

**Dr.P.Dharmalingam**

**Brief summary of Capacity building International training delivered**

**1. APO Japan Program at Fiji:International Training program on green productivity and Energy efficiency.**

This program was sponsored by APO Japan conducted at Fiji. About 20 participants from 14 APO member countries attended for five days (from Japan, Colombia, India, Pakistan, Iran, Sri-Lanka, Nepal, Magnolia, Fiji, Singapore, Korea, Thailand etc. 21-25-Mar 2016). The objectives of this program was to train participants on green productivity , environment protection tools and techniques, energy management and energy efficiency , Material flow analysis, waste minimisation, water conservation, bankable proposals for financing energy efficiency projects and clean Technology.

**2. APO Japanat Chennai:International Training program on Practicing Energy efficiency.**

This program was sponsored by APO Japan conducted at NPC, Chennai, India. About 18 participants from ASIA PACIFIC countries attended for 10 days. The objectives of this program were to train participants on Energy management, Thermal and electrical utilities, Renewable energy technology, Techno economic feasibility studies and industrial visit to observe energy efficiency projects implemented.

**3. Fiji National University:Green building program at Fiji**

This program was sponsored by APO Japan and conducted by Fiji National University, NTPC, at Fiji (7-11 Oct 2016).The objective of this program is to deliver the concepts of green buildings and benefits. About 20 participants'slikeArchitects, Housing board executives and bank managers, Govt. officials, ESCO Companies, energy professionals were attended.

Course Objectives: To Train participants on Green Building encompassing Resource conservation & regeneration and Environment protection, Understanding the concepts and principles of Green Building, Understanding Green Building Rating and Certification Process, Developing guidelines for construction and maintenance of Green Buildings. Various incentives subsidies, bank financing available for Green building projects etc.

Course contents includes overview of green building Sustainable Site Design , Passive Architecture ,Indoor Environment Quality, Energy Efficiency and Atmosphere , Water Efficiency, Material Efficiency and Sustainable Materials and Resources

Course Methodology: Classroom Lectures with PPT presentation, Interactive sessions, Group discussions with peers and experts, Videos , Exercises ,Site visits to selected organization for observations on site green features and best practices

#### **4. For Egypt Delegation:Energy Efficiency Training**

This program was conducted and CETEE, NPC, INDIA through indo-Egypt cooperation program. About 16 participants from Egypt attended for five days. The participants were top executives from Electricity departments and Govt. organisation who will take decision on financing energy efficient projects for effective implementation.

The objectives of this program was to train participants on energy management and energy efficiency,energy auditing, ESCOs, Renewable energy solutions, Bankable proposals for financing energy efficiency projects and clean Technology. Visit to some successful demonstration energy efficiency projects.

#### **5. NEEP- GIZ : Development of training project in Energy Efficiency in Nepal**

This program was conducted at NEPAL under the cooperation of Nepal Govt, NEEP and GIZ to promote energy efficiency in all sectors of the economy in Nepal About 45 engineers were attended for 15 days (24/11 to 17/12, 2012). The participants were top executives from Electricity departments and Govt. organisation who will take decision on financing energy efficient projects for effective implementation.

The objective of the above programme was to build capacity of the NEPAL engineers who have little or no exposure on energy efficiency, as energy auditors by strengthening their knowledge, capabilities on energy management and energy audit, focusing on industry sector EE opportunities and followed up an exam. The program contents includes energy management and thermal & electrical energy efficiency, energy auditing, Renewable energy, financial analysis of energy efficiency projects, Project management methods/ESCO for effective implementation, conduct of energy audit in selected MSME industries, like dairy, steel, sugar, brick manufacturing industries. After successful completion of course and passing of exam, participants were certified as Energy Auditor.

## **6. Iran Institute of Productivity and Human Resources Development: Design and development of Energy Efficiency capacity building**

This program was sponsored by Iran Institute of Productivity and Human Resources Development and conducted at Tehran. About 25 engineers, executives from various organisations and Govt. and financial institutions were attended for 10 days.

The objectives of this program were to train participants on energy management and energy efficiency, energy auditing, Renewable energy, financial analysis of energy efficiency projects, Project management methods/ESCO concepts, visit to cement, dairy, chemical industries for observation of energy efficiency measures successfully implemented, examination and certification of Energy Auditor.

## **7. United Nations Environment Programme (UNEP), Bangkok: Hands on Practical Training on Energy Efficiency and conservation**

The two weeks practical training programme on "Energy Efficiency and Conservation in Utility Equipment's" has been organized and conducted by the Centre of Excellence for Training in Energy Efficiency (CETEE) of National Productivity Council, at Chennai in India from 05-12-2011 to 16-12-2011, under the initiatives and sponsorship of United Nations Environment Programme (UNEP), Regional Office for Asia and the Pacific, Bangkok. This programme was attended by 15 participants from seven different countries in the Asia and Pacific region from various government departments/organizations.