

Reforestation, Economic Diversification, Environmental Awareness and Agro-Forestry Sites in the Monarch Butterfly Model Forest

In 2004, the Manitoba Model Forest using its experience connecting with local people continued its work with the Monarch Butterfly Model Forest to develop sustainable forest projects that benefit the whole community. Working within and near two protected Monarch Butterfly Sanctuaries in the states of Michoacan (El Rosario) and Mexico (La Mesa), the Manitoba Model Forest in partnership with the Bosque Modelo Mariposa Monarcha, (Monarch Butterfly Model Forest) has been implementing projects aimed at improving the lives of community members and the habitat of the Monarch Butterfly.



One part of this initiative focuses on the reforestation of critical Monarch butterfly over-wintering habitat with native tree species. In the first year of the project, over 160,000 trees were planted by local men and women. This effort has started the reclamation of previously forested lands which had been either burnt or deforested for agricultural purposes.

Trees planted were primarily of two types; *Pinus pseudostrobus* and *Abies religiosa*, the two most common species of trees found naturally in the area. To preserve genetic diversity, the stock trees were grown from locally collect seed. In the near future, an additional 80,000 trees will be planted.



Caring for the new plantations is a community effort with local women co-managing demonstration sites used as operational / educational sites within local communities. With women being equally involved and represented at planning, supervisory and labour levels the projects truly encompass all members of the community. To protect newly planted trees, local residents constructed fences to exclude grazing livestock. Once the trees are established and large enough to withstand damage from grazing animals the fencing is reused at new plantations.

The development of operational, education Demonstration sites within local communities allows for residents to see how forestry and agriculture can co-exist with a net benefit to the community. Fuel wood and food is produced at the demonstration sites through the use of plantations and mobile cages for keeping grazing chickens. A continuation of a program started in 2003, mobile cages were constructed and chickens introduced to take advantage of the surplus forage available in the existing plantation sites. The project continues to test the quality and productivity of local forage crops. It works with local residents and the Bosque Modelo Mariposa Monarcha, to demonstrate, instruct and promote the concept of rotational crop grazing by penned livestock in conjunction with the growing of trees for subsistence needs. This project actively addresses local capacity development and includes a significant education and training component for local residents. As residents discover the long term economic and environmental benefits, the practices will become more widely used.



Education programs are also being conducted through the interpretive centres of Sierra Chincua, La Mesa and El Capulin, located close to the sanctuary sites of the Monarch Butterfly. Teachers of elementary schools in proximity to the interpretive centers, are receiving environmental education teaching kits for educating students. The purpose of the kits is to educate indigenous children and rural communities close to the sanctuaries. In conjunction with environmental workshops and activities, the local population learns about the migration phenomenon, hibernation and habitat of the Monarch Butterfly. Continuous environmental workshops in each one of the interpretive centres educate children from preschool, primary and secondary school levels on topics such as habitat, wild local fauna, wild local flora, water cycle, the forest, garbage recycling, fuel efficient Lorena stoves, organic composts, dry sanitary facilities, crafts, and protection/preservation activities. As

children become better informed they become environmental and social promoters. With the support and collaboration of a trained instructor supplied by the BMMM, they will be an active part of the larger community environmental education program.



Indigenous women maintain their tradition of cooking their food, heating water and obtaining warmth and illumination through the use of firewood. One project is demonstrating the construction, use and benefits of using the Lorena stove by rural indigenous women in eight communities. The Lorena stove decreases the amount of fuel wood needed by 50% thus reducing pressure on the forest resources. The stoves also vent the smoke outside the home thus reducing the current health hazard to women and children. Five hundred people now benefit from the placement of these stoves. Women and children are the main beneficiaries of this project particularly from a health benefit perspective. The forest has benefited as well, for households equipped with the Lorena Stove reduced their fuel wood needs up to 50%.



Economic diversification in the Ejido communities of La Dieta and Los Remedios in Michoacan has been started through the introduction of new skills. Local women are being trained in the art of pine needle crafts. Workshops have trained over 50 local women. Products were being produced but additional training and experience is being performed to ensure quality products are produced for resale. Products include vases, hats, purses, flower pots, baskets, tortilla holders, jewel boxes and fruit holders. The Project will also provide assistance with material purchase, design, and printing of product catalogues and product tags.



Many of these projects were showcased at the International World Forestry Congress in Quebec City. In recognition of its International success, the Manitoba Government has awarded the Manitoba Model Forest with the *Excellence in Sustainable Development Award* for its work in Mexico.

For additional information:

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