

INTRODUCTION AND OBJECTIVES

Background

Most of the northern parts of Pakistan, including parts of the North West Frontier Province (NWFP) and Northern Areas are traversed by the Himalayas, Hindu Kush, and Karakoram, three great mountain ranges, and have high rainfall characteristics. Consequently, many large rivers of Pakistan originate in these mountain ranges, and the area is rich in forests, minerals, and hydropower potential. These mountain ranges are inhabited by nearly two million people. Except for a few cities and small towns, these areas lack basic infrastructure and people are deprived of basic amenities such as roads, schools, electricity, and so on. Provision of energy to these areas remains a serious problem, and people have to rely on fuelwood to meet their domestic energy needs, resulting in deforestation and associated environmental hazards. The area is, however, blessed with an abundance of perennial streams and waterfalls which can be successfully exploited to generate electricity and motive power by using mini- and micro-hydropower (MMHP) plants. MMHPs provide several advantages over other conventional energy systems, including large hydropower. These decentralised power plants can produce the energy where it is required and can be operated and maintained locally by user communities. The level of technology is fairly simple, and the capital investment required for installation of the plants is low.

The International Centre for Integrated Mountain Development (ICIMOD), Nepal, has initiated a project on Mini-and Micro-Hydropower in five countries of the Hindu Kush-Himalayan (HKH) Region, namely, Nepal, China, Bhutan, India, and Pakistan. The objective of the project was to study the present situation in terms of the status of the programmes, policies, and problems of the participating countries in the MMHP field. After compiling country reports and case studies, this situation was analysed in an international consultative meeting of experts. Thereafter, National Seminars in selected participating countries were organised to propagate MMHP technology. The project concluded with a training programme for policy-makers, planners, financiers, and chief implementers, highlighting the salient features of MMHP and suggesting steps to enhance the future pace of installations and sustainability of programmes. A regional network of sustained information exchange in the Himalayan Region for MMHP development and management is being established.

As a part of this project, the National Seminar on MMHP Development in Pakistan was jointly organised by the Pakistan Council of Appropriate Technology (PCAT), Ministry of Science and Technology, Government of Pakistan, and ICIMOD. The Seminar was held in Islamabad on the 26th and 27th October, 1994.

Objectives of the Seminar

- To communicate information about the developments, achievements, impacts, economics, and prevalent problems of MMHP to a target audience of planners, decision-makers, implementers, assessors, manufacturers, consultants, and others.
- To discuss the local issues related to various aspects of MMHP propagation and its impact on the remote and isolated mountain development scenario in the overall regional perspective.
- To arrive at consensual findings and conclusions in order to improve the implementation of MMHP programmes and their impact.
- To bring together concerned personnel from various organisations associated with MMHP development and promotion, for future contacts and information exchange.

Seminar Programme and the Participants

The seminar was attended by the representatives of the implementing agencies, planners, donors, private and public sector manufacturers of MMHP equipment, policy-makers, and financiers. The programme is presented in Annex I and the list of participants is in Annex 2. A total of 45 participants attended the Seminar. Annex 3 contains summaries of the papers presented.

The Seminar was inaugurated on October 26, 1994, and the inaugural session was attended by a large number of people and addressed by prominent public representatives and government officials associated with MMHP development. This session was followed by Session I, in which the representative of ICIMOD presented his paper on development of MMHP in the Hindu Kush-Himalayan Region. The second paper presented in this Session was on the MHP programme of PCAT. In Session II on the same day, papers on community participation in Micro-Hydropower (MHP) development, selection of turbines for MHP plants, indigenous development of low-head MHP plants, and management of MHP plants were presented. On the second day, during the third session, papers on problems associated with MMHP plants, the socioeconomic impact of MHP plants, the Tyson turbine, mini-hydropower programme of the Northern Areas Public Works Department, and an economic feasibility study for a low head MHP plant at canal falls, were presented. This was followed by the preparation of Conclusions and Recommendations by a Committee. In the concluding session, the seminar recommendations were presented, followed by a brief discussion. The seminar was finally closed on the evening of October 27, 1994, with concluding remarks by the Chairman of the Session.