

**ENVIRONMENT &**  
**NATURAL RESOURCE**  
**MANAGEMENT**  
**Training Programme**

We enhance our worth, by conserving our Natural Resource...



# ENVIRONMENT & NATURAL RESOURCE MANAGEMENT Training Programme



Pakistan is a resource rich country. It has lofty mountain ranges, vast plains, deserts, fertile soils, perennial rivers and Sea. Proper management and effective utilization of these natural resources becomes all more imperative for the development and prosperity of a country, if it has an agrarian based economy. An important characteristic of the economy of Pakistan is that its natural resources either remain un-utilized or under-utilized due to lack of natural resource management skills, capital, limited size of the market and laid back attitude of the people.

## Significance

Environment & Natural Resource Management Training Programme of N-IRM provides skill and knowledge on agriculture and horticulture through innovative training courses and helps promote and build up the capacity of communities by obtaining appropriate methods of Natural Resource Management, Livestock Management practices, Agricultural Farm Management practices and provide preventive and curative services in the Poultry and Fisheries sector. This ultimately results in acquiring our objective of Poverty Alleviation through



harnessing people's potential.

### **Intended Beneficiaries**

The target group for the training in E&NRM is scattered and diverse which mainly includes the rural farmers and growers (men and women). This programme is also involved in conducting training events for community activists and professional staff of RSPs and other organizations.

### **Training Methodology**

This training programme is specifically designed to strengthen local capacities of rural farmers by utilizing natural resources. This is done by using direct learning methodologies which are helpful to clear the vision of the participants such as interactive classroom lectures, experimental games and seminars. The teaching methodology encompasses the "practical hands on experience", field trips and brain storming sessions which makes our training programme distinctive.

### **Collaborations**

To improve the quality of life of the rural communities, N-IRM has built strong linkages between communities and various public sector organizations. Through E&NRM training programme, our team of experts works in collaboration with National Agricultural Research Center (NARC) which is the largest research institute of Pakistan Agricultural Research Council (PARC). The Training events are held at NARC, ARID University, Barani Livestock Production Research Institute Khairi Murat and N-IRM.



## PORTFOLIO OF TRAINING MODULES

Following is a list of the current portfolio of training modules being offered by NRSP - Institute of Rural Management, under its Environment and Natural Resource Management Training Programme.

### AGRICULTURE

#### SLOPING AGRICULTURE LAND TECHNOLOGIES (SALT)

6 Days

Soil and water conservation for sustainable land use  
SALT, its importance in hill farming  
Land use to conserve fragile mountain resources  
Establishment and management of hedgerows  
Establishment and management of low cost nurseries  
Introduction and establishment of potential fodder crops  
Dry afforestation  
Integration of fruits and vegetables in SALT  
Visit to agro-forestry nursery and project sites

#### CROP PRODUCTION AND PROTECTION TECHNIQUES

6 Days

Introduction to the major crops of the area  
Insight into agronomic practices  
Identification and control of insect bites and diseases  
Introduction of important weeding methods  
Briefing on pesticides and sprays

#### LAND USE PLANNING FOR IRRIGATION SCHEME

2 Days

Soil sampling and guidance for input arrangements  
Proper farm layout, mapping, precision and levelling  
Improved crop rotation by introduction of new improved varieties and high value cash crops  
Introduction of improved cultivation, irrigation methods and scheduling  
Kitchen gardening and off-season vegetable cultivation  
Fruit plantation, grafting, budding, and layering of indigenous fruit plants  
Forest and fruit nurseries

## INTEGRATED PEST MANAGEMENT (IPM)

2 Days

Introduction to integrated pest management  
Identification of useful and harmful insects for effective IPM  
Effective use of chemical insecticides in IPM  
Importance of persistent organic pollutants (POPs)  
Use of organic manure in IPM (Farm yard manure, Compost and Green manure)  
Insect/pest control (Biological, Chemical, Cultural, and Mechanical)

## AGRICULTURAL MACHINERY

### OPERATION AND MAINTENANCE OF WATER LIFTING PUMPS AND PETER ENGINES

2 Days

Introduction of pump and peter engine  
Points to be considered during installation  
Measures required for efficient working

### OPERATION AND MAINTENANCE OF DRILLS, HARVESTERS AND THRESHERS

2 Days

Introduction to instruments  
Precautionary measures during operation of instruments  
Routine maintenance procedures

## WATER RESOURCE DEVELOPMENT AND MANAGEMENT

### ON-FARM WATER MANAGEMENT

4 Days

Introduction of laser equipment for land levelling  
Precision land levelling  
Water course improvement  
Measurement of flowing water  
Machinery required for water conservation  
Methods of land preparation and sowing techniques for water conservation

### WATER & SOIL CONSERVATION

4 Days

Introduction to check dams and delay action dams  
Introduction to mini dams and ponds  
Agricultural machinery required for soil and water conservation  
Soil conservation techniques  
Irrigation systems and techniques  
Types of water and soil erosion

### IRRIGATION TECHNIQUES

2 Days

Sprinkler irrigation  
Trickle and drip irrigation  
Cultivation of crops on grades

## AQUACULTURE

### FISH FARMING

6 Days

Introduction to site selection  
Familiarization with fish farming prospects and problems  
Orientation to steps in fish farm construction  
Briefing on types of fish  
Details on feed requirement of fish  
Types of diseases  
Reproduction of fish  
Catch nets for fish  
Grading, packing, and marketing of fish

## RENEWABLE ENERGY TECHNOLOGIES

|                                     |                         |
|-------------------------------------|-------------------------|
| Solar light emitting diodes (LED)   | Fuel efficient stove    |
| Solar pump with sun tracking system | Wind mill               |
| Solar concentrator                  | Micro hydal power plant |
| Solar geyser                        | Solar box               |
| Solar dryer (fruits and vegetables) | Solar still             |
| Bio gas plant                       | Bio sand filter plant   |

2 Days

## LIVESTOCK

### ADVANCED COURSE ON LIVESTOCK NUTRITION AND PREGNANCY DIAGNOSIS

30 Days

Anatomy of reproductive organs  
Diagnosing techniques of gestation period  
Familiarization to reproductive disorders  
Introduction to locally available nutrients  
Diagnosing techniques of pregnancy period  
Imparting knowledge on feeding formulations

### LIVESTOCK MANAGEMENT

2 Days

Introduction to animal management  
Importance of proper livestock management  
Basic principles of animal management  
The importance of fodder in animal management  
Familiarization with various breeds

### BACKYARD POULTRY MANAGEMENT

6 Days

Introduction to poultry production  
Introduction of feeding, vaccination and medication schedule  
Poultry breeds  
A method for selection of eggs  
Management of hatchery  
Management of one day old chicks  
Familiarization with vaccination exercises  
Field visit to a poultry farm

## APICULTURE

### BEE KEEPING

6 Days

Introduction and importance of bee keeping  
Comparison of tools used in traditional and modern bee keeping  
Establishing of apiaries and site selection  
Familiarization with remedial measures of bee stinging  
Orientation of types of bees  
Bee cycle and behaviour  
Survey of flora and fauna for bee keeping  
Role of queen, drone and workers in honey production  
Development of colony and feeding  
Orientation of the control measures of swarming  
Detail on honey extraction  
Briefing on honey packing, storing, and marketing

### ADVANCE BEE KEEPING

3 Days

Introduction to queen rearing  
Importance of queen rearing  
Explanation on queen cup formation  
Grafting  
An explanation of the breeder colony selection  
Details on advanced level bee keeping

## HORTICULTURE

### ORCHARD DEVELOPMENT, MANAGEMENT AND PROTECTION

6 Days

Introduction to fruit industry's prospects and problems  
Explanation of site identification for orchards  
Briefing on plant selection and transportation  
Identification and application of the right fertilizers

Precautionary methods and pesticide applications  
Irrigation  
Pit formation  
Types of orchard establishment  
Demonstration of the spray celebration  
Study cum field visit to the orchards and nurseries

### NURSERY RAISING AND PLANTATION TECHNOLOGY FOR FRUIT AND FOREST PLANTS

4 Days

Introduction to forestry  
Role of forestry in improvement of environment  
Land amelioration through forestry  
Nursery raising techniques with practice sessions  
Plantation techniques  
Explanation on budding, grafting and layering techniques  
Familiarization with preventive measures  
Orientation to work plan preparation

## SUBJECT SPECIFIC WORKSHOPS

Duration: 1 Day

Introduction to livestock management  
Livestock breed improvement  
Wild boar management  
Introduction to poultry management  
Introduction to apiculture  
Introduction to sericulture  
Introduction to aquaculture  
Water course improvement  
On farm water management  
Operation and maintenance of seed grader  
Soil sampling methods  
Basics for crop improvement  
Rabi and kharif crop cultivation  
Cotton cultivation  
Wheat cultivation  
Rice cultivation  
Grain storage  
Basics for vegetable cultivation  
Mushroom growth, their types and uses  
Post harvest technology for fruits and vegetables  
Packing of fruits and vegetables  
Grading and marketing of fruits and vegetables  
Orchard training, thinning and pruning  
Orchard pest management  
Rodent control (porcupine and rat)  
Insect control measures of post harvest period

## N-IRM PROFILE

NRSP-Institute of Rural Management (N-IRM) is the foremost training facility in the not-for-profit sector, conducting up to 600 different types of training with a turnout of over 50,000 trainees. Over the last 18 years, N-IRM has been directly responsible for building the capacity of development professionals and communities across Pakistan, as well as developing a pool of lead trainers to meet the specific needs of NRSP, other partners, projects and communities. N-IRM is an ISO 9002-2008 certified entity. N-IRM has highly organized internal controls and systems in place which include financial procedures, staff service rules, gender policy, as well as administrative processes.

### TRAINING PROGRAMMES OFFERED

- The **Community Training Programme** works to enhance the capacity of community organization members in managerial, technical and vocational skills. The main components of CTP are the Community Management Training Programme, Social Sector Services Training Programme, Environment and Natural Resource Management Training Programme, Vocational Training Programme, and Enterprise Development Programme.
- The **Staff Training Programme** aims to enhance the knowledge, skills and attitudes of the staff of other RSPs, government departments, national and international organizations. The main components of STP are the Internship Training Programme, Management Development Programme and Micro Finance Training Programme.
- The **Management Development Programme** implemented in partnership with the Rural Support Programmes Network, aims to enhance the professional competencies of senior and mid-level managers by developing a needs-based curriculum for training courses that upgrade academic, technical and managerial skills.
- The **Women's Leadership Programme** enables women professionals to improve and develop their leadership and management skills. This unique programme consists of five 2-week sessions over one year. The sessions are complemented with 'distance learning' and mentoring.
- The **Academics Programme** offers Post Graduate Diplomas in Human Resource Management and NGO Leadership and Management. It also offers Executive Diploma in English Language Proficiency. These diplomas are designed for professionals from government, corporate sector and civil society organizations.
- **Vocational, Technical and Educational Centers** have been established in Rawalpindi, Rawalakot and Muzaffarabad with the aim of providing vocational, technical and educational skills to the young men and women of rural areas, and to the vulnerable and marginalized, especially women and persons with disabilities.



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