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National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
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EVALUATION REPORT - Bangladesh Disaster Alert Project

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This report is being made to fulfill the annual review requirement of in-country project implementation progress for the Bangladesh Disaster Alert Project. In addition, comments will be made on proposed future course of events as specified in the PASA for the Agro-Climatic/Environmental Monitoring Project #388-0046.

In conjunction with this evaluation I contacted the following personnel:

Mr. Charles H. Vermillion - User Terminal and Location Systems Branch/ NASA

Mr. Richard Crouthamel - Overseas Operations Division/NWS/NOAA

Mr. Kimball - Director, USAID, Dacca, Bangladesh

Mr. Paul O'Farrell - Project Development/USAID - Dacca

Ms. Susan Downs - USAID

Dr. Anwar Hosain - SPARRSO Chairman

Mr. Abu Pramanik - Instrumentation/SPARRSO

Squadron Leader Assiz - Director/Meteorology Dept.

Mr. Muzhar-ul-Islam - Asst. Director/Meteorology Dept.

Mr. K. J. Ahmed - Zonal Office/Cyclone Preparedness Program/B.D.R.C.S.

Mr. A. K. M. Harun-al-Rashid - Control Room/Cyclone Preparedness Program/ B.D.R.C.S.

The purpose of the project is to provide and implement a comprehensive program which will be supplied to the Bangladesh Government, and shall provide them with an optimized system for reception and processing of information received from various weather data gathering satellites.

As part of the work to be performed, ~~the~~ a contractor, P&P Industries, shall study, design and evaluate various hardware options available to them to produce a system that will operate under the constraints established for the

project. All hardware and software items developed or procured under this contract are considered deliverable to the Bangladesh Government under an AID/NOAA/NASA Agreement.

The system is to provide a ground system capable of receiving the GMS and TIROS-N satellites, including the HRPT of the TIROS. The information on the specifications of the ground receiving equipment will be found in the Statement of Work for the Bangladesh Disaster Alert Project. Therefore, they will not be repeated here, except where the system, as installed, did not meet the specifications.

I was scheduled to perform the evaluation during the period 23-26 March 1982. However, due to a change in government during my visit, and Bangladesh's Independence Day falling on 26 March I had only one day (25 March 1982) to perform the visits and conduct equipment inspection.

The infrastructure and facilities will meet the needs of the project; however, it should be noted that a Muirhead, Model #560 facsimile recorder was substituted for the Laser facsimile specified in the work statement. It should be noted that either one can meet the needs of the project. The Laser Recorder requires a special paper which would probably have given operational problems, since the paper would be adversely affected by high temperature, and high humidity. Also, the Laser Recorder was a newly developed model and typically of a new production, it would probably have had many "bugs" which may have resulted in questionable operation. The K560 recorder on the other hand is a proven unit and should perform satisfactorily; however, SPARRSO must set up a "pipeline" arrangement to insure that chemicals and paper are always available. Custom delays, shipping and procurement times must be taken into consideration. The chemicals are classified as dangerous cargo and will be shipped by sea with special handling required. At the time of my visit, there were two major problems with the recorder. An adjustment was necessary for the Index of Cooperation to insure a 1:1 ratio between the vertical and horizontal and secondly, a new PROM is required to permit more than a single image (visible or IR) without having to move the PROM presently installed. These changes were to be made by a P&P Industry representative during my visit to Dacca, but, due to the "coup", he was advised in Bangkok not to go to Dacca. He returned to the U. S. Discussion with Mr. Crouthamel indicates that the P&P representative will be going to Dacca in the near future. No date has been set for this trip. Upon completion of these adjustments the recorder will be operating normal. There were a few other minor problems with the recorder that will be rectified at the time of the visit of the P&P representative.

All other equipment was in workable condition, and met the specifications cited in the work statement.

A review of the training for the maintenance and operation of the equipment with Messieurs Vermillion and Crouthamel show that the training program was well organized and presented. There was a general concensus that the technicians were limited in their ability to absorb the training related to maintenance of the ground station equipment. This equipment is fairly simple in comparison to that

which will be installed and operated during Phase II of the overall project. I do not believe that the present team of technicians will be able to maintain this equipment satisfactorily, nor would a mix of government and private contractors be able to do the job efficiently. I suggest that SPARRSO use contract maintenance for all the equipment associated with the Disaster Alert and the Agro-Climatic/Environmental Monitoring Projects. The United States Government follows this procedure for the maintenance of the ground stations associated with the National Earth Satellite Service (NESS) of NOAA. It precludes conflicts between governmental employees and those of a contractor doing essentially the same job.

Before the first phase installation is considered complete, the following documentation is needed:

a. A series of grids for NOAA 7 of the Bangladesh area.

b. Maintenance manual for the Muirhead recorder. Mr. Vermillion stated that this manual had been provided, but it could not be located in Dacca.

c. Recommended Consumable Materials Level.

d. Completion of the Acceptance Test documentation.

e. Final Acceptance Report. The final acceptance has been completed, but the report is still due.

The foregoing has touched only the equipment phase and I would like to discuss the concept of operation. SPARRSO should acquire, process and do the basic research associated with satellite data. The use of, and applied research associated with, the satellite imagery, should be the responsibility of the using agency, such as, Meteorology, Agriculture, fisheries, forestry, geography, and use and disaster preparedness. The schedule of availability of products to these agencies must be maintained on a regular and routine basis. This schedule should be determined by the users of the data. During critical periods affecting one or more of the users, personnel from these agencies should be physically present at the SPARRSO facility. This would permit close coordination between the data acquirer and the user.

Training for this type of an operation, in a developing country, is a never ending task. The initial training should begin and be completed prior to the installation of, and the initial operation of, the equipment. Basic products for the users should also be developed and available when Phase II becomes operational.

Priorities should be established and a PERT type diagram for Phase II initiated. The consultant supplied under AID should be an integral part of the process involved in establishing priorities and developing products for the user.

A more detailed analysis can be made after Phase I has been operating for about a year.