

Failure and success of tropical research and development practices using the example of Pacora, Nicaragua

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Objectives:

- The investigation evaluated former development projects and research work for farmers and villagers in a small, representative Nicaraguan village. The evaluation regards the following aspects:
 - transfer of knowledge of farming techniques, livestock management, housing and medicine by giving trainings, farmer-to-farmer programs and on-site research work
 - self-initiative (Eigeninitiative)
 - donations
 - ex-post evaluation of external influences in general
- Recommendations were derived for aspects of importance within development aid and research.

Method:

- Research site: small, poor village with approx. 250 habitants in 50 families, two hours by bus from the capital Managua.
- Empirical data: two to five narrative interviews with 13 families experienced with different external influence (trainings, farmer-to-farmer programs, research programs, donations, others or no influence).
- Within a period of four months of life with a family in Pacora, participant observation was done.
- Literature review was done on research work (mainly thesis papers) that has been carried out in that village between 2000 and 2006. The research was mainly on agricultural practices, plantation of trees used for forage and/or as living barriers, medical plants (planting methods and collection of local knowledge) and economic analyses.



Photo 1: Typical scenery of the farm life.

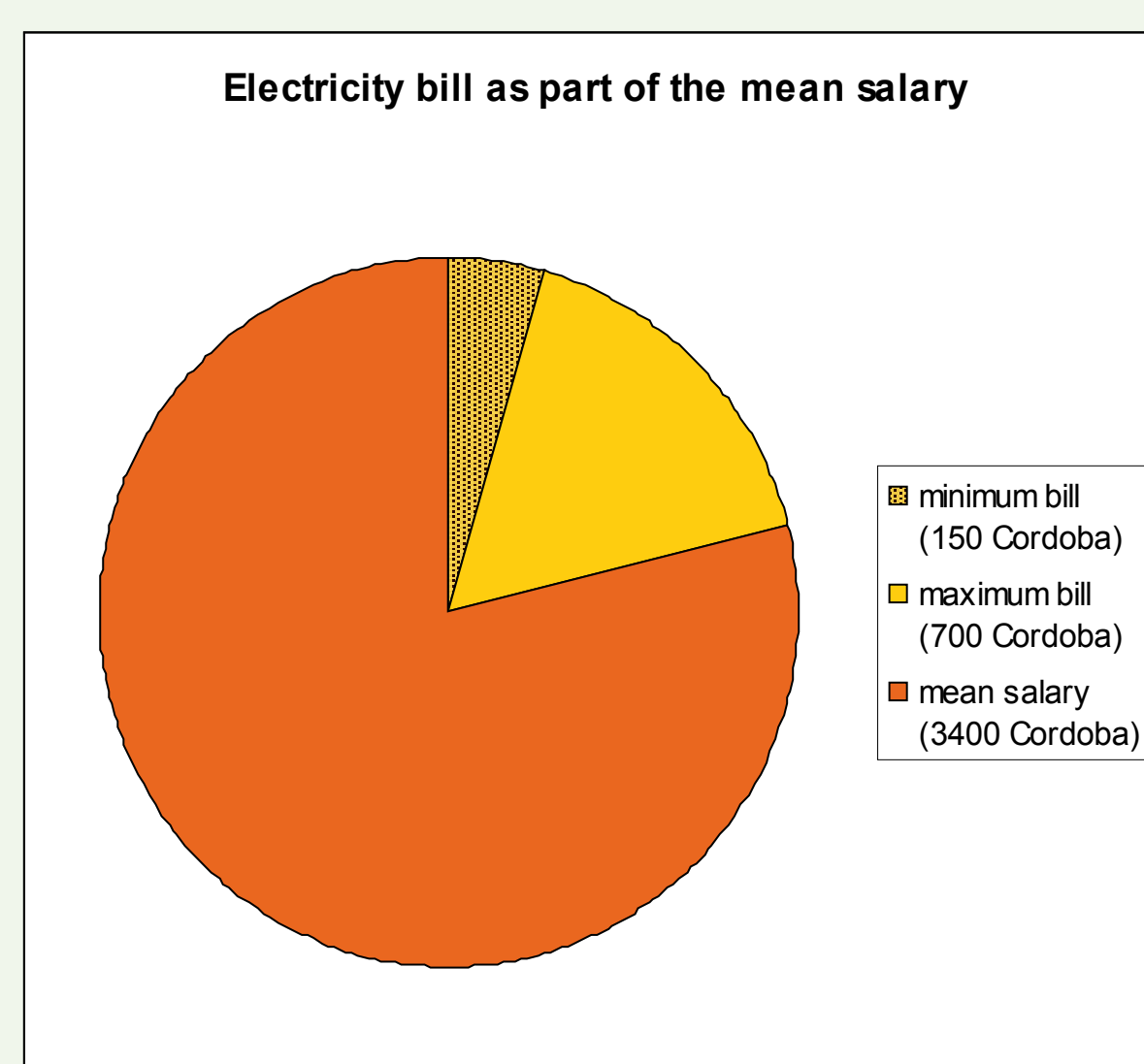


Figure 1: Portion of the electricity bill on the mean salary (if a villager gets a job in the capital). The maximum bill was reached, when owning a refrigerator, the minimum for just running television. 100 Cordoba = 3,34 Euro (exchange rate on 29.09.09), for 20 Cordoba one to two bags of vegetables/fruits can be bought in the village.



Photo 2: The corn has to be separated from the cob to be sold to the traders.



Photo 3: Some girls are practicing a traditional dance weekly, which they were taught in school by a guest teacher. To make music they were using the energy of a donated solar cell.



Figure 2: Attempt to make a part of our individual grown system fitting into a system of a "developing country".

Results:

Transfer of knowledge:

- Knowledge is highly respectable in Pacora. However, the knowledge that people gathered in trainings and other projects they hardly share amongst each other with the excuse that the others are not interested, what is not true. They describe each other as "very egoistic".
- Asking for help or information will never occur without invitation, for example for trainings given by farmers who received trainings from outside. These invitations are only given to close related families or friends, who are sometimes even not interested in it.
- As most development agencies only work with known families from other projects, knowledge is accumulated within small groups.
- Of the knowledge that the villagers have received only a small amount is still applied for three main reasons:
 - Several taught practices do not work under the local ecological and economical circumstances.
 - Practices are too labour intensive, energy or money consuming without bringing huge effects immediately.
 - People struggle to implement new practices into daily life, thereby the practices partly become forgotten over the time.
- Innovative techniques, which are close to traditional techniques, are partly established (e.g. planting hedges has become more popular, but more to get fire wood, rather than to protect against wind or to create biotopes). Techniques that were not explained well were not adopted at all.

Self-initiative:

- With the end of the projects to transfer knowledge as well as community projects, local activity ended, including motivation for own experiments, which was aimed to be inspired by farmer-to-farmer projects.
- Beside projects, people often lack input/ideas and material for further experimentation on new practices in agriculture, household or garden or they lack motivation due to difficult circumstances (e.g. bad soil).
- People's interest to deepen their knowledge on their own by given possibilities is low.

Donations:

- Several donations of equipment to villagers were imprudent and could not be used further.
- Backpack pesticide sprayers were accepted gratefully, even though their use also need further investments for the pesticides. However, without well explanations they generate environmental and health problems.

External influences:

- When the village finally became connected to electricity, the people immediately bought several electronic items on loan, especially refrigerators, and received unexpected bills far above their budget. However, the fridges are usually only used to cool drinks, but small fridges are not for sale. The efficiency even of the newest fridges on the market is half of what is offered in Germany.
- Main fact to overcome poverty in this region (where infrastructure, health care, water supply, school buildings and others have improved a lot during the last decades) is described by the locals by "the freedom to buy and consume whatever you feel like" (including all kinds of items, especially electronic ones, and meat for the diet).
- Instead of spending money on things like healthy food or other things to improve their livelihood, money is spent for things of prestige to primp the daily life (e.g. gas for the generator to run television, soft drinks, credits for the mobile phone and others). This is a problem of modern values, which were transmitted from the western world and which are promoted well.

Conclusions and Recommendations:

- Educational approaches to improve livelihood and farming practices need to be taught in school. In addition, schools need to teach complex and critical thinking to support understanding of complex ecological systems. Sustainable and responsible behaviour need to be developed in school. There is also need for support of creativity, motivation to experiment and critical and reflexive openness to new things as well as curiosity and ability to do further trainings on their own (self-initiative learning). Also values can be discussed and reflected through schools and community feeling can become intensified. After school input of knowledge as well as values could be transferred through television.
- Especially when new farming practices shall be transferred, applications need to be combined, rather than one separated practice (e.g. only use of legumes). Various solutions and combinations of solutions need to be offered by the donor agent. Solutions as well as donations need to be adapted to the farmer's situation and done in arrangement with the farmer.
- It seems contra productive to integrate a part of the western system (such as electricity, world of consume and values and others here not mentioned things) into the Nicaraguan system without making sure that the surrounding is prepared and that the implementation will not cause more problems than it will help!

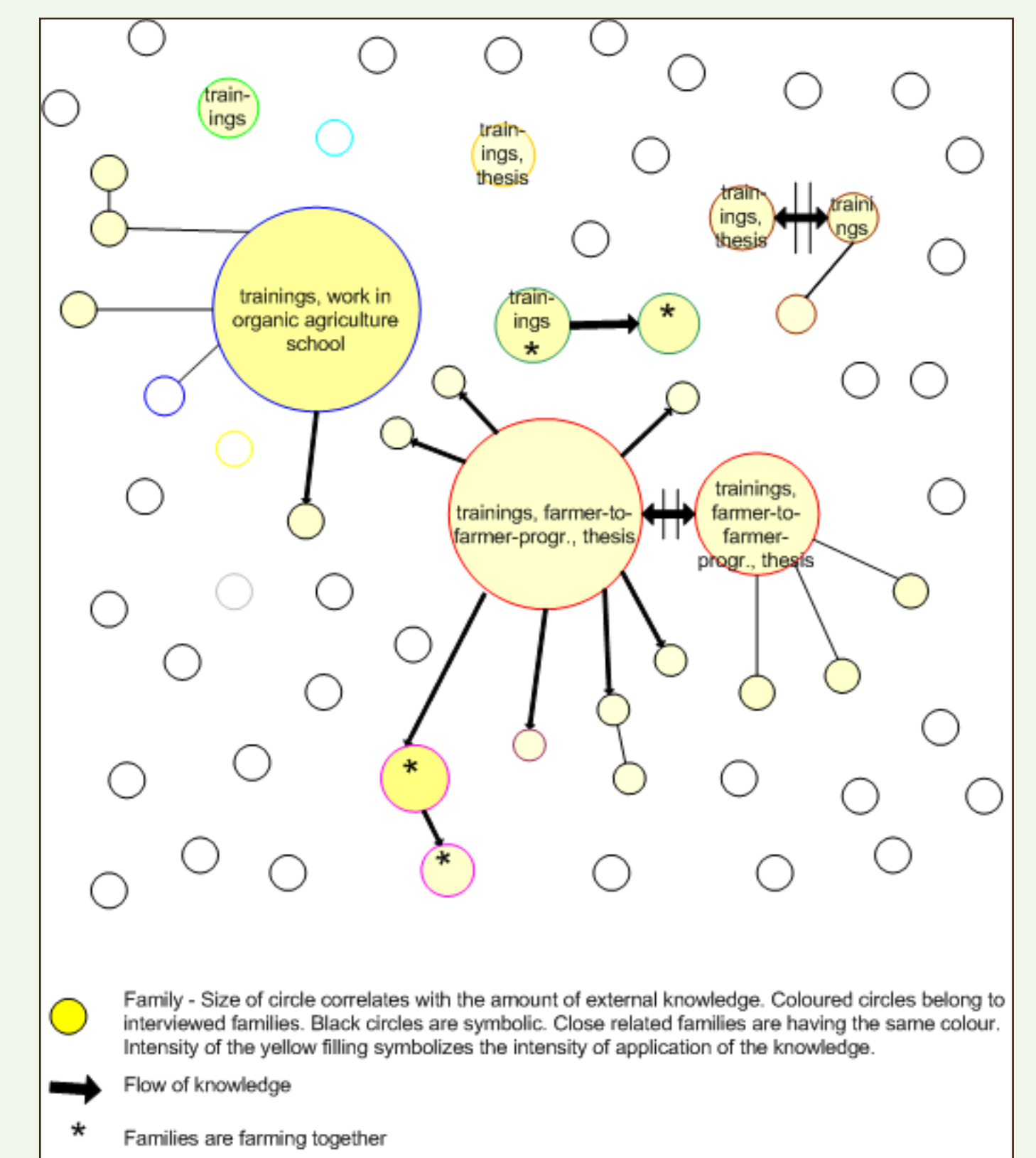


Figure 3: Simulation of spread of knowledge in the village and the application.



Photo 4: Watching movies on the plasma television in the living room (one out of five televisions) at one of the families in the village that got most support by aid agencies. They have sold a cow to buy the television. Recently, they received a bank credit to buy a new cow.



Photo 5: Left: Traditional way to enlight fire by use of plastic. Right: In that village, where no post system is present, regularly a man passes by to deliver the advertisement of electronic items of a shop. Prices given in the brochure are the monthly instalments.



Photo 6: Gaming machines at one of the five bars in the village.