

ENVIRONMENTAL COOPERATION

GLOBE Program

Agreement Between the
UNITED STATES OF AMERICA
and TANZANIA

Signed at Dar es Salaam April 1, 1997

with

Appendices



NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89-497, approved July 8, 1966 (80 Stat. 271; 1 U.S.C. 113)—

“ . . . the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof.”

TANZANIA

Environmental Cooperation: GLOBE Program

*Agreement signed at Dar es Salaam April 1, 1997;
Entered into force April 1, 1997.
With appendices.*

**AN AGREEMENT BETWEEN THE UNITED STATES
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND
THE MINISTRY OF EDUCATION AND CULTURE OF
THE UNITED REPUBLIC OF TANZANIA FOR COOPERATION
IN THE GLOBE PROGRAM**

PREAMBLE

The U.S. National Oceanic and Atmospheric Administration, Department of Commerce, 14th Street, N.W., Washington, D.C. 20230, acting on behalf of itself and other U.S. government agencies participating in the GLOBE Program (hereinafter, the U.S. side), and the Ministry of Education and Culture of the United Republic of Tanzania, P.O. Box 9121, Dar es Salaam (hereinafter, the Tanzania side),

intending to increase the awareness of students throughout the world about the global environment,

seeking to contribute to increased scientific understanding of the earth, and

desiring to support improved student achievement in science and mathematics,

have agreed to cooperate in the global learning and observations to benefit the environment (GLOBE) program as follows.

ARTICLE 1 - THE GLOBE PROGRAM

The GLOBE Program is an international environmental science and education program that brings students, teachers, and scientists together to study the global environment. GLOBE has created an international network of students at primary, middle, and secondary school levels studying environmental issues, making environmental measurements, and sharing useful environmental data with one another and the international environmental science community.

ARTICLE 2 - RESPECTIVE RESPONSIBILITY

A. The U.S. side will:

1. Identify U.S. schools that will participate in the GLOBE Program (details regarding GLOBE schools in Appendix A);
2. Select, in consultation with the international scientists and educators, the GLOBE environmental measurements and types of measurement equipment (described in Appendix B);
3. Select principal investigator teams for the GLOBE environmental measurements, and support the U.S. members of the teams;

4. Develop, in consultation with international scientists and educators, GLOBE educational materials;
5. Translate GLOBE instructional materials related to measurement procedures and data reporting protocols into the six United Nations languages, and provide a copy of these plus all broader GLOBE educational materials to the Tanzanian side for further reproduction as necessary;
6. Conduct regional training sessions for GLOBE Country Coordinators and GLOBE teachers who will serve as trainers for additional GLOBE teachers in Tanzania, and provide a copy of GLOBE training materials to the Tanzanian side;
7. Design, develop, operate and maintain GLOBE data processing capabilities and other necessary technology and equipment;
8. Provide GLOBE software, as necessary, for use on Tanzanian GLOBE school computers. (To the extent possible, textual material appearing on computer screens will be accessible in the student's choice among the six United Nations languages.);
9. Accept environmental data reported from GLOBE schools around the world, and develop and provide resultant global environmental images to the Tanzanian side; and
10. Evaluate the overall GLOBE program periodically, in consultation with international GLOBE Country Coordinators, and modify the overall program as appropriate.

B. The Tanzanian side will:

1. Identify Tanzanian schools to participate in the GLOBE program (details regarding GLOBE schools in Appendix A) and provide an updated list of Tanzanian schools to the U.S. side at the beginning of each school year;
2. Ensure that Tanzanian GLOBE schools conduct the fundamental activities of GLOBE schools detailed in Appendix A (take global environmental measurements, report data, and receive and use resultant global environmental images, using GLOBE educational materials under the guidance of teachers trained to conduct the GLOBE program);
3. Name a Tanzanian government point of contact responsible for policy-level communications with the director of the GLOBE program;
4. Name a Country Coordinator responsible for day-to-day management, oversight, and facilitation of the GLOBE program in Tanzania;

5. Ensure that the Country Coordinator and some GLOBE teachers attend GLOBE regional training and in turn provide GLOBE training to at least one teacher in each Tanzanian GLOBE school;
6. Ensure that GLOBE instructional materials related to measurement procedures and data reporting protocols are utilized in Tanzanian GLOBE schools, and that broader GLOBE educational materials are appropriately translated, adapted, reproduced, and distributed to all Tanzanian GLOBE schools;
7. Ensure that the measurement equipment used by GLOBE schools to take GLOBE environmental measurements meets the GLOBE specifications (described in appendix B);
8. Ensure that teachers and students at Tanzanian GLOBE schools calibrate GLOBE measurement equipment according to procedures provided in GLOBE instructional materials;
9. Ensure that Tanzanian GLOBE schools have the necessary computer and communications systems to allow Internet/World Wide Web access in order to report GLOBE environmental measurements and to receive and use GLOBE environmental images; if such computer and communications systems are not available in Tanzanian schools, make agreed alternative arrangements for such reporting and receipt. (At a minimum, the Tanzanian Country Coordinator will need access to Internet so that all measurement data from Tanzanian GLOBE schools will be reported via Internet.); and
10. Evaluate GLOBE operations in Tanzania periodically and assist the U.S. in conducting periodic evaluation of the overall GLOBE program.

ARTICLE 3 - FINANCIAL ARRANGEMENTS

Each side will bear the costs of fulfilling its respective responsibilities under this agreement. Obligations of each side pursuant to this agreement are subject to its respective funding procedures and the availability of appropriated funds, personnel, and other resources. The conduct of activities under this agreement will be consistent with the relevant laws and regulations of the two sides.

ARTICLE 4 - EXCHANGE OF DATA AND GOODS

GLOBE environmental measurement data, global environmental images, software, and educational materials will be available worldwide without restriction as to their use or redistribution.

**ARTICLE 5 - RELEASE OF INFORMATION ON
THE GLOBE PROGRAM**

Each side may release information on the GLOBE program as it may deem appropriate without prior consultation with the other.

ARTICLE 6 - DURATION

This agreement will enter into force upon signature of the two sides and will remain in force for five years. It will be automatically extended for further five-year periods, unless either side decides to terminate it and so notifies the other side with three months' written notice. This agreement may be terminated at any time by either side upon three months' prior written notice to the other side. This agreement may be amended by written agreement of the two sides. Done at Dar es Salaam, on April 1, 1997, in duplicate in the English language.

J. Brady Anderson
For the United States of America
Ambassador J. Brady Anderson

Juma Athumani Kapuya
For the United Republic of Tanzania
Prof. Juma Athumani Kapuya, Minister,
Ministry of Education and Culture

APPENDIX A - GLOBE SCHOOLS

Each partner country will be responsible for identifying its participating schools. Schools should be selected so as to satisfy the objectives of the GLOBE program. In particular, countries should emphasize the selection of schools that will maximize the number of students worldwide participating in the program. Also, countries should consider involving schools in locations that will yield measurement data that is important to the international environmental science community.

Students at all GLOBE schools throughout the world conduct the following fundamental activities: they make environmental measurements at or near their schools; report their data to a GLOBE data processing site; receive vivid graphical global environmental images created from their data and the data from other GLOBE schools around the world; and study the environment by relating their observations and the resulting images to broader environmental topics. All of these activities will be conducted under the guidance of specially trained teachers (GLOBE-trained teachers).

GLOBE educational materials are used in GLOBE schools under the guidance of GLOBE-trained teachers. These materials contain instructional materials detailing procedures for taking environmental measurements and protocols for reporting data; they also explain the significance of the measurements, guide the use of the global environmental images, and integrate the measurement aspects of the program into a broader study of the environment.

APPENDIX B - GLOBE ENVIRONMENTAL MEASUREMENTS AND EQUIPMENT

GLOBE environmental measurements contribute in a significant way to the scientific understanding of the dynamics of the global environment. Every GLOBE school is encouraged to conduct a core set of GLOBE environmental measurements in the following critical areas: atmosphere/climate, hydrology, land cover/biology, and soils. As the GLOBE Program evolves, specialized measurements not common to all GLOBE schools may be added in order to address local environmental issues.

Students at all age levels are active participants in the GLOBE program. The actual participation is designed so as to be appropriate for primary and secondary school levels. Younger students make limited measurements which may be qualitative rather than quantitative. Older students make additional measurements and more sophisticated measurements, as appropriate to their skill level. Measurement equipment is not standardized; rather, functional and performance specifications are provided for GLOBE instruments.

Following is the list of GLOBE core measurements and equipment. This list has been developed and will be periodically updated as provided in Article 2.A.2 based on experience gained in implementing the GLOBE program.

MEASUREMENTS

EQUIPMENT NEEDED

ATMOSPHERE/CLIMATE:

air temperature

max./min. thermometer
calibration thermometer
instrument shelter

precipitation

rain gauge

cloud cover/type

cloud charts

HYDROLOGY:

water pH

pH paper, pen

water temperature

organic liquid-filled thermometer

dissolved oxygen

dissolved oxygen kit

alkalinity

water alkalinity kit

electrical conductivity

electrode-type conductivity tester

LAND COVER/BIOLOGY:

land cover

remote sensing image multi-spec software

species identification

dichotomous keys

biometry

measuring tape
clinometer (optional)
densiometer (optional)

SOILS:

soil moisture

soil sample cans
augur
soil moisture meter (optional)

soil characterization

color chart
graduated cylinders
augur (optional)

APPENDIX C - GLOBE COMPUTER AND COMMUNICATIONS SYSTEMS

In order to derive maximum benefit from the GLOBE program, all schools are encouraged to use the Internet, along with classroom computers. The Internet/World Wide Web multi-media information-access capability has been selected to support the required GLOBE school activities of data entry, data analysis, and use of global environmental images.

The diversity of technology accessible by schools worldwide may require, in some cases, that environmental measurements be reported via e-mail or in hardcopy and that a variety of media, including e-mail and hardcopy, be used to distribute global environmental images. All schools that want to participate in the program will be accommodated.

Technology associated with the GLOBE Program will continually evolve to higher levels and participants will be encouraged to upgrade over time.

It is not necessary that the schools have computers. Schools may conduct GLOBE activities and collect GLOBE data without computers. The data may be written on paper and forwarded to the Country Coordinator.