



OPERATIONAL PLAN and JUSTIFICATION

Post Office Box 120553
Boston, MA 02112
617.500.7102
adobson@itsmyworld.org

Justification

The objective of this program is poverty eradication and environmental protection. This objective will be achieved through direct support for disadvantaged students to improve their educational outcomes and to inculcate in them a strong environmental awareness. The priority of this programme is to enhance the educational experiences of Tanzanian students in a resource poor environment by improving the services that Tanzanian schools provide to their students. Components of this program are directly relevant both to the priorities of education and environmental conservation.

Firstly, the development of experiential learning programs that take advantage of the natural resources present in Tanzania (its national parks and conservation areas) will dramatically enhance the educational experience of Tanzanian students, promote personal development, and increase their levels of human capital. The parks provide dramatic laboratories for learning that foment lessons in geography, biology, physics, chemistry, and history; each trip affords lessons that cross educational boundaries and brings a holistic concretion of the abstract concepts learned in the classroom. The project will train teachers to effectively utilize techniques of experiential learning to improve the education of their students, and will provide ongoing support to the participant schools, offering an opportunity to make a lasting contribution to the educational quality of the schools.

Secondly, the focus on environmental education that is built into the educational program leading up to, including, and following the trips will instil a greater sense of awareness and responsibility in the students, and by extension their schools, their families, and their communities. The Tanzanian government in various policy instruments has strongly supported environmental education as an integral part of a national environmental strategy. By combining environmental education with experiential learning the most lasting changes in behaviour can be achieved (GreenCOM 2000). Participation in the program will give students the potential to create solutions to environmental problems and will enable them to analyze environmental problems in their own communities.

Tanzania continues to be a country in high need of donor assistance to meet its poverty eradication goals.

Tanzania was ranked: 164 out of 173 countries in a 2004 ranking of the Human Development Index; only 226 out of 232 countries in a 2005 ranking of GDP per capita; and 59 out of 95 countries on the human poverty index (UNDP 2004; CIA Factbook 2006; Wedgewood 2005). Sixty percent of Tanzanians live on less than \$2 a day (Wedgewood 2005). Over 50 percent of the government's budget is donor financed (World Bank 2005).

This project is directly relevant to achieving the Millennium Development Goals, particularly MDG 2 (Achieve Universal Primary Education); MDG 3 (Promote Gender Equality and Empower Women); and MDG 7 (Ensure Environmental Sustainability).

IDENTIFICATION OF PERCEIVED NEEDS AND CONSTRAINTS IN THE TARGET COUNTRY

Marked Lack of Access to and Low Quality of Secondary Education in Tanzania

The Tanzanian secondary education system remains one of the least developed and lowest quality in the world: The overall performance of the Tanzanian education system is far below what would be needed to meet its human resource development goals (World Bank 2005). In 2000, Tanzania spent only 2.1 percent of GDP on education, compared to 5.2 percent for other SubSaharan nations (Earth Trends 2003). The country is close to achieving universal primary education (UPE) as a result of a recent World Bank program, but the quality of education remains low with only 48 percent of students nationally passing their primary school leaving exams (MoEC 2003; WB 2005).

The transition to and retention in secondary school has become one of the most notable needs in the Tanzanian school system: As more students flood limited spots due to the increasing primary enrolment that is a result of the drive for UPE (with 95 percent in 2005), the transition rate will decrease below its current 36 percent level (MoEC 2005). Currently only 5.8 percent of Tanzanian children enrol in secondary school (6.3 percent in O-levels and 0.4 percent in A-levels), while the average for SubSaharan nations is 27 percent and that of the least developed nations is 59 percent (Wedgewood 2005; HDR 2000). In 2005 secondary education accounted for only 6 percent of government spending on education (MoEC 2005). The average spending on books is 0.61 USD per student per year (Wedgewood 2005).

There is great geographic inequality in educational quality in Tanzania: Wealthier regions such as the Kilimanjaro region and Dar es Salaam receive a disproportionate amount of resources compared to poor and more rural regions. In the richest regions there are only 60 students per classroom while in the poorest the number may reach 222. Nationally only 8 percent of secondary school students come from the poorest income group (Wedgewood 2005).

The low quality of secondary school education and endemic poverty of Tanzania make retention a major problem: Only 72 percent of students who begin secondary school finish their first four years, while only 40 percent of candidates pass their O-level exams. Only 14 percent of teachers in secondary schools hold the degrees that technically qualify them to teach (Wedgewood 2005). The low quality of primary education continues to rob students of the preparation they need to succeed in secondary school; the poor educational quality in secondary school in turn creates teachers without the skills, leading to a deleterious cycle of underachievement.

Pregnancy is highly correlated with female students' likelihood of continuing their education, and in turn education reduces teen pregnancy: Over 40 percent of girls aged 15-19 with no secondary education become pregnant, while only 9.6 percent of girls who remain in school become pregnant (HDR 2000).

Tanzania is in the midst of implementing a Secondary Education Development Plan (SEDP) covering the years 2004-2009 with the intent of making major improvements in secondary education throughout the country. Significant progress is not likely to be seen soon due to: continued funding constraints, the great inequality among regional provision of resources, and the sheer scope of the problem (WB 2004; SEDP 2004). Already Tanzanians are losing jobs to qualified foreigners in the local labour market because they lack fundamental knowledge and skills. The benefits to secondary education can not be underestimated as those who successfully complete it will immediately earn 163 percent more than someone who has completed only partially, and the income disparity will grow over time (WB 2004). Even in the informal sector, women who have completed secondary school run more profitable businesses than those who have not (Wedgewood 2005). Improvements in both quality and retention are essential for meeting Tanzania's poverty eradication goals.

Tanzanian Government's promotion of Environmental Education

The Tanzanian government has consistently espoused environmental education as an essential tool for environmental protection, a right of its citizens, and a key part of its national educational curriculum (Ringia & Porter 1999). Additionally, the government and other experts look towards experiential environmental education as the most effective form of environmental education (GreenCom 2000). The following documents and policies all bespeak the necessity of environmental education in Tanzania:

Article 27 of the Tanzanian Constitution enshrines the public's responsibility as custodians of the country's national resources (Tanzanian Constitution 1977);

The *1995 National Education and Training Policy* calls for the need to teach environmental education in schools;

Item 25 of the *1997 National Environmental Policy* (NEP) mandates that population-wide environmental literacy programs are needed to increase protection of natural resources (NEP 1997);

Item 37 of the NEP insists that the "introduction of environmental education, particularly in primary and secondary school curricula creates an enduring awareness by inculcating values that support responsible environmental care and discourage attitudes that are incompatible with sustainable ways of life" (NEP 1997: 15);

The 2004 SEDP declares that integrating HIV and environmental education into main course subjects will be an important aspect of improving the secondary school curriculum and that a key strategy is to: involve students in out-of-classroom activities to strengthen changes in their attitude and behaviour. Students in all schools should be involved in out-of-classroom activities in the environment by the year 2000 (SEDP 2004);

The 2000 HDR Report states: “Environmental awareness and knowledge of the links between environmental stewardship and human development are crucial if Tanzania is to protect its extraordinary natural endowment.” (HDR 2000: 21);

It continues by reflecting that the need for such education is overwhelming and should be a part of the curriculum at primary, secondary and tertiary levels, especially in teacher training colleges so that future teachers can effectively pass on the knowledge (HDR 2000); and

Even the Tanzania National Parks System (TANAPA) is resolute that environmental education is an important tool in preserving the country’s resources. TANAPA recognizes that environmental education is the foundation of any effective environmental strategy (Hoffman 2006).

Clearly environmental education is an important and tightly integrated part not only of the Tanzanian government’s environmental protection program, but also of its plan for poverty eradication in general. Any project that integrates environmental education with its other goals will complement the actions of both the Tanzanian government and donor organizations.

Educational Contribution of Outdoor Experiential Learning Programs

A growing body of research provides compelling evidence that outdoor experiential learning is not only a highly effective complement to formal classroom education, but also an important tool for improving self esteem, building confidence and leadership skills, and endowing the student with strong social skills. If the program is designed carefully, it can achieve all of these objectives in a way that no other educational vehicle can. Additionally experiential learning has the multiplier effect that the students who undergo the trip return and influence their fellows with the positive changes that they have experienced (Neill 1997).

Experiential Learning Theory emphasizes the central role that experience plays in the learning process. This focus differentiates it from other learning theories such as cognitive learning theories, which emphasize cognition over effect, and behavioural theories, which do not account for subjective experience in the learning process (Kolb et al 2000).

Experiential learning becomes the “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (Kolb et al 2000: 2). Experiences are the basis for observations or reflections that can later be analyzed and assimilated into the participant’s own environment. The participant takes this new knowledge and begins to experiment with it, using it to solve problems (Albertson 1995).

By using experiential learning to complement the more cognitive focus of classroom education, the diverse learning styles of different students can be accommodated.

Students assimilate knowledge through different mechanisms, and the rigid, rote learning favoured by Tanzanian classrooms fails to reach all students. By integrating the experiential expedition's related themes into cross-curricula efforts, we can enhance the overall learning experience of the students.

Experience provides an essential foundation of and stimulus for learning. If a student can link curricular material to an experience in her life, then the knowledge will have meaning behind it. Learning should be a holistic process whereby different aspects of the child's experience of life interact to create her education (Albertson 1995).

Effective experiential education programs should be physically oriented, integrate closely with the student's school, take place in an immersive (24 hours a day) setting; be at least a week long; be conducted by trained people to incorporate the aims of the students and teachers; and have post-trip evaluations (Neill 1997; McKenzie 2000).

Physically oriented programs are ideal because they create difficult situations, which must be overcome by the student, and can require teamwork to achieve the objective. Alternatively problems can be built into the trip to simulate physical accomplishment. On trips to Mt. Kilimanjaro, for example, the process of training for and actually completing the climb afford a strong opportunity for the students to achieve a hard won and measurable accomplishment that will be a transformative experience. In trips that are not as physically demanding, i.e. a trip to Serengeti National Park, intellectual obstacles can be built into the trip to allow for a similar transformative experience. Students can be tasked with creating a fundraising program, be involved in planning the trip, or be required to make scientific observations during the trip itself about the ecology and biology evident in the park. Options are limitless in creating the process of overcoming obstacles.

Programs that arise out of the school context will better achieve academic goals. If the students' curriculum supports the trip through the inclusion of crosscutting lesson planning, the students' academic experience will be dramatically enhanced. Without intentional and pervasive integration of the expedition's attendant academic opportunities into the normal school curriculum, the trip will not fulfil its potential.

Immersive settings are used for the trips to enhance the transformative opportunities. By isolating the students from their normal contexts they are allowed to be freer in absorbing the lessons presented by the trips. **This is especially important for female students who will be relieved from their normal and cumbersome gender roles in the household for the duration of the trip and will be able to dedicate themselves to the experience.** The increased intensity that results from immersive experiences, magnifies the effects of experiential learning, and ensures that the students will take as much from the trip as possible.

Length is an important issue for experiential education programs, as the longer the duration of the trip, the more time is afforded for imparting educational and life skills lessons, and the more permanent its effects are likely to be. As the actual length of

most expeditions in Tanzania will not exceed 6 to 10 days, efforts must be taken to plan trip-related activities throughout the school year. Student clubs designed around the trip, training for the trip, parallel or small-scale activities, or reports to the school afterwards are all options for integrating the trip into the activities of the school year.

Trip leaders should be trained to most effectively achieve the goals of students and teachers. Professional facilitation enhances the experiences and outcomes of those involved. To secure this benefit, selected professional guides who operate in the national parks will be trained to successfully lead experiential education expeditions for Tanzanian student groups. The need to train guides is evident from current attitudes of the tourism industry to environmental protection. Students at one of the country's largest hospitality schools were surveyed and responded that they felt conservation and sustainable development were nothing more than obstacles to growth of the industry (Barron & Prideaux 1998).

Participants must be prompted to evaluate their experiences afterward in order to reflect on their experience and create the opportunity for integrating new ideas into their local context. What they learned from the trip should not be forgotten as soon as they return home; rather a bridge must be created to link the new knowledge and self-concept that they have created to their normal lives.

If the trips are designed in this way, very positive outcomes will result for the participant. Importantly, effects on self-concept are much better than what is achieved in the classroom (Hattie et al 1997; Neill & Richards 1998). Students manifest improvements in: leadership skills, self-esteem, communication skills, and cooperation (Neill 1997; Neill 1999; McKenzie 2000). Importantly, the effects from the trip continue to grow throughout time; this growth is unique among educational programs (Neill 1997; McKenzie 2000; Hattie et al 1997).

Female students who participate are more stable, dependable, lively, and confident than those that haven't been on such trips (Hattie et al 1997). Girls' experiences on the expeditions will help them to take advantage of other educational opportunities that they have and contribute to a reduction in the high drop out rate among female secondary school students.

In addition to creating these benefits to students' educational outcomes, outdoor experiential education will create an environmental awareness in them. "Outdoor education aims to produce environmentally conscious citizens that develop lifelong knowledge, skills and attitudes for using, understanding and appreciating natural resources and for developing a sense of stewardship for the land" (Ford 1981: 18 in Parkin 1998: 276).

Environmental education creates measurably more environmentally responsible behaviours in people (Orams 1997). If a program does not set out to change behaviours, it is unlikely to do so, so environmental education must be an integral part of the crosscutting curriculum created as part of the project. The steps needed to implement an

effective environmental education element in a Tanzanian expedition are simple and easily integrated into the Tanzanian student's experience. The content for each program will vary according to the school's local context as well as the destination planned for the trip, but several essential aspects must be included to effectively create more environmentally responsible behaviour. They are:

1. Developing Curiosity: create interesting questions to arouse the participants' curiosity and ensure that they will engage more in the process;
2. Affective Domain: create emotional involvement for the participants through various techniques and stories to make the participants more likely to internalize the knowledge. Emotional attachment is a very powerful short cut in the learning process;
3. Motivation to Act: present problems that are related to the theme of the trip and to which solutions can be enacted by the students. Provide the opportunity for concerns learned on the trip to be transferred to the student's home context;
4. Opportunity to Act: provide some immediate opportunities for action i.e. picking up trash, or carefully preparing the trip's trash for safe removal from the park, joining environmental clubs, or collecting donations on behalf of the school to give to the park. By giving opportunities during the trip, changes in behaviour can be directly prompted and will likely be more lasting; and
5. Evaluation: We can only continually improve the project if we receive detailed and considerate feedback, which can be obtained in a formal setting from the students. Evaluation also gives participants the opportunity to reflect and identify important lessons.

The five key steps of environmental education are: enjoyment, knowledge, attitude, intentions to change behaviour, and actual behaviour change (Orams 1997). A well-designed program will lead the student through these five steps so that lasting behaviour change is likely, and the student will then transmit her more environmentally responsible behaviour to her school, family, and community.

To fulfil the potential of the program, it is key to integrate the trip with the students' school by gaining approval, participation, and encouragement from the administration, teachers and parents. By involving the whole school, the process becomes institutionalized and the transmission of acquired knowledge, skills, and behaviours to other students, family and the community is more readily facilitated.

Thus the outdoor experiential education program becomes a potent tool to achieve two aims:

1. Educating the 'whole' student, reaching beyond the opportunities afforded by traditional classroom education – which in Tanzania is not accomplishing the goals that it should – to improve the student's academic potential, self concept, social skills, and leadership ability; and
2. Promoting environmental awareness by prompting more environmentally responsible behaviour.

A clear and demonstrated multiplier effect from programs such as this one is that the participants will share their knowledge with their fellow students, family, and community, effectively increasing the scale of the project.

These reasons justify the application of the project to Tanzanian schools.

Methodological Considerations in Light of Theoretical Implications

MW must seek the support and involvement of the administration of the school as well as the students' parents in target communities.

1. School involvement can include:
 - a. Contribution of food for the trip;
 - b. Space for meeting of participants;
 - c. Involvement in fundraising activities;
 - d. Flexibility to integrate trip themes into curricula; and
 - e. Other support of the lead teacher directing the trip.
2. Parental involvement can include:
 - a. Financial support of student;
 - b. Involvement in fund raising activities;
 - c. Encouragement of the student's participation; and
 - d. Support in miscellaneous capacities.

The program must be integrated into the academic experience of the student beginning several months before the trip. This can be achieved in various ways:

1. Integrate themes related to the trip throughout the student's curricula;
2. Training for the trip;
 - a. For mountain climbing trips, this would include physical training.
 - b. For other trips, training could include small-scale field trips into the local environment where skills of observation, interpretation, and environmental awareness are tested and honed.
3. Fundraising activities;
4. Projects intended to build community awareness;
5. Formation of a club with regular meetings to discuss related themes; and
6. Planning for the actual trip.

Trips are most effective if they are designed to include obstacles for the students to overcome and if they offer the opportunity for the students to take positions of responsibility. This can be effected in several ways both before and after the trip.

1. If a club is formed, give concrete responsibilities to student officers;
2. Give students defined roles in preparing for the trip;
 - a. Acquiring supplies;
 - b. Preparation of food;
 - c. Planning activities; and
 - d. Defining goals for the trip.
3. Make one student a leader for each day of the trip;

4. Include difficult academic tasks throughout the actual trip;
 - a. Identification of species or ecosystems;
 - b. Comparing and contrasting trip environment with local environment;
and
 - c. Other academic goals consistent with individual context.

Environmental education must be explicitly built into the trip and integrated into the lesson plans created for the curriculum. The ways in which this is done will depend on the individual context of the trip, but can include:

1. Facilitation of environmentally conscious projects:
 - a. Tree nurseries;
 - b. Waste disposal planning;
 - c. Nature walks;
 - d. Water conservation projects; and
 - e. Other projects as locally appropriate.
2. Integration of environmental themes into curricula;
3. Completion of environmentally responsible tasks during the trip, itself; and
4. Formation of an environmental club.

Follow-up support and evaluation are essential to maintain and enhance the effects of the trip. This can be achieved in several ways:

1. Immediate post trip debriefing of the students to collect information for guidance of further support for the students as well as for program evaluation purposes;
2. Formal school-wide and community-wide meetings in which the students share experiences about the trip and specifically discuss their strides in environmental awareness;
3. Continuance of related clubs;
4. Planned opportunities for students to engage in environmentally responsible behaviour;
 - a. Tree nurseries;
 - b. Waste disposal planning;
 - c. Nature walks;
 - d. Water conservation projects; and
 - e. Other projects as locally appropriate.
5. Continued integration of related themes into the academic curriculum; and
6. Participation of students as guides in subsequent years of trip planning.

These are preliminary opportunities to make the trips as effective as possible. A MW representative will provide training on these aspects to newly participating schools as well as support and monitoring throughout the process.

MW will engage in annual evaluation with professional evaluation by experts from time to time to enhance the services offered to the students.

References

- Albertson, D. (1995) Evaluating Experiential Training: Case Study and Recommendations, *Developments in Business Simulation & Experiential Exercises*, 22. Pp. 166-171.
- Barron, P. & Prideaux, B. (1998) Hospitality Education in Tanzania: Is There a Need to Develop Environmental Awareness? *Journal of Sustainable Tourism*, 6:3. pp. 224-237.
- CIA (2006) *CIA World Fact Book: Tanzania*.
Available at: <http://www.cia.gov/cia/publications/factbook/geos/tz.html>.
- Earth Trends (2003) *Earth Trends Country Profile: Tanzania*.
Available at: <http://earthtrends.wri.org>.
- Government of Tanzania (1977) *Constitution of the United Republic of Tanzania (as amended in 1995)*. Dar es Salaam: Government Printer.
- Government of Tanzania (1997). *National Environmental Policy*. Act No. 26. Dar es Salaam: Government Printer.
- GreenCOM (2000) *Lessons from School-Based Environmental Education Programs in Three African Countries*, Environmental Education and Communication Project, USAID, Washington D.C.
- Hattie, J. et al (1997) Adventure Education and Outward Bound: Out-of-Class Experiences that Make a Lasting Difference, *Review of Educational Research*, 67:1. pp. 43-87.
- Hoffman, K. (2006) Kilimanjaro: Keeping the Mountain Clean, *Africa Travel Magazine Yearbook*.
- Kolb, D., Boyatzis, R., & Mainemelis, C. (2000) Experiential Learning Theory: Previous Research and New Directions, in: R. J. Sternberg and L. F. Zhang (Eds.), *Perspectives on Cognitive, Learning, and Thinking Styles*. NJ: Lawrence Erlbaum, 2000.
- McKenzie, M. (2000) How are Adventure Education Program Outcomes Achieved?: A review of the Literature, *Australian Journal of Outdoor Education*, 5:1. pp. 19-28.
- Ministry of Education and Culture (2003) *Primary Education Development Program (PEDP) 2002-2006*, Dar es Salaam: Government Printer.
- Ministry of Education and Culture (2004) *Secondary Education Development Program (SEDP) 2004-2009*, Dar es Salaam: Government Printer.

Ministry of Education and Culture (2005) *Basic Education Statistics in Tanzania (BEST) 1995-2005*. Dar es Salaam: Government Printer.

Neill, J. & Richards, G. (1998) Does Outdoor Education Really Work? A Summary of Recent Meta-Analyses, *Australian Journal of Outdoor Education*, 3:1. pp. 1-9.

Neill, J. (1997) *Outdoor Education in the Schools: What can it Achieve?* Presented to the 10th National Outdoor Education Conference, Sydney, Australia, January 20-24, pp. 1-8.

Neill, J. (1999) *The Melting Pot of Outdoor Education Effects: Testing the Flavours of Program Type, Duration and Participant Age*, presented to the 11th National Outdoor Education Conference, Perth, Western Australia, January 11-15. pp. 1-10.

Orams, M. (1997) The Effectiveness of Environmental Education: Can we Turn Tourists into 'Greenies'? *Progress in Tourism and Hospitality Research*, 3. pp. 295-306.

Parkin, D. (1998) It Outdoor Education Environmental Education? *International Journal of Environmental Education and Information*, 17:3. pp. 275-286.

Research and Analysis Working Group (2005) *Poverty and Human Development Report 2005*, prepared on behalf of the Government of the United Republic of Tanzania, Dar es Salaam.

Ringia, D. & Porter, S. (1999) Access to Environmental Education in Tanzania, Lawyers Environmental Action Team Document, Dar es Salaam.

United Nations Development Program (2000) *Tanzania Human Development Report: The State of Progress in Human Resource Development*, New York.

United Nations Development Program (2004) Human Development Index. Available at: <http://hdr.undp.org>.

Wedgwood, R. (2005) *Post-Basic Education and Poverty in Tanzania*, Post-Basic Education and Training Working Paper Series – No. 1, Centre of African Studies, University of Edinburgh.

World Bank (2004) *Program Document for a Proposed Adjustment Credit in the Amount of SDR 82.7 Million (US\$123.6 Million) and a Grant in the Amount of SDR 17.7 Million (US\$26.4 Million) to the United Republic of Tanzania for a Secondary Education Development Program*, Washington D.C.

World Bank (2005) *Implementation Completion Report (IDA-35700 TF-50588)*, Washington D.C.