WORKSHOP ON

SOLAR POWERED WATER PUMPING SYSTEMS

INNOVATIONS AND APPLICATIONS IN RURAL DRINKING WATER SUPPLY

(SPECIAL FOCUS ON DISTRICTS COVERED UNDER THE INTEGRATED ACTION PLAN)

19-20 June, 2014
Multipurpose Hall, India International Centre
40, Max Mueller Marg, New Delhi - 110003

Organized by
Institution of Public Health Engineers, India (IPHE), Delhi Regional Centre
The International Committee of the Red Cross (ICRC), New Delhi

ICRC

IN BRIEF

INTRODUCTION

Lack of electricity infrastructure is one of the main hurdles in rural India as many parts of the country either do not have access to power through India's grid system or grid power remains highly irregular. Hence, not only would rural India gain from solar power but the availability of plenty of open spaces in rural areas also makes it better suited for this system of power.

In India, solar energy is available for about seven to eight hours a day for 250 to 300 days in a year and hence provides enough opportunities for a diversity of purposes including water pumping. Solar water pumps, used in India for years, have proven to be a cost-effective and dependable method for providing water in situations where water resources are spread over long distances, power lines are few or non-existent, and fuel and maintenance costs are considerable. A solar powered water pump system has few moving components and hence the reliability of operation is high. Once properly installed, the breakdowns are less. Simple cleaning of panels keeps the system operative over long periods.

Considering the significant role a solar powered water pump system can play in providing safe drinking water to the rural masses the 12th five year plan (2012-2017) of the Government of India has envisaged a major change in the way National Rural Drinking Water Programme (NRDWP) projects are to be run. It has specially emphasized on the provision of employing solar water pump systems in small, remote habitations with irregular power supply, especially in districts where the Integrated Action Plan (IAP) is being implemented.

Several innovations and applications of solar water pump systems are also taking place in the country, although in an uncoordinated manner. These provide opportunities to build on what is available, learn from what is working and what still needs to be improved to maximise the use of such water pump systems in providing safe drinking water to the rural population in India.

OBJECTIVES OF THE WORKSHOP

The workshop is intended to serve as a forum to focus on the current innovations being made in the development and application of solar energy for pumping and water treatment systems in the rural water supply sector in India. It will also focus on the use of relevant technical options and case studies from the field for meeting the challenges in planning, implementation, operation and the maintenance processes of these systems.

TARGET PARTICIPANTS

Officers, engineers and managers from the state rural water supply departments, boards/ ministries of drinking water and sanitation, new and renewable energy and their agencies, NGOs, manufacturing companies, research and development organizations & public sector undertakings.

RESOURCE PERSONS

Experts and senior officers from the Ministry of Drinking Water Supply and Sanitation, Ministry of New and Renewable Energy, Central Ground Water Board, engineers, academics from technical institutes, engineers from rural water supply departments/boards, NGOs etc., will be invited to share their knowledge/ experiences and present case studies. The list of speakers includes:

SENIOR OFFICERS STAFF FROM

- Ministry of Drinking Water Supply and Sanitation
- Ministry of New and Renewable Energy, Chennai and New Delhi
- Central Ground Water Board
- Planning Commission
- State Renewable Energy Agencies
- Academic / R&D institutes, manufacturing industries
- IPHE-Delhi Regional Centre and ICRC

TOPICS FOR PRESENTATION

- Application of solar powered pumping in the rural water sector
- Solar photovoltaic pumping systems – surface and submersible pumps
- Innovations in design and installation of solar powered pumping and treatment systems
- Case studies/good practices and economics of solar water pumping systems

OUTCOME OF WORKSHOP

Recommendations of the workshop will be useful in drawing up a road map for exploiting solar energy for small and medium pumping systems to provide drinking water to rural populations especially in remote areas where grid power is not available and laying a line is also costly. It will also help in preparing an action plan for research and development in this field.

ABOUT THE ORGANIZERS

Institution of Public Health Engineers (IPHE) India and it's Delhi Regional Centre (www.ipheindia.org)

Institution of Public Health Engineers (IPHE), India is a premier forum of public health and environmental engineers of the country. Established in 1972 as a modest society, today IPHE has 16 regional centres spread all over the country with it's headquarters located in Salt Lake City, Kolkata. The corporate membership of the institution is open to public health and environmental engineers with a bachelor's degree in engineering or equivalent. The institution undertakes a diversified spectrum of activities such as organizing seminars, symposia, workshops and training courses; undertaking research and development projects, consultancy services and publication of quarterly technical journals.

IPHE India, Delhi Regional Centre, has been active from the early 1980s. In 1996 under the chairmanship of P.T. Gurnani, former Chief Engineer, Delhi Jal Board (DJB), the Delhi Centre had organized the Water, Engineering and Development Centre (WEDC) international conference titled 'Reaching the Unreached : Challenges for the 21st Century' which was inaugurated by the then Prime Minister Deve Gowda. There were over 125 international delegates, over 400 national delegates and about 119 papers were presented. The present executive council of IPHE, Delhi Centre assumed office on October 31, 2011 under the leadership of Dr. Dinesh Chand, who is also working as Additional Adviser, Ministry of Drinking Water and Sanitation, Government of India.

The International Committee of the Red Cross (ICRC) and its Regional Delegation New Delhi (www.icrc.org)

Founded in Geneva in 1863 and formally recognized in the Geneva Conventions and by International Conferences of the Red Cross, the ICRC is an independent humanitarian organization having a status of its own. The organisation is the founding component of the International Red Cross and Red Crescent Movement and is an impartial, neutral and independent organisation whose exclusively

humanitarian mission is to protect the lives and dignity of people affected by violence and to provide them with assistance. The organisation derives the international mandate for its work from the 1949 Geneva Conventions – agreed to by every State in the world – and from the Statutes of the Red Cross and Red Crescent Movement. It has delegations in over 60 countries and activities in more than 80 countries around the world, with approximately 12,700 staff. It is neither an advocacy group, nor an NGO or human rights group. Globally, the ICRC works in many areas of assistance. These include the delivery of health services, emergency response, relief aid, water, sanitation and hygiene promotion, shelter, economic security projects and physical rehabilitation for people with disabilities.

The ICRC in India

The ICRC was active in support of victims of armed violence in India at the time of partition (1947-48), and again in 1965 and 1971. The year 2014 signals 32 years since the organisation opened its office in New Delhi in 1982. The ICRC's regional delegation in New Delhi maintains portfolio responsibility for India, Bhutan and the Maldives, whilst supporting other regional activities. It carries out varied humanitarian activities, promotes International Humanitarian Law (IHL) to arms carriers and political authorities, and works in support of its partner, the Indian Red Cross Society (IRCS). It also cooperates with other technical agencies/NGOs as and when required. The ICRC responds to the humanitarian needs of the local communities with tangible projects and activities. Its operating model is such that it does not aim to substitute but rather complement the activities of the authorities/government for those who are in need of support. Hence, the activities planned for the diverse communities across the globe, as also in India, are a response not merely based on ICRC's own understanding of the need for humanitarian assistance but also in response to requests for humanitarian intervention from various stakeholders from the specific local contexts.

Institution of Public Health Engineers, India
Delhi Regional Centre
D-208, Sarita Vihar, New Delhi 110 076
T + 011-41054084 email: iphedelhi@gmail.com
website : www.ipheindia.org

International Committee of the Red Cross
C-6/6, Safdarjung Development Area,
New Delhi - 110016
T + 91 11 42211000 F+ 91 11 42211068, 42211069
E-mail: newdelhi@icrc.org www.icrc.org