

## 농어촌 전화사업을 위한 태양광발전시스템 이용 기술

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### Development and Utilization of PV Power Generation Systems for Rural Electrification in Vietnam

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*Abstract* : This paper reports on the design, installation and evaluation of residential photovoltaic power generation system in the Korea-Vietnam International Cooperation Program from July 2002 to June 2005. The PV array installation is located in Bay Mauvillage, Bu Dang District, Binh Phuoc Province in Vietnam. The aim of this project is to provide lighting and electrify rural villages. Total capacity of 2550Wp modules were installed in March, 2004 with c-Si modules. This paper is organized into three main parts. In the first part, the main PV system for lighting of control room, street light, elementary school and 2-households was described. In the second part, Battery Charging Station (BCS) has installed centralized PV battery charging stations of 10 channels with 1kW solar array. Battery Charging Station consists of a 50W PV module, charging controller, 45Ah battery for lighting with two 12Vdc 22W fluorescent lamps. It makes battery charging use for inhabitants around this area. In the third part, Solar Home System (SHS) was installed 11set, which is 50W 12Vdc 8set and applied by both sources of 12Vdc and 220Vac 3set in households for stand-alone power supply. Solar Home System consists of a 50W PV module, charging controller, 45Ah battery for lighting with two 12Vdc 22W fluorescent lamps. The most critical success factor is participation of villagers prior to and after installation. This paper will describe the results of the national survey, technical evaluations and lessons learned.