheries - Member
- Director, Walmi - Member Secretary

Executive committee

- Additional Chief Secretary/ Principal Secretary, Panchayat and Rural Development Department - Chairman
- Principal Secretary, Department of Water Resources - Member
- Secretary, Department of Finance - Member
- Principal Secretary/Secretary, Department of Farmers Welfare and Agriculture Development - Member
- Chief Executive Officer, MP Rural Road Development Authority - Member
- Director, Rajiv Gandhi Watershed Management Mission/ Chief Executive Officer - SLNA- Integrated Watershed Management Program - Member
- Chief Executiv, State Rural Livelihoods Mission - Member
- Project Director, World Bank Projects, Department of Water Resources - Member
- Chief Engineer, Rural Mechanics Service - Member
- Commissioner, Irrigation Area Development, Water Resources Department - Member
- Director, Horticulture - Member
- Director, Fishing - Member
- Director, Walmi - Member Secretary

Officers and Staff

Director - 1 | Administrative Officers - 1 | Dean - 2 | Professor - 7 | Co-Professor - 18 | Assistant Professor - 18 | Research Associates - 14 | Intern - 14 | Librarian - 1 | Deputy Commissioner - 1 | Account Officer - 1 | Assistant Engineer - 1 | Section Officer - 1 | Deputy Engineer - 8 | Assistant Cartographer - 1 | Computer Operator/ Program Assistant - 3 | Observer - 1 | Catering Manager - 1 | Technical Assistant - 4 | Junior Scientific Assistant - 1 | Graphic Artists - 1 | Laboratory Technician - 2 | Timekeeper - 2 | Cooks - 2 | Driver - 6 | Senior Office Assistant - 2 | Assistant Grade2 – 6 | Senior Accounts Clerk - 1 | Stenographer Grade 2 - 1 | Stenographer Grade 3 - 1 | Assistant Grade 3 - 12 | Catalog Index Classifier | Electric Wireman - 1 | Pump Attendant - 1 | Office helper - 1 | Waterman - 1 | Attendant - 17 | Cleaners – 4

Note: The services of guest faculty listed in the institute are also being availed against the sanctioned posts for the faculty, thereby giving financial benefit to the Institute.

List of officers currently in position:

- **Mrs. Urmila Shukla (IAS)**
  Director
- **Mr. Vikas Awasthi**
  Additional Director and Administrative Officer
- **Mr. Vivek Kumar**
  Associate professor, Water Resources Management and Engineering
- **Dr. Ravindra Thakur**
  Associate professor, Agriculture
- **Mr. Sumit Jain**
  Account Officer
- **Mr. Sanjay Srivastava**
  Section Officer

WALMI IN MEDIA

तेजी से बढ़ते शहरीकरण के लिए जल, जंगल, जमीन का प्रंबधन जरुरी : खांडेकर

वाल्मी में राष्ट्रीय कार्यशाला का समापन

बढ़ते शहरीकरण के लिए जल, जंगल, जमीन का प्रंबधन जरूरी

Rooftop rain water harvesting is vital to deal with water problems: Scientist Ravi Galkate

HC dismisses rape convict's plea

वाल्मी में जल संरक्षण पर स्पेशल सेशन का आयोजन

जल संरक्षण के लिए तालाबों के कैचमेंट एरिया की अब प्लानिंग करना होगी

जल संरक्षण के लिए कैचमेंट एरिया की प्लानिंग जरूरी

जापानी तकनीक से बंजर पड़ी जमीन हुई हरी

इस बारिश में छतों पर गिरने वाला पानी जमा कर बचा सकते हैं 3500 लीटर जल

वाल्मी में जल प्रबंधन विषय पर कार्यशाला में डॉ. डीआर तिवारी ने दी जानकारी

पेड़ों को बचाने के लिए महिला ने पेड़ से की शादी

इंग्लैंड राजमार्ग द्वारा दिया गया है बायपास का प्रस्ताव, निर्माण के लिए काटे जा सकते हैं पेड़

इस बारिश में छतों पर गिरने वाला पानी जमा कर बचा सकते हैं 3500 लीटर जल

वाल्मी में जल प्रबंधन विषय पर कार्यशाला में डॉ. डीआर तिवारी ने दी जानकारी

वाल्मी परिसर में रोपे छायादार पौधे

सिटी रिपोर्टर | जल एवं भूमि प्रबंध संस्थान (वाल्मी) के परिसर में बंजर भूमि पर वृहद स्तर पर पौधरोपण किया गया, जिसमें विभिन्न प्रजातियों के फलदार, छायादार एवं औषधीय पौधों का रोपण किया ... पर निदेशक वाल्मी उर्मिला शुक्ला ...

BRIEFS

WALMI to hold workshop on water mgmt

■ Staff Reporter

WATER and Land Management Institute (WALMI) is hosting a workshop on the prevailing issue of scarcity of water resources in the city on Thursday.

Various options which can be opted to improve the water facilities in the infrastructure of academic institutions, colonisers and builders will be discussed in the workshop. These strategies can improve the situation of water crisis in the future. The participation in

'पानी की कमी नहीं, कुप्रबंधन से जूझ रहे हैं हम'

वाल्मी में जल संरक्षण के कार्यों में जलमित्र के रूप में जोड़ा जाएगा युवाओं को

खास खबर | वाल्मी में जल, जंगल, जमीन विषय पर दो दिवसीय कार्यशाला प्रारंभ

जल, जंगल, जमीन का संरक्षण आवश्यक : पटेल

स्वदेश संवाददाता, भोपाल

पंचायत एवं ग्रामीण विकास मंत्री श्री कमलेश्वर पटेल ने कहा है कि बिगड़ते हुए प्राकृतिक संतुलन को संवारने के लिये जल, जंगल, जमीन का संरक्षण आवश्यक है। यह सामुदायिक भागीदारी से संभव है। उन्होंने यह बात म.प्र. जल एवं भूमि प्रबंधन संस्थान ... लैण्ड, वाटर एण्ड फॉरेस्ट' पर आयोजित दो दिवसीय कार्यशाला में कही। मंत्री श्री पटेल ने कहा कि भारत सहित अन्य विकसित और विकासशील देशों में विकास की दौड़ में प्राकृतिक संसाधनों का अंधाधुंध दोहन किया गया है। इसका परिणाम है कि प्रकृति द्वारा निःशुल्क प्रदत्त जल, जंगल, ...

पानी की कमी से नहीं, हम उसके प्रबंधन की कमी से जूझ रहे हैं

नगरीय विकास एवं आवास मंत्री जयवर्धन सिंह ने कहा कि गत वर्षों में भू-जल के बिना सोचे-समझे दोहन ने गंभीर स्थिति निर्मित

जल संरक्षण पद्धतियों को समझ रहे जलमित्र

वाल्मी में चयनित प्रतिभागियों को दिया जा रहा जल प्रबंधन का प्रशिक्षण

इधर वाल्मी ने नवाचार कर तैयार किया जंगल

होंगे इलेक्ट्रिक डिवाइस

जापानी तकनीक से एक साल में तैयार किया वन

वाल्मी में राष्ट्रीय कार्यशाला आज से

भोपाल ◆ वाल्मी द्वारा क्लब ऑफ रोम इंटरनेशनल संस्था तथा राजीव गांधी फाउंडेशन के संयुक्त तत्वावधान में जल-जंगल-जमीन की प्रभावी नीतियों के क्रियान्वयन के संदर्भ में दो दिवसीय राष्ट्रीय कार्यशाला का आयोजन 27 और

WALMI IN MEDIA

नवदुनिया | लाइव | अपना शहर | Our city

मप्र जल एवं भूमि प्रबंध संस्थान (वाल्मी) में दो दिवसीय राष्ट्रीय कार्यशाला का शुभारंभ

जल, जंगल और जमीन बचाने हुआ विमर्श

राष्ट्रीय कार्यशाला में बोले विशेषज्ञ

सामूहिक प्रयासों से ही जल, जंगल और जमीन का संरक्षण संभव

भोपाल. जल, जंगल और जमीन का संरक्षण सरकार और समाज के मिले-जुले प्रयासों से ही संभव है। इसके कुप्रबंधन के का... समस्याएं आ रही हैं। समाधान के लिए हम ... आगे आना होगा। विक... देशों के साथ विकसित दे... जल, जंगल, जमीन का दो... से हो रहा है। भारत की स्थि... आयोजित दो दिवसीय राष्ट्रीय कार्यशाला में कही। वॉल्मी द्वारा क्लब ऑफ रोम इंटरनेशनल

आज से प्रशिक्षण संस्थानों के लिये दो दिवसीय राष्ट्रीय कार्यशाला

करोड़ों पौधे रोपते हैं, उनकी देखभाल की जाती तो आज जैसे हालात न हो

राजभवन में आयोजित सम्मान समारोह में राज्यपाल आनंदीबेन पटेल ने कही

जल-जंगल-जमीन के संरक्षण के लिए समाज भी आए आगे

● जागरण रिपोर्टर ● मप्र जल एवं भूमि प्रबंध संस्थान (वाल्मी) द्वारा क्लब ऑफ रोम इंटरनेशनल संस्था एवं राजीव गांधी फाउंडेशन के संयुक्त तत्वावधान में जल-जंगल-जमीन की प्रभावी नीतियों के क्रियान्वयन के संदर्भ में दो दिवसीय राष्ट्रीय कार्यशाला का ...

प्रशिक्षण संस्थानों के लिये दो दिवसीय राष्ट्रीय कार्यशाला आज से

भोपाल। राज्य-स्तरीय प्रशिक्षण संस्थानों के लिये मानक बेंच-मार्क का निर्धारण विषय पर मंगलवार से मध्यप्रदेश की राजधानी भोपाल में दो दिवसीय राष्ट्रीय कार्यशाला आयोजित की गई है। कार्यशाला पंचायत एवं ग्रामीण विकास विभाग के मध्यप्रदेश जल एवं भूमि प्रबंध संस्थान वाल्मी द्वारा आयोजित की जा रही है। आधिकारिक जानकारी के अनुसार कार्यशाला में

वाल्मी में जल, जंगल, जमीन विषय पर दो दिवसीय वर्कशॉप

ग्रामीण विकास मंत्री ने कहा प्राकृतिक संतुलन के लिए जल जंगल, जमीन का संरक्षण जरूरी

राष्ट्रीय कार्यशाला में बोले विशेषज्ञ

सामूहिक प्रयासों से ही जल, जंगल और जमीन का संरक्षण संभव

भोपाल. जल, जंगल और जमीन का संरक्षण सरकार और समाज के मिले-जुले प्रयासों से ही संभव है। आयोजित दो दिवसीय राष्ट्रीय कार्यशाला में कही। वॉल्मी द्वारा

ट्रेनिंग के आदर्श मानकों के निर्धारण पर मंथन

वाल्मी की तर्ज पर खजूरी सड़क में विकसित किया जा रहा है सघन वन

वाल्मी में जल संरक्षण के कार्यों में जलमित्र के रूप में जोड़ा जाएगा युवाओं को

सिटी रिपोर्टर। मप्र जल एवं भूमि प्रबंध संस्थान (वाल्मी) नैतिक व सामाजिक दायित्वों के अंतर्गत जल संरक्षण के कार्यों में युवा शक्ति को जोड़ने की पहल कर रहा है। इसमें युवाओं को जलमित्र के रूप में जोड़ा जाएगा। जो भी युवा इस क्षेत्र में कार्य करना चाहते हैं, वे संस्थान की वेबसाइट और कार्यालय में संपर्क कर सकते हैं। शार्ट लिस्ट किए गए अभ्यर्थियों को संस्थान द्वारा उपयुक्त प्रशिक्षण देकर जलमित्र के रूप में चिह्नांकित किया जाएगा। जलमित्रों को आवश्यकतानुसार विभिन्न हितग्राहियों को जल संरक्षण कार्यों के नियोजन और क्रियान्वयन संबंधी मार्गदर्शन के लिए भेजा जाएगा। चयन संबंधी अंतिम निर्णय वाल्मी का होगा।

EVENTS AND SEMINARS AT WALMI

EVENTS AND SEMINARS AT WALMI