



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

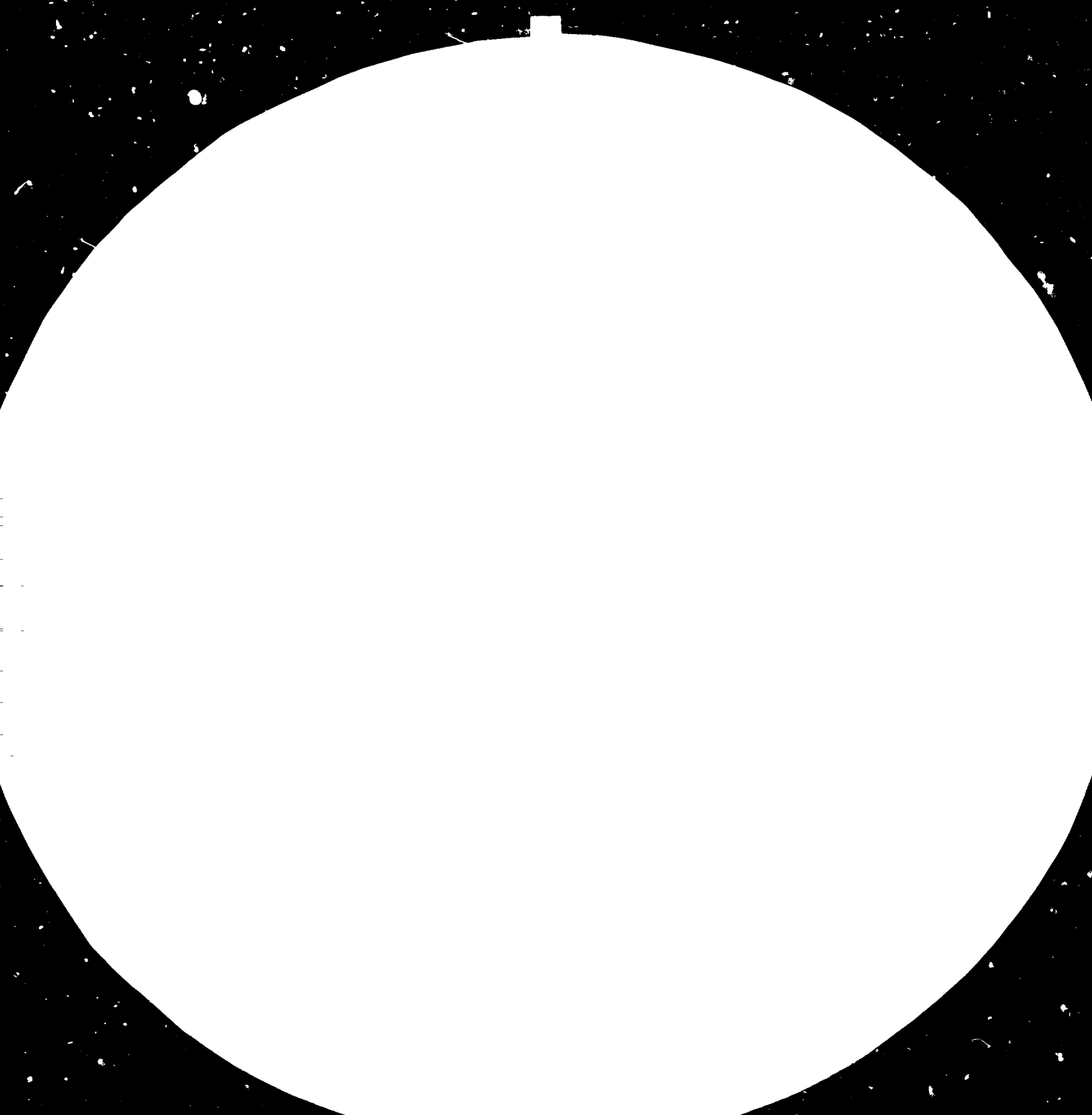
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





2.8



3.2



3.6



MI 200 017 41 201104 11 11 1000

201104 11 11 1000



12791



United Nations Industrial Development Organization

Distr.
LIMITED

ID/WG.403/32
9 August 1983

ENGLISH

Third Workshop on Small Hydro Power
RCTT/UNIDO/REDP/Government of Malaysia
7 - 15 March 1983, Kuala Lumpur, Malaysia

DRAFT WORK PROGRAMME

(1983/1984)

OF

ESCAP REGIONAL NETWORK SYSTEM FOR SMALL HYDROPOWER

During the Interim Period

prepared by

UNIDO Secretariat^{*/}

923

^{*/} This document has been reproduced without formal editing.

1. BACKGROUND

UNIDO organized, jointly with the ESCAP Regional Centre for Technology Transfer (RCTT) and the Government of Nepal, a Seminar-Workshop on the Exchange of Experiences and Technology Transfer on Mini Hydro Electric Generation Units, in September 1979 at Kathmandu. The Second Seminar-Workshop, combined with a Study Tour, was organized by UNIDO with the support and co-operation of the Government Authorities of the People's Republic of China and the Philippines in October/November 1980, in Hangzhou and Manila. Both meetings urged, inter alia, the need of a Regional Network to promote co-operation between and among the participating member countries.

The UNDP/ESCAP Regional Energy Development Programme (REDP), emphasized again the establishment of a Network for Mini-Small Hydropower Development. In order to follow-up this plan, a Senior Expert Group Meeting was sponsored jointly by UNIDO/ESCAP/UNDP/China, on the creation of a Regional Network and the assessment of priority needs on research, development and training in the field of small-mini hydropower generation in July 1982 at Hangzhou, P.R. China, which was attended by selected senior experts from 10 developing countries within the ESCAP region, i.e. Bangladesh, China, Fiji, India, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka and Thailand. Representatives from six UN organizations as well as one representative from the Latin American Energy Development Organization (OLADE) also attended. The meeting recommended, inter alia, the following:

1. An ESCAP Regional Network for Small Hydropower (RN-SHP) should be established;
2. The RN-SHP should initiate its activities on an interim basis, for the period of two years, until end-1984, in order to experiment on an effectively functioning mechanism of co-operation;
3. The Secretariat of the RN-SHP should be located at the Hangzhou Regional Centre for Research and Development, and Training in Small Hydropower (HRC), and the Director of the HRC should head the RN-SHP Secretariat and act as the Regional Co-ordinator, during the interim period for 1983/84.

4. During the interim period, the Regional Co-ordinator would receive advice and guidance from the Technical Advisory Committee (TAC) in undertaking his duties and tasks, and report to the Senior Co-ordinator of the REDP, for further reporting as required;
5. A Technical Advisory Committee (TAC), which should be nominated for the interim period, would consist of selected senior experts of the participating organizations, and representatives of UN and other supporting agencies and organizations.
6. The concept of networking was thoroughly discussed at the Hangzhou Senior Expert Group's Meeting, and defined the same as follows:

"Network consists of a group of institutions in different countries in the region engaged in a particular field of activity or research, design and development, demonstration acting as a group to exchange information, experience and knowledge to co-ordinate R+D and to minimize duplication, to undertake joint research, to offer training and advisory services to one another, to disseminate information and generally to advance a technology and its application. Every participating institution will have an important role in the network."

The concept of a Regional Network emerges from the need for a Regional Centre to have counterpart organizations or "focal points" at the national-level who would undertake national-level activities, whereas the Regional Centre would act as a stimulator, co-ordinator and eventually a switchboard in promoting and interlinking national-level activities between and among the national focal points within the Network. The co-operation arrangements would thus expand from the Regional Centre versus National Focal Points co-operation level to linkages between and among the national focal points. In fact, such type of co-operation is already emerging within the ESCAP region through personal contacts established during the past seminars-workshops and study tours, and has also been proven as a realistic approach in the Latin American region under the auspices of OLADE.

II. DEVELOPMENT OBJECTIVE

The Draft Work Programme of the RN-SHP presented here is so formulated as to:

- a) Strengthen and support activities in the planning, programming, implementation, operation and maintenance of small hydropower projects in the participating countries;
- b) Focus on subject matters of common nature concerned with a larger number of participating countries; and
- c) Act as a stimulant for initiating national-level activities by the national focal points.

III. REGIONAL NETWORK FOR SMALL-HYDROPOWER

The Senior Expert Group Meeting in Hangzhou, P.R. China, elaborated on the structure of the RN-SHP as well as the functions of the respective key-organizations composing the Network, namely, a governing body, a technical advisory committee, a regional secretariat, and national focal points. In view, however, of the urge to start practical activities as soon as possible, the Meeting recommended to initiate the RN-SHP as an interim operation for two years until 1984. This would simultaneously enable the interested member countries to ascertain the usefulness and effectiveness of such RN-SHP, which results would be reviewed by mid-1984 for taking the official decisions as to whether or not it should be established as an official mechanism for the ESCAP region. This recommendation was later acknowledged and endorsed by UNDP, UNIDO as well as the ESCAP-REDP.

With the above situation in mind, the four elementary components of the Network have been agreed upon as follows:

A. Governing Body

During the interim period, the Technical Advisory Committee (TAC) would concurrently act as the Governing Body, and provide advice and guidance to the Regional Co-ordinator of the RN-SHP.

B. Technical Advisory Committee (TAC)

The TAC would be composed of: seven (7) selected senior experts, preferably senior personnel actually engaged in and in charge of the small-hydropower programmes at the national levels;

- representatives of supporting organizations, i.e. UNDP, UNIDO, ESCAP, RCTT and UNDTCD;
- the REDP Senior Co-ordinator;
- the Regional Co-ordinator of the RN-SHP who would act as the Secretary to the TAC.

The TAC would have the following functions:

- a. provide guidance and advice to the Regional Co-ordinator in drafting and implementation of the Work Programme of the RN-SHP;
- b. consider and approve the Work Programme of the RN-SHP;
- c. review the activities of the RN-SHP and provide advice or suggest amendments and modifications to improve its efficiency, effectiveness and impacts.

C. Regional Co-ordinator/Regional Secretariat

The Regional Secretariat forms the headquarters of the RN-SHP, and during the interim period, will be located at the Regional Centre for Research and Training in Small Hydropower (HRC), Hangzhou, P.R. China. It would consist of a full-time Regional Co-ordinator, whose role would be played by the Technical Director of the HRC. The Regional Co-ordinator would be supported and assisted by a number of professional-level staff and secretarial services in order to carry out the Work Programme of the RN-SHP. The management and operation of the Regional Secretariat shall be based on the orientation, guidance and priorities established by the TAC.

The host country of the RN-SHP would provide the physical facilities and part of the manpower requirements for the Regional Secretariat.

The Regional Secretariat would have the following functions:

- a. Prepare the draft Work Programme for 1983/1984 and submit the proposal to the TAC for approval;
- b. Implement the approved Work Programme, including the promotion of research, development and transfer of technologies appropriate to and responding to the users' needs in the participating countries;
- c. Review and monitor activities and accomplishments of all participating national focal points and submission of a review report to the TAC;
- d. Collect, analyse, compile and disseminate information relevant to small-hydropower;
- e. Maintain close liaison with the TAC, with all participating national focal points, all supporting organizations as well as other relevant institutions and organizations within and outside the region;
- f. Support national focal points in the preparation, implementation and follow-up of their national work programmes;
- g. Approach, as required and appropriate, potential donor organizations/governments to secure necessary funds for project implementation;
- h. Prepare various reports for submission to the donor organizations/governments as well as for other purposes as required;
- i. Provide the documentation and other supportive measures required for TAC meetings and to serve as the secretariat of TAC.

UNDP has decided to support, at least for the take-off phase, the RN-SHP and particularly the HRC in view of its supporting role, by providing some additional financial resources including the services of short-term international advisors to assist the Regional Co-ordinator.

D. National Focal Points

In order to ensure the sound functioning and development of the regional co-operating mechanism to be co-ordinated by the RN-SHP, it is important that each participating member country identify and nominate its national focal point, preferably the organization entrusted with the national programmes for promoting small-hydropower activities in the respective country. During the interim period, it was suggested that those organizations which have already been participating in one or more of the seminars-workshops or meetings mentioned above in the field of mini-small hydropower, tentatively act as the national focal points in order to ensure that practical action can be initiated within the framework of the RN-SHP as soon as possible. The major functions of the national focal points shall be, inter-alia, as follows:

- a. Co-ordinate and promote activities on small hydropower with all other relevant institutions and organizations at the national level;
- b. Survey all ongoing activities and available facilities at the national level related to small hydropower, including the review of the overall development plans of mini-small hydropower, existing technologies, testing facilities, qualified manpower and experience, ongoing training programmes, available documentation and information, etc. and submit them to the RN-SHP for the purpose of compilation and dissemination to other member countries on a regular basis;
- c. Disseminate information obtained from the RN-SHP to the relevant national institutions/organizations;
- d. Implement, monitor and review RN-SHP related projects at the national level;
- e. Collect, analyse and submit national level information as requested by the RN-SHP;

- f. Propose policies, priorities and work programme of the RN-SHP to the Regional Secretariat; and
- g. Maintain close liaison with other national focal points within and outside the region.

IV. DRAFT WORK PROGRAMME.

The Senior Expert Group Meeting held in Hangzhou in July 1982, elaborated on the priority areas of concern to the member countries in connection with the Hangzhou Regional Centre as well as the Regional Network for Small-Hydropower. Whereas details of this elaboration are available in the Report of the Meeting (ID/WG.376/13 and 13/Add.1), the extracts are provided below for easy reference:

It was decided that the Work Programme would essentially consist of four main activities, i.e. a) information services, b) research and development activities, c) training-workshop activities and d) advisory services.

Information Services

The first activity in the Network operation is to start the information services:

- collect, analyse and disseminate information and experiences of small-hydropower development and trends, research activities;
- prepare and disseminate synopsis from selected publications on small-hydropower techniques;
- publish a periodic regional Network Newsletter on mini-small hydropower;
- prepare mini-small hydropower roster;
- prepare mini-small hydropower bibliography;
- prepare mini-small hydropower guide books; etc.
- establish an information data bank and link with other data banks, and
- compile the up-to-date level and extent of development already achieved in the participating countries.

Research and Development

- design of simple, low-cost flow and other types of turbines;
- simple low-cost penstock arrangement with indigenous materials and techniques;
- determination of hydrological data base for small hydropower, including assessment and improvement;
- application of indigenous materials and techniques for local manufacturing of small hydropower equipment, including technology transfer;
- optimal development of a cascade of a rivulet;
- automation and telemechanization of small hydropower station; and
- simple speed regulation through application of latest electronic load controller in small hydropower.

Training

- training with regard to structural requirements in areas prone to landslides and tremors;
- exploration and survey for small hydropower site;
- training workshop for senior engineers who are responsible for technical work of small hydropower construction, including simple method for project planning.

Advisory Service

- development of methodology for assessment, analysis, data collection, project engineering; and
- other advisory services upon request.

In undertaking the above activities, it is necessary that a close scrutinization of activities already ongoing within and outside the ESCAP region should be carried out in order to avoid duplication or overlapping of activities.

V. CONCLUSIONS AND RECOMMENDATIONS

1. It is suggested that the opportunity of the Joint RCTT/UNIDO/ ESCAP-REDP/Malaysian Workshop of Senior Experts on Small Hydropower Development, to be held from 7-15 March 1983 in Kuala Lumpur, Malaysia, be utilized to endorse the Work Programme to be submitted by the Director of the HRC in co-operation with UNIDO.

2. The same opportunity should be utilized to officially select and appoint the TAC members for the interim period.
3. An attempt should be made to utilize the opportunity to identify, to the extent possible, the national focal points of the participating member countries. This work would have to be continued per correspondence with those ESCAP region member countries which are not present at the Kuala Lumpur Meeting.
4. Any other suggestions for improving the Draft Work Programme, as well as on the ways and means of putting into operation the activities as suggested on page 10.

A tentative schedule of activities for the RN-SHP to be carried out during 1983-1984 is as follows:

	<u>Activity</u>	<u>Location</u>	<u>Date</u>
1.	The present meeting will endorse the work programme for 1983/1984	Kuala Lumpur	March 1983
2.	Establishment of the Regional Secretariat	HRC	Mar/Apr 1983
3.	Short-term advisory mission by UNIDO staff to assist the Regional Secretariat in a broad range of activities as well as in implementation of the work programme	HRC	April 1983
4.	The Regional-Secretariat will visit national focal points	-	July/Aug 1983
5.	Publish Network Newsletter	HRC	July 1983
6.	First Training-Workshop on Mini-Small Hydro Power	HRC	May/June 1983
7.	Compilation of information on ongoing MHG related research, including facilities, researchers, etc. through national focal points	HRC	April-June 1983
8.	Research and Development Activities in close co-operation with national focal points: a) application of electronic load controller in SHP station b) establishment of trial station for Telemechanization in Rivulet Cascade c) optimum development and dispatching design for Rivulet Cascade		
9.	Publish MHG Bibliography	HRC	July 1983
10.	Publish MHG Expert Roster	HRC	October 1983
11.	Short-term Advisory Mission by UNIDO staff	HRC	April 1984
12.	Preparation of an interim report on the activities of RN-SHP during 1983/84 and practical recommendations for its future status	HRC	April 1984
13.	TAC Meeting	HRC	May-June 1984
14.	A detailed work plan for 1985/1986 will be prepared by the Regional Secretariat based on activities listed in P.5-6-7.	HRC	April/May 1984

