The School Milk Experience in Madagascar[1]

by

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BACKGROUND

Madagascar has a population of about 17 million, 80% of whom live in rural areas and make their livelihoods from a subsistence-type agriculture. The policy of the Government of Madagascar (GOM), in terms of development, is based on the reduction of poverty in the rural population by 50% by the year 2015.

Malagasy farmers are both crop and livestock producers at the same time. Their major farming activities consist of growing rice and raising cattle. Dairy production was introduced with the arrival of Europeans, and the extension of dairy breeds began with the Norwegian Red (PRN) breed in the region of Vakinankaratra (the highlands of Madagascar). This region has benefited from support of FIFAMANOR, an agricultural research and outreach organization funded by Norwegian Aid (NORAD). As a result, the dairy sector has developed within this region because, with established dairy producers, two dairy processing plants were also built in the region (respective capacities of 200,000 and 6,000 liters per day).

Other regions are also milk producers but at relatively lower levels. A World Bank project, called the "Livestock Sector Program" and implemented from 1993 to 1998, contained a component which supported the dairy sector and worked in the zone defined as the "Dairy Triangle." Its purpose was to improve the genetics of livestock, dairy producer organizations and the milk collection system. Unfortunately, following the end of the Program, these efforts also declined.

CURRENT SITUATION

It is estimated that 30 million liters of milk are produced annually in the region of Vakinankaratra (about 90% of national production), with the rest produced in other regions of the Dairy Triangle and various peri-urban zones.

Only about 50% of the milk produced in Vakinankaratra is collected by the two major dairy processors, and the other half is sold directly to consumers in the capital city or is processed and sold by small artisan units. The amount of fresh milk collected by

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these two large-scale processors is insufficient, hence the necessity to import about 2,000 MT of milk powder per year.

Per capita consumption of dairy products is estimated at 4.5 kgs/year. The goal of the Ministry of Agriculture, Livestock and Fisheries (MAEP) is to increase this consumption during the next five years to 10 kgs/year. To accomplish this objective, efforts to raise national production have been undertaken. Improvements in livestock genetics and animal feeds are the two main points emphasized by MAEP actions in partnership with the private sector.

Changes in the food habits of the Malagasy population will be necessary to achieve this objective. As a result, a pilot school milk project was initiated in 2004 with the support of the U.N. Food and Agriculture Organization (FAO).

PILOT SCHOOL MILK PROJECT

This pilot project was implemented in the zone of Tsiroanomandidy in the region of Bongolava, which is located within the Dairy Triangle. The objectives of the project were as follows:

- Improve the nutrition of primary school students
- Increase the level of academic success of students
- Improve the health of students in participating schools
- Modify the food habits of the population and increase consumption of dairy products
- Increase the revenue of dairy products.

A local dairy cooperative (TSIRO), established through an FAO project, was chosen in order to ensure the collection of milk from local processors and processing in the plant managed by the cooperative itself.

The beneficiaries were students in the 6^{th} year of both public and private primary schools in Tsiroanomandidy. In all, 720 students in 17 schools participated in this pilot project. School officials and local heath authorities as well as parents of the students were asked to help implement the project.

Several parameters were chosen for measurement before the project began. These included academic, physical, behavioral and health factors.

Several different dairy products were produced by the cooperative's small dairy plant and distributed during the last trimester of the 2003-2004 school year for a period of 12 weeks (March 22 to June 21, 2004).

The products were distributed four times each week: Monday, Wednesday, Thursday and Friday. Pasteurized milk packaged in 200 ml plastic bags was distributed two times

per week, one yogurt bag of 125 ml one time per week, and 30 g of cheese once per week.

A micro-biological analysis of the products was conducted by the Institut Pasteur of Madagascar before their distribution.

The results obtained from the students after this operation were as follows:

- Weight of students increased (1.61 kg on average)
- Retention of school lessons improved
- School attendance rate increased (more than 90%)
- Students more applied, assiduous and dynamic
- End-of-year CEPE exams improved from 74.4 to 77.5%.

In terms of the local community, the impacts were as follows:

- Economically, through an improvement in the revenues of dairy producers
- Socially, through improvement of academic results
- Technologically, through an improvement of the quality of the different products produced by the local dairy plant.

CONCLUSIONS AND FUTURE PLANS

This pilot project in Tsiroanomandidy was considered a success, and the different parties that were involved have requested not only the continuation of this kind of project but also its extension to other schools as well as other zones.

With the signing this year (July 2005) of an Agreement between the U.S. Department of Agriculture (USDA) and the Government of Madagascar through the MAEP, a total of $1.0 million U.S. will be utilized for a School Milk Program in selected pilot regions. The budget allocated to this program will allow the purchase of milk from Malagasy dairy producers, which will then be processed and packaged by local dairy plants before being distributed to the schools and their students. The objectives of this program will be identical to those cited above.

Key Words: student nutrition, school results, consumption of dairy products