Appendix F-16
Monthly Field Activity Report

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Report for Month of: March, 2006

Executive Summary

Between March 6, 2006 and March 26, 2006, Barbara Johnsen and I conducted 19 classes and formal workshops for teachers, administrators and students. We held and participated in 15 meetings and planning sessions. Our goal was to assist teachers to develop methods of integrating environmental education into the curriculum using community mapping and the watershed model. Community mapping proved to be highly effective as a means of focusing attention on the local environment, generating enthusiasm among students, teachers and community members.

Educators in this part of Brazil face the following challenges: insufficient resources, low pay, and a lack of training. Our project responds to these challenges by providing practical ways to integrate environmental education across the curriculum using limited resources and drawing on the personal connections students and teachers feel for their local environment. The success of this initial phase is encouraging. Further development and follow-up in the form of teacher training and classroom support is highly recommended.

Background

World Fisheries Trust, together with its Brazilian and Canadian partners, is implementing a CIDA-financed project designed to improve sustainable livelihoods and conservation in Brazil's inland fisheries in the Sao Francisco River. I was contracted to work with Brazilian and Canadian partners of the project to assist in the development and application of environmental education into the Brazilian school curriculum, an initiative that will contribute to the community's environmental policies and practices.

Work was conducted one-on-one, in informal small groups, and in more formal workshops. The tool that was the focus of the current work was the watershed model; however the environmental practices fostered are also applicable to other educational tools and activities. In conjunction with my Brazilian partner, I also led community mapping and instructional workshops to complement the watershed model in increasing environmental awareness among administrators, educators, students, and community partners.

The dates of the contract were from February 23 to March 29, 2006.

Observations & Challenges:

Environmental education is a subject of increasing importance in Brazil. Environmental education has been mandated by national, state and municipal governments, and previous environmental education initiatives in Tres Marias, Sao Goncalo de Abete, Barreira Grande, Pirapora and across Brazil have all had positive impacts on their communities.

The Brazilian curriculum supports the integration of environmental concepts across subject areas. Means to do this in Canada are presented in seminars, workshops, symposia, etc. and may entail a variety of specific or supplementary activities. Teachers, who are ultimately responsible for the integration of environmental education into their teaching practice, are interested but skeptical and find it difficult to implement these approaches within their current working conditions.

Brazilian teachers I met were, for the most part, female and within the 20 to 35 year age range. Teachers have inadequate training, work long days and are poorly paid (a salary of around 350 reales a month), often forcing them to work two jobs. Basic resources (books, paper, pictures, art supplies, sports equipment) are not available. Current teaching practice reflects a rote-learning approach, with copying from the blackboard and working in workbooks being the norm.

Helping Brazilian teachers develop approaches and strategies for incorporating environmental concepts into everyday teaching practices in a practical fashion that recognizes the teacher's situation is recommended. The special events, fairs, workshops, etc. serve a purpose by focusing attention on environmental education ideas. Translating those ideas into easily implemented methods that provide environmental concepts as part of the teaching of Portuguese, mathematics, science, social studies and geography is the challenge at hand. Teachers don't have time to treat environmental education as a new topic added to their work load.

Recommendations: Immediate to long term

- Continue mapping activities, developing possibilities for subject integration with participating teachers, to complement the use of the watershed model as a simple and direct approach to environmental education and community awareness (activities in appendix).

- Provide in-class support as well as workshops (training) for the purpose of modeling different approaches and helping teachers develop their own knowledge, awareness and sensitivity to the local environment.

- Explore ways to promote community involvement. Volunteering may not be an option in a country where everyone works.

- Increase availability of resources to Brazilian teachers, focusing on low-cost, teacher and student-made materials.
- Work in a concentrated, focused way, with a few key teachers in one school (Professor Johnsen), with continuity and follow up to ensure a solid, functioning base.

Conclusions:

Mapping strategies and activities proved an effective means of incorporating environmental education into the very teaching practices which, over the course of time, influence thinking and action. Some elements of this approach we found particularly effective are:

1) a focus on the "home place" and connecting students/people to the local environment
2) a framework for students and teachers to share thoughts, ideas, experiences, as well as increasing knowledge of "home place" (local environment)
3) the non-threatening and creative nature of mapping, which generates enthusiasm among both young students and adult learners
4) the ability to address a wide range of learners
5) ease of implementation in areas where resources are limited

Local teaching practices and a lack of resources available in Brazilian schools present challenges to a Canadian-style approach to environmental education. Mapping in conjunction with the watershed model proved to be a highly practical and successful approach to environmental education within this context.

Appendix: Mapping Activities

Activity 1: Home to school, Work to school

Introduction:
-Ask if have seen, used, or observed others using map
-Explain that this type of map is different in that it is a map exploring what they see, what they notice everyday on their way to school. Talk about observation, the senses
-Explain that there is no right or wrong way to make your map. They are personal, meaningful to you
-You can draw on the map, make your own symbols, use text
-No maps will be the same because we are all different individuals; what is significant to us may not be noticed by another

Procedure:
- On large sheet of chart paper and using large felt markers teacher/presenter draws a small house in one corner and in the opposite corner diagonally, the school
-Draw a route which you take to school, modeling how the pathway might go, with curves, turns and straight stretches
-Begin adding natural and manmade features to you map, talking with children about why you are including what you draw
-instruct students to begin, circulating and asking questions, encouraging, showing particularly interesting examples
-encourage discussion
-return and add things to your own map
-have students share with group their ideas, what they selected to include on maps and why

Activity 2: Panoramic View Map (of street or creek or both)

Introduction:
-Explain what a panorama is and what we consider a panoramic view
-Explain that we are going to create a different type of map

Procedure:
-Have students go outdoors to observe different panorama
-Have them close their eyes and imagine the panorama of the street their school or home is located on (what is beside the school on the right, left, two doors up, etc. What natural things do you see)
-Brainstorm and make a list on chart paper of what students come up with
-Model making the map on large chart paper so all students can see. Add some of the features from brainstormed list
-Have students do their own maps
-Categorize items on maps (natural, manmade or living non-living, mechanical things, small things, etc.) label
-Share

Activity 3: Birds-eye view map

-Introduction

-Have students imagine how the schoolyard would look to a bird flying overhead. How would the bird see the features below? What shape would they be?, etc.

Procedure

-Have students take three or four items from their desks and arrange them on top. Ask them to stand up and observe the items from a "birds-eye" vantage point. Question as to differences in appearance of objects from this position.

-Have students place items on the floor, stand up and observe.

-Have students arrange at least four items on their desks or on the floor and draw a map depicting the position of the item and its shape

-There are many interesting extentions; Students can go outdoors and use natural objects, make an arrangement, draw their maps

Activity 4: Mapping the Classroom

Introduction:

-Ask students to imagine they are an observer (insect, spider, etc.) on the ceiling of the classroom and have a discussion about how things would appear from that vantage point. Draw examples on chart paper or on the board, comparing views between panoramic and birds-eye concept.

Procedure:

-Have students make individual maps of classroom noting positioning of doors, windows, furniture, etc. Developmental factors will surface and can be used as springboard for teaching and demonstrating differences in appearance.

-Students may want to use symbols to represent objects. Discuss.

Mapping Activity 5: Class Project (could be joint effort of two or more classes) Cooperative map of Creek

This group effort would ideally develop over a period of time. Instead of painting or drawing directly on map students would draw features separately, cut and as per collage method to map. An excellent way to focus on local environmental features and influences.

Introduction:

-Have large mural sized paper taped onto wall. Have creek painted or collaged across middle of paper as in panoramic view

-Have students observe view to be represented. Develop lists of what will be included. Categorize list

(many ways to do this)

-Have small groups of students work on representing different categiories (example: buildings, plant life, animal life) or take one category at a time and develop (plants: collect samples, illustrate and label, write up distinguishing characteristics, decide how to represented on map).

-Observe types of garbage found in the area and other signs of pollution. Categorize pollution types and sources. How would these pollutants affect animals and plants? What are basic needs of animals (food, air, shelter, space)

Introduce Model

-could be introduced anytime but during cooperative mapping project might prove especially compatible

-Landforms (high ground, low ground, hills, mountains, ridges, valley)

-Water (rivers, creeks, rain, ponds, wetlands)

-Gravity and water flow (Where does the water end up?)

-What affects water flow?

- What affects water colour?

- Pollution (What, when, where, how???)

-How does the pollution impact the water, plants, animals and people

-What can we do? (ex: use less plastic: how?; educate adults; posters, plays, puppet shows, displays)

-Adopt the creek (monitor using stream journal approach, look after green space beside creek)

-Presentation (students learn to do their own presentation of the watershed model, developing their own script to other classes in school and other schools, parents, community)