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

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Introduction

High investments have been put in research and development programs to improve the villager's livelihood and to teach the farmers sustainable farming techniques. But could these programs in real improve their situation? What are the long-term effects? And are there other impacts beside the projects that are influencing the people's livelihood? Studies of Borrmann (1999) on German development agencies have shown huge deficits regarding the evaluation of development cooperation. Amongst others he has found weaknesses of the evaluation of mind-altering projects and altering circumstances and processes, and the technical collaboration. Small projects and projects of small organisations, of which there are several examples in Pacora, were rarely evaluated. Evaluations regarding the impacts and sustainability of a project (ex-post control) were hardly realized. Also, Stockmann (2002) criticises that most agencies orient their evaluation on short-term effects that were realized within the project period. For the evaluation the opinion of the project manager is recorded rather than the view of the target group. Evaluations are usually produced for, or by the donor agency and are mainly concerned with the donor's perspective. This investigation hence aims to exemplarily evaluate the ex-post effects of various projects and research work that have been realized in Pacora, a representative Nicaraguan village. The evaluation concentrates on transfer of knowledge and benefit of donation. In addition, the self-initiative of the people (that is often aimed to be supported by various projects) was examined as well as the impact of external influences in general. Recommendations were derived for aspects of importance within development aid and research.

Methods

The investigation was carried out in Pacora, a poor village with approximately 250 habitants in 50 families, two hours by bus from the capital. Single families own land, but farming usually occurs on one or two manzanas (1 mz = 0.7 ha). The soils are very loamy and crack during the six month of dry season. The region is one of the drier regions in Nicaragua. A bus to the capital and the next health care centre (13 km further) is directly passing through the village. There is a primary school in the village (1st to 3rd degree) and one (4th to 6th degree) in the nearby village. The next secondary school is 13 km further. People are living in houses build from bricks, added with corrugated sheet irons. A few years ago a water tank was installed to deliver purified portable water to the people who pay.

Empirical data were gathered in narrative interviews (formal and informal talks) with 13 families with different external influence (trainings, farmer-to-farmer programs, research programs,

donations, others or no influence). By living in this village in one of these families within a period of four month, interviews and observations were 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.

Results

Transfer of knowledge

Knowledge is something 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”. Only, where families were farming together, knowledge was shared in a high extend. 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 for close related families or friends, who are sometimes even not interested in it. Concluding, as most development agencies only work with known families from other projects, knowledge is accumulated inside small groups. In general, the people prefer to gather knowledge from outsiders rather than from other villagers.

Of the knowledge that the villagers have received some got lost, because only the older generation was taught by the agencies. The younger generation then often was moving into town or did not take up new practices. In general, only a small amount of the knowledge is still applied for three main reasons: a) several practices that were learned do not work under the local ecological and economical circumstances; b) practices are too labour intensive, energy or money consuming without bringing huge effects immediately; c) people struggle to implement new practices into daily life, thereby the practices partly become forgotten over the time. The innovative techniques that have been established by the farmers at least partly were those, which are close to traditional techniques (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 (from the point of view of the farmers) were not adopted at all. On-side trials of research projects have contributed little to increase farmer’s knowledge or any modification of their agricultural practices.

Donations

Several donations of equipment to farmers were imprudent and given without communication with the farmers to figure out their needs. Most of the facilities they got for free can not be used any more due to lack of money to put into service (fuel for the motor for irrigation, oxen for the ploughing equipment, nutrition for the chicken troughs, etc.). These payments would be far from usual payments of the farmers and hence from the farmer’s point of view not worth. Backpack pesticide sprayers, on the contrary, were accepted gratefully, even though their use also needs further investments for the pesticides. The pesticides act immediately, visually, are very effective and do not cost much effort. However, the farmers are not fully aware of the risks for health and environmental problems that will be caused by the use of pesticides, even though they have heard about it. The donation lacks the according deep explanations for full awareness. Also, the donation counteracts methods that other agents try to teach (e.g. directed to organic farming). The “donation-approach” is representing the problem that every agency follows an own and independent concept, which is not embedded in an overall context of the region as well as other activities from “competing” donor agencies. It strongly lacks an arrangement of the agencies and

other external influencing organisations and any board to synthesise different activities and the way to achieve them.

But there are also some successful activities: The donation of animals, which occurred, is very helpful and highly accepted as a) the animals do not cost much effort, but are with increasing value; b) managing animals is already a tradition; c) animals are a security in case of sudden money need. However, animals are endangered to become stolen or to run away, what has happened several times in the area.

Self-initiative

On one hand people's interest to deepen their knowledge on their own is low, e.g. by use of the nearby library, which provides all types of literature about farming, housing, science, as well as entertaining literature. They will also not ask for information or help in the nearby ecological farming school, where they would get advises for free (both reachable by bus or one hour by bike). On the other hand they often lack input/ideas and material for further experimentation on new practices in agriculture, household or garden. Experimentations in cases of plantations around the house are rarely done, because it lacks adopted techniques for the difficult situation with loamy soil and the dry season and hence motivation for experiments is low. Following the farmer-to-farmer programs, which aimed to inspire farmers to do experimentations, the rate of further experimentations is low. Only pruning was of further interest. In general, with the end of the projects (farmer-to-farmer project, participatory research, on-farm trials, community projects and others), local activity also ends.

External influences

When the village finally became connected to electricity during the investigation period, several families immediately bought huge refrigerators on loan and other electrical items, expecting an electricity bill of about 20¹ Cordoba a month, but receiving bill of up to 700 Cordoba, when owning a refrigerator, or between 150 and 250 Cordoba for using television and other little electronic items only. The general salary is between 2800 to 4000 Cordoba a month, if someone is luckily having a job in town, which is often only for a certain time period. For 20 Cordoba they can buy one to two bags of vegetables and fruits from the weekly passing trader. In addition, it has to be mentioned that a refrigerator is usually only used to cool two or three bottles of drinks or water (in private use), but small fridges are not available nor do families cooperate; and the efficiency even of the newest fridges on the market is half of what is offered in Western countries. Hence, the access to electricity is a new created poorness trap with the official attempt to help the people to get into modern life quickly. However this western concept was integrated into an environment that was not prepared as well as the offered technique neither adapted nor the state of the art in terms of energy efficiency.

On the whole, owning things of the modern world (including refrigerators) has become more important than to fulfil daily needs for a simple but healthy life. Instead of spending money on things like healthy food (vegetables, fruits and sometimes meat) or other things to improve the livelihood without external help (e.g. seeds, fruit trees or equipment for a healthier fire place, whose construction technique was taught), money is spent on things of prestige to make daily life "less boring" and pleasant. Thereby, for example, they spend up to 60 Cordoba on gas for the generator just to run a big television for one evening; they buy soft drinks as often as they can and spent huge amounts of money on credits for the mobile phone. Even though many effort during the last years was put into improvements such as infrastructure, health care, water supply and school buildings, they describe themselves as very poor and define richness by "the freedom to buy and consume whatever you feel like" (including all kinds of items, especially electronic

¹ 20 Cordoba ≈ 1 US\$

ones and meat for the diet). However, for the people, a life with that “freedom” generally seems to be out of reach and hence following new values will make it difficult for them to become happy.

At the same time as many types of development aid tried to improve the livelihood of these people, western values are offered and transferred, which do not fit into their environment and makes it difficult to fulfil new needs. These values are promoted well throughout the world and also forced by television that many poor people own nowadays. In addition, if the consume increases to the amount that is consumed in the western countries, which they strive for, huge environmental problems will be caused, as well as economic and social problems. Like with electricity, high consume is part of our individual grown system, which shell now be taken as a little part to be put in a different system. In that local system things like waste disposal and recycling do not exist and consume of modern technologies that appeared over night is changing social life and society dramatically and cause high costs for having status symbols rather than spending money on things like healthy nutrition.

Conclusions and Recommendations

- Farmer trainings and other educational approaches for improvements of livelihood need to be taught in school. In addition, schools need to teach complex and interdisciplinary, structured, foresighted and critical thinking to support understanding 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 for example be transferred through television.
- Especially when new farming practices shell 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 adapted to the farmer’s situation and done in arrangement with the farmer.
- The social structure of a village and their groups of people should be detected before deciding who and how to train, to ensure a maximum spread of knowledge within the village.
- 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! There is a need for a “soft” development, adapted to the former life and former values of the people. What is the environment like and what are the conditions of that system part that shell be integrated?
- All direct and indirect consequences of external influences should be considered, when interfering with the world of the “developing countries” and trying to change it. The total goal of this change should be well thought out and coordinated among all influencing members. How do we really want countries such as Nicaragua to be like?

References

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