

# Earthworms earn their credit

**T**hat day, we started to dream how we could get sufficient funding to let all those modest people receive their "meter of earthworms" (about four thousand), which cost about 12 dollar at Mr. Cangás's.

The third group of seven families participating in the project was ready to receive their credit in earthworms, with the promise to pay back the same amount of worms in four months and more in eight months, so that the project could continue to expand to new families. There was none of the nervousness we had seen in earlier groups. It was clear for them that when the substance was pressed and no water came out, it should be watered and if water came out, it shouldn't. You only had to feed them, the rest was the responsibility of the worms, who surely would cooperate with them, just as they had done before with the people from García Moreno and Los Andes.

## Getting started

Everything had started a few months ago, when Fabián Ramírez, Alcalde of Bolívar, in the northern highlands of Ecuador, asked for help to resolve the garbage problem in the parishes. It was found impossible to manage the wastes in an acceptable manner, given the lack of means and the considerable distance to the district capital. At that time, we were working in a research project on solid waste management, which the Fundación Natura was carrying out with support from IDRC from Canada.

We decided to organise a workshop. Given the predominance of the rural population in the district and in the workshop and given the seriousness of the problem of soil erosion in the area, the proposal of producing compost on the basis of household and agricultural wastes came up easily. The option of earthworms was chosen

*"In the past we suffered because there were no trucks that came to collect our garbage. Now we don't need them, because the limited amount of garbage produced is used to prepare food for the earthworms." This was said by Don Felix, when we visited him to check how things were going two months after our waste management pilot project using earthworms had started. Then, for a moment forgetting his usual shyness, he started asking us all about the recommended procedures for harvesting the compost, its subsequent drying, sifting and prices and contacts for its sale.*

## Carlos Landín

because there were already two worm nurseries in the region, the owners of which expressed great willingness to collaborate with this initiative. Now the number of families participating officially in the programme has reached 100. In many cases families handed over small quantities of worms to their friends and neighbours, apart from their obligations to the programme.

## A family job

People say they have experienced a change in attitude, because previously they burnt the stalks and leaves of their bean, wheat or barley harvest. "In the past we turned around, lighted a match and ready we were. Now we have come to realise that those materials are also useful." Some farmers say that the whole family takes part in this activity and that it has served to bring them closer together. Housewives gather the garbage and the kids, who were previously loafing about, now have something to keep them busy. "They take charge of preparing the food and moisten the earthworm beds. We divide the tasks between all of us. Now they even want their own bed."

## Spectacular results

Results are beginning to show. People found out that it helps to put agricultural wastes in corals or stables, to speed up maturing. They also mix it with animal manure before putting it in the earthworm beds, which should not be placed below eucalyptus trees. Solutions are sought to protect them from hungry

chickens. People start to discover that the alfalfa to which the compost has been applied looks more vigorous.

Judging from Mr. Romel Pavón's experience, one of the experienced worm growers in the region, crop results are very good. In experimental plots of 100 m<sup>2</sup>, sown with potato, he has obtained yields of 270 kg using chemical fertiliser (18-46-0, in quantities recommended after soil analysis) and 590 kg using compost. As a rule, the amount of compost he uses is three times the amount of chemical fertiliser recommended for a certain product. Under these conditions, compost (4.5 US\$ per 45 kg) ends up being a little cheaper than chemical fertiliser (15 US\$ per 45 kg). Mr. Pavón might not be completely objective, since he succeeded in selling his complete compost harvest (67,500 kg), mostly to Colombian buyers. With this compost it is possible to reduce the number of sprayings for pest control from six to one, or at two the most.

When looking at the amount of beans harvested, the results are less spectacular. Planted in comparable plots, beans treated with chemical fertiliser yielded 12 kg while those treated with compost yielded 16 kg. An experiment with peas showed similar results. The case of the avocado trees is also worth mentioning. The residue resulting from sifting the compost before it was packed for sale was applied around the trees. Harvest increased from 100 to 1000 fruits per tree.

## To be continued

In October 1993 the Fundación Natura Solid Waste Management project ended. Although our team has spread out over different organisations, we keep in touch with the people and it is satisfying to see the earthworm programme is still going strong. The municipality continues to support it through an extensionist. Expectations for its expansion have even improved: we know World Vision is initiating a similar project in the area and we are sure that ways will be found to work together.

As the population concentrates in the cities it seems quite natural that products are extracted from the land, while wastes are deposited elsewhere. But for how long can we continue to do that? Perhaps the time has come to accept that this concentration of products, required for the well-being of the cities, requires a planned deconcentration of waste, so that it is returned to nature without offending it.

Either we do it, or nature does it herself, but the bill will have to be paid by someone, probably our children.

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