MARCH-JUNE Quarterly Report

PROGRAM TWO: STRENGTHENING ENVIRONMENTAL TRAINING AND RESEARCH

SMALL GRANTS RESEARCH

On May 7, 1998, a review meeting was held at Zomba. The main purpose of the review meeting was to review the progress made by UNIMA researchers and to make recommendations for improving the quality of the research. Another objective of the meeting was to establish a performance-based evaluation procedure so that reports can be grouped based on performance and appropriate actions taken for each group. Researchers whose work was not satisfactory were advised to improve the quality of their reports. The Reviewers consisted of MEMP Environmental Science Advisor, University Research Coordinator, and six members of the University Research and Publications Committee (RPC).

We have classified the research reports into three categories. Category I was assigned to reports that showed satisfactory progress, Category II was assigned to reports that showed some degree of satisfaction but had no data to support their progress, and category III was assigned to reports that showed unsatisfactory progress. Based on this categorization, the reviewers put forward some conditions that researchers have to meet before any further release of funds are made to their accounts. For instance, researchers whose reports showed satisfactory progress had no conditions imposed and continued to receive funds. For category II projects, we requested that researchers should submit another report in which they must present adequate data. We allowed researchers with category II projects to use the funds that are already in their accounts but to receive the second installment researchers must convince the reviewers that satisfactory progress has been made. For all category III projects, reviewers were requested to submit a satisfactory progress report within 30-days. Accounts of all category III projects were frozen for 30 days subject to submission of a satisfactory report. Reviewers also agreed to stop funding for one Chancellor College project because of poor performance. As a result, the number of active research projects is now 11 projects that consist of four Bunda College projects, three Chancellor College projects, and four Polytechnic projects.

The results of the research will be presented in a conference to be held in December 1998 at Zomba. The conference is entitled, “The Role of Science and Technology in Development” and is sponsored by the Faculty of Sciences of the Chancellor College. It is expected that each researcher will prepare a paper from his/her research and present the paper in the conference. The papers will then be published in one issue of the Malawi Journal of Science and Technology. To ensure that the papers can meet the conference and the Malawi Journal of Science and Technology standard, additional review activities will take place in the upcoming quarter.

CURRICULUM DEVELOPMENT

An environmental science curriculum which consisted of new courses and existing courses in the Bunda College curriculum has been developed for Bunda College of Agriculture during the March-June, 1998. After completion of the curriculum, the college has requested that I assist them with the syllabi of all the new courses. I have started the preparation of the syllabi and recommendation for textbooks for each new course in April 1998. The curriculum and syllabi development activities have been completed and a final report has been submitted to Bunda College of Agriculture on July 15, 1998.

STUDENT PROJECTS

During the second quarter of 1998, two undergraduates from the Agricultural Engineering Department at Bunda College received soil loss data collected from experimental plots at Kamundi and Chilindamaji. The two students started the data entry and analysis and are expected to complete their theses by December 1998.

On July 13, 1998, a graduate student whom I am advising has completed his field activities and started the computer data entry activities. We expect that the student will complete his thesis by December 1998.

SMALL CATCHMENT RESEARCH

During this quarter, the field data collection activities have been completed. The small catchment research presents two types of data: qualitative data from farmers and farmers' fields and quantitative data from experimental plots and streams. Soil loss data collected from the experimental plots were partly used by two Bunda College students for their student projects. Data will also be used to calibrate and validate the Revised Universal Soil Loss Equation (RUSLE) (Renard 1993) and the Soil Erosion Estimation Model for Southern Africa (SLEMSA) (Elwell, 1978). Presentation of the data in the form of project reports is scheduled to take place in the coming quarters.

LARGE CATCHMENT RESEARCH

Analysis of the historical climatic and hydrological data from five watersheds has been completed. The watersheds cover an area of about 15% of Malawi's land area. Depending upon the catchment, significant trends in streamflow have been identified for five large watersheds in Malawi. It is important to explain the factors responsible for the changes in streamflow. To understand these factors, however, satellite imagery and NDVI data will be needed to identify how land cover and land use changes influence streamflow. Analysis and interpretation of the Satellite imagery and NDVI is scheduled for the coming months.