

APPEAL FOR SMALL-SCALE HYDROPOWER DEVELOPMENT IN JAPAN AND THE ASIA-PACIFIC REGION

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symposium for micro-hydropower recovery

-For the construction of “ Hydro-net ” power stations utilizing irrigation channels-

The Asia-Pacific Region, including the monsoon area, is generally endowed with a rich water supply; and at the same time, it has also had to cope with the destructive power of water. Therefore, people living in the Region have made concentrated efforts to develop technologies and establish appropriate social systems with the aim of alleviating damage from water and maximizing its benefits. The great numbers of artificial ponds, canals, dams, weirs, etc. that now exist are the result of such endeavors. Their construction has been closely connected to the local community with its social institutions, customs and traditions.

Thus, we have a long history of dealing with water and finding a harmonious balance with it. Now we are in a position to make use of water as an energy source *to the fullest extent*. There is no denying that we have utilized water for power generation on a large and medium scale. The problem is, however, that we have not done as much with small-scale generation, in spite of the fact that there is a huge untapped potential for the latter and social benefits to be derived from it. Consequently, the use of small-scale hydropower is still very limited in the Region at present. We need to change this situation as soon as possible. Doing so would be one of the surest steps in overcoming global warming and paving the way for the sustainable development of our society.

The use of small-scale hydropower has several advantages, such as:

1. The environmental burden is very limited compared with large- or medium-scale hydropower development.
2. A more stable power supply is available than with other kinds of natural energy such as those derived from wind, solar power, etc.
3. It will be able to greatly contribute to the electric power supply of communities as a key local energy resource.
4. It will be useful for electrification in remote and isolated areas, which will improve the quality of life in the areas.
5. It provides economic and social benefits in its catchment area.

In Japan, large- or medium-scale hydropower development has already progressed considerably. On the other hand, the use of small-scale hydropower remains at an almost negligible level at present, despite the fact that there are countless promising places provided by the favorable topography and the extensive irrigation canals.

The development of small-scale hydropower needs different approaches from those used

for larger projects. That is to say, institutional and social restrictions for small-scale hydropower development should be removed, and suitable socio-economic systems should be established so that we can start the projects easily and make them economically feasible. Technical support is also needed, including: feasibility studies, consolidation of venture units, training of field engineers, development of equipment and machinery for small-scale hydropower generation, and provision of capital funding. We strongly urge that a social and political consensus be formed to push forward these projects in the various countries of the Region.

In the Asia-Pacific Region, the economies are growing rapidly, while the emission of carbon dioxide is increasing dramatically. It is also reported that the low-lying countries and islands of the Region are exposed to the threat of submergence. In light of this serious situation, we propose that the following measures be taken immediately by the governments, organizations, and institutions concerned.

- Surveys and/or estimates on the potential of small-scale hydropower in each country
- Planning and execution of training for field engineers
- Compilation and publication of guidebooks for starting small hydropower ventures
- Mitigation or abolition of regulations and legislative measures that may inhibit small-scale hydropower development
- Provision of the social institutions to encourage ventures for small-scale hydropower development
- Cooperation among the central government and local governments for the establishment of frameworks for the promotion of small-scale hydropower development
- Establishment of an organization in the Region to promote cooperation and information exchange among the countries

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