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Capacity Building of CHAIN and MAGDAS

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Capacity Building is one of the major goals of the CAWSES-II and IHY/ISWI. In the present paper, we will introduce a good example of Capacity Building of CHAIN and MAGDAS projects. The first one is the Continuous H-alpha Imaging Network (CHAIN) project which is promoted by Kwasan & Hida Observatories of Kyoto University. They are planning to install several Flare Monitoring Telescopes all over the world in order to monitor all explosive solar phenomena continuously, because such solar phenomena are very important sources of perturbations of space weather environment. They already installed the first oversea telescope in Ica University of Peru in March 2010, and they are now preparing to install the 2nd overseas telescope in Algeria. Through the distribution of flare monitoring telescopes, they have performed various international personnel training and academic exchanges. For example, technical training of young Peruvian staff in Japan, guidance of the solar observation method in Peru, some lectures in Peru and Algeria, scientific data-analysis training for Peruvian students and young reserchers in Peru. Moreover, they held last November in Peru a science workshop of solar physics and space weather by using their own data. Such capacity-building activities are surely promoting and spreading solar physics and space weather researches throughout the world. The second example is the MAGnetic Data Acquisition System (MAGDAS) Project conducted by Space Environment Research Center (SERC), Kyushu University. SERC has deployed the MAGDAS at 54 stations along the 210- and 96-degree magnetic meridians (MM) and the magnetic Dip equator, and three FM-CW radars along the 210o MM during 2005-2010 (see http://magdas.serc.kyushu-u.ac.jp/ and http://magdas2.serc.kyushu-u.ac.jp/). The goal of MAGDAS Project is to become the most comprehensive ground-based monitoring system of the earth's magnetic field. By analyzing these new MAGDAS data, we can perform a real-time monitoring and modeling of the ambient plasma mass density and the global current system (e.g. Sq, EEJ) for understanding the plasma and electromagnetic environment changes in geospace and lithosphere during helio-magnetospheric storms. The first MAGDAS school was organized on November 8-9, 2010, Egypt, where 31 persons (mainly MAGDAS hosts from all over the world, but mostly from Africa) delivered 20-minute talks. The general theme of the MAGDAS school is Capacity Building, which consists of three phases: (a) development of instrument capacity, (b) development of data analysis capacity and (c) development of science capacity. Capacity Building is one of the major goals of the IHY/ISWI. Because of MAGDAS hosts, the Space Environment Research Center is able to successfully operate ground observatories all over the world.