JMA/WMO Training Workshop on
Calibration and maintenance of Meteorological instruments in RA II (ASIA)

Meteorological observational facilities of Bangladesh Meteorological Department (BMD)

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Summary

Bangladesh Meteorological Department (BMD) currently operates 35 manned surface observatories and 12 Agro-meteorological observatories. In addition BMD operates 10 Pilot Balloon Observatories, 3 Rawin Sonde Observatories, 5 Radar stations (3 of them being Doppler radars) and 4 Seismic stations. But due to increasing of the human activities like installation of high rise buildings the exposure of the some of the observatories disrupted.

Surface observations are taken from surface stations every three hours routinely following the WMO criteria, which are sent through SSB, internet or telephone to the server of National Forecasting Centre (SWC) of BMD and then to GTS link in real time basis for the interest of National Meteorological and Hydrological Services (NMHSs) of WMO RA II. In parallel continuous graphical records are collected for more frequent observations and preparation of precise local and national climate scenario. Installation of 30 AWS are under process. From the beginning BMD observatories are mainly equipped with conventional instruments. Mercury Barometer, Aneroid Barometer and Barographs are being used for atmospheric pressure measurement. Ordinary, Maximum and Minimum Thermometers are used to measure surface air temperature. Hygrometer, Psychrometer and Hair Hygrographs are utilized to calculate relative humidity at surface level. Cup counter Anemometer, Pressure Tube Anemometer, Mechanical Wind Recorder, Electrical Anemometer and Wind vane are suitably installed in the observatory for measuring normal as well as gusty/squally wind. Natural Siphon Rain gauge and Snowdon Rain gauge are commonly used in the BMD observatories for precipitation measurement. Pyranograph and Radiometers are placed in the suitable base for measuring incoming solar radiation. Campbell Stokes sunshine recorders are set up to calculate the bright day light. Some of the conventional instruments are prepared at BMD's workshop.

To maintain the standards of observation the instruments placed in the observatories are compared routinely with the Traveling Standard Instruments at least once in a year and on demand basis as on the requirement of observatory by the trained Inspectors of BMD. In this process Traveling Standers are compared with the Regional Standard at each RIC and Regional Standard are compared with the National Standard Barometer & the thermometer in Instrument Laboratory of BMD, Dhaka. Instruments which fail to fulfill the conditions of observations during comparison are replaced immediately.

Moreover, National Standard Barometer and Thermometer are not calibrated in a long period of gaps. Therefore, National Standard Barometer and Thermometer are used as standard for surface observation need to calibrate further for the interest of proper meteorological observation.