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# AFRICAN ELEMENTARY SCIENCE PROGRAM

EDUCATIONAL SERVICES INCORPORATED
Watertown, Massachusetts

R E P O R T

to the

AGENCY FOR INTERNATIONAL DEVELOPMENT

for the period

April 1, 1965 - August 31, 1965

AID Contract No. csd-772

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## I. AFRICAN SCIENCE WORKSHOP - ENTEBBE, UGANDA

A highly successful Workshop for elementary science was held as scheduled from July 4, 1965 to August 13, 1965 at Entebbe, Uganda. Participation, although still within contractual limits, exceeded expectations significantly. Because planning for the Workshop could not begin until the spring of 1965, it was recognized that it might be difficult to attract African educators and American scientists in adequate numbers. Summer commitments had already been made in many cases. However, all African countries involved in the program did send at least two representatives. The widely varying experience backgrounds of the participants - Education Ministry officials, local primary and secondary school teachers, and university staff members - provided a broad and valuable perspective for the Workshop. In addition the Workshop, under the direction of Prof. Jack S. Goldstein of Brandeis University, did attract able scholars and educators from America, from the principal British Science Curriculum Reform movements, and from several other countries as well. (A list of active participants and others attending the Workshop is appended hereto.)

The purpose of the Workshop was to:

1) introduce participants to examples of curriculum reform being developed in Africa, the United Kingdom and the United States;
2) to consider the adaptation of some of these examples for wider use in Africa;
3) to prepare elementary science teaching units for adaptation and experimentation in local science centers and by participants;
4) to prepare a teacher's guide outlining the attitudes to be encouraged in teaching the units prepared.

A lengthy report has been prepared of the progress of the Workshop. This report, containing the record of significant work done on 22 elementary science units, is in process of further editing before release. Eight of these units are in advanced preliminary form, ready for trial use in African classrooms in the months ahead. The others will need varying amounts of additional work before meaningful trial use can be made. They do, however, provide a useful base for further study at future workshops. Every unit on which work was done this summer was actually tried out in at least one nearby Ugandan classroom - seven local schools were made available to the Workshop for field testing of elementary science materials and trial units. This liaison proved invaluable.

## II. SCIENCE CENTERS

It was recognized from the beginning that the most fruitful way of capitalizing on the work of the Entebbe Workshop was through science centers to be established in a number of the participating countries. These centers would be African centers staffed by African scientists and teachers, where possible. The staff would be augmented by an E.S.I.-paid science innovator. The purpose of the centers would be trial teaching of Entebbe-prepared units and material, as well as development of new elementary science units. It would also conduct training of teachers in use of new primary science materials. In this way it is expected that important feedback can be obtained which will prove invaluable for future African science workshops.

As indicated in the report for the period April, 1964 to April, 1965, two such African Science Centers are presently in operation. One is the Nairobi Science Centre under the Ministry of Education in Kenya. An American Science Innovator, William S. Warren, Jr., has begun work at this Center as of the end of August, 1965. Already an active plan for the development, refinement,

adaptation and the teaching of the Entebbe-developed units has been prepared. In-service teacher training has also begun.

The second established science center is the Nsukka Centre at the University of Nigeria. Mike Savage, E.S.I. Science Innovator, is being transferred to this Center as soon as suitable housing can be arranged. Temporary residence in Enugu, some 50 miles distant, is planned as an interim measure.

Concurrent with the transfer of Mike Savage to Enugu-Nsukka, E.S.I.'s Ford Foundation supported participation in the Awo-Omamma Education Project terminates. This was an extremely valuable project for providing field trial of elementary science materials for the Kano Conference and Entebbe Workshop. However, it became apparent that further work at this location would be of marginal value to the overall African Elementary Science Program.

Negotiations are actively under way with the Education Ministry of Malawi for the creation of a Science Center at Domasi Teacher Training College. E.S.I. has a qualified science innovator available for assignment there. May-June 1966 appears to be the probable beginning date.

Sierra Leone and Ghana have both indicated strong official interest in establishing science centers as well. Both centers are planned in conjunction with established universities. This has made recruiting of E.S.I. science innovators somewhat more difficult because these men must have the unusual combination of the necessary academic background and adequate knowledge of elementary science curriculum reform. Nonetheless, recruiting is proceeding with every expectation of ultimate success.

Other countries where significant interest has been expressed in the establishment of a science center are Liberia, Nigeria (Western and Mid-Western Regions) and Zambia.

It seems clear that the idea of Science Centers serving as a focal point for Science Curriculum Reform in any country is soundly conceived, as judged from the wide acceptance of the idea by Africans.

## III. FUTURE PLANNING

Already advance planning has begun for the 1966 Workshop. The site will be selected in the near future and work has already begun in attracting a qualified group of participants. With enough planning time now available, this would appear entirely feasible. Obviously, no financial commitments for next year's program will be made before funds are available. A proposal for funding the ongoing program will be submitted in due course.

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