

Who feeds the world?

The future is in small scale agriculture





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The explosion of urban centers attracts attention to urban poverty and increases awareness of the misery existing just next to new centers of affluence. This world of humble shanties is shocking, no doubt. However it does not represent the majority of the global poor. The UN Task Force on Hunger has stated that 75 % of the real poor live in rural areas as farmers, fishermen, pastoralists, casual land laborers and collectors from nature. It appears odd that hunger and extreme poverty are mainly found where the majority of people live from the production of food. Effective programmes to combat hunger and poverty should therefore not neglect rural development, which should be approached through comprehensive programmes. Sustainable food security is feasible in rural areas if social, agricultural and macro-economic development is integrated at a regional level.

“Integrated rural development projects” were always a focus of the overseas assistance work of EED and its predecessor organizations. Thirty to forty percent of the funds are invested into these kinds of programmes. Key here is assistance to small family farms. The small-holders in most developing countries practice location-specific sustainable agriculture. They are mostly subsistence or semi-subsistence peasants. Their work in the fields is guided by the primary objective of securing the livelihood of the family over the course of the year: these small-holders first strive towards supplying the basic food they need from their own harvest. If there are additional resources available they grow cash crops for the local, national or international market. These farmers try hard to avoid having their cash crop production competing with their basic food production. This kind of farming model feeds most of the rural poor in the world and secures their livelihoods.

However this kind of semi-subsistence farming is under increasing pressure from globalization. When farmers want to sell their produce on the market they first look for outlets at local and regional markets. If they aim for national and international markets their chances are meager, as they cannot supply sufficient quantities. Peasants do not like to take risks. Their rationale is security and sustainability. To maintain these goals they are willing to forego maximum yields. This can be seen from their behavior when selecting their seed. Most peasants prefer their own traditional local seed instead of high yielding varieties, because their own seed can easily be replanted the following season and this fact they know well. For this seed does not require cash investment when planting time comes. They trust that their own varieties are drought resistant. The disadvantage is however that the yields may be less in good years, compared to the high yielding commercialized seed varieties.

Most local small-holder agriculture was based on a complex system of traditional knowledge. Farmers knew their local agricultural environment well, their seed and how to maintain it, how to rotate planting according to space and time. This knowledge was embedded in the local culture, the community, the climate, pest population and the agrobiodiversity of their location. The use of this knowledge could protect local resources, the ecosystem and the climate very well. In this kind of agriculture there is hardly

any need for outside capital or dependency on external industrial inputs. The security of local livelihoods did not depend much on factors that were beyond farmers' own control, such as the volatile dynamics of demand and price fluctuations on national and international markets.

Because of the potential and the threat to the food security of these people, many non-governmental organizations from all four continents receive support from EED to defend the food sovereignty of their rural poor. The objective is to create the conditions under which the rural poor can achieve self-reliance, supporting themselves while cushioned from crisis in world markets. Key to our support programmes is the promotion of location-specific peasant agriculture. This means protection of traditional ecological knowledge systems, which also maintain local and regional biological diversity. EED wants to strengthen and promote sustainable farming methods. In doing so EED also supports peasant organizations in their efforts to tackle threats coming from indebtedness, from risky market integration and from genetically modified organisms. We do this by aiding initiatives at the grassroots level, and through lobbying activities at national and international levels. Thus we hope to make our contribution: for the survival of the poorest, for increased public awareness on these matters and for changes in policy more supportive of rural livelihoods.

EED's experience over time has shown that there are many successful examples of location-specific agricultural initiatives. The following case studies from Tanzania, Indonesia and Brazil demonstrate this claim.



Claudia Warning,
Chairperson of the Church
Development Service



Wilfried Steen,
Chairperson of the Church
Development Service



Manual labour:
harvesting in Brazil

The return of the peasants

"At that time it looked as if we had found gold," recalls Balduro Julio Dieckow about the beginnings of soya cultivation in southern Brazil in the early 1970s. Enthusiastically he and his wife Edi planted 110 hectares of land with soya. With subsidies for machines and fertilizer and a guaranteed price for their produce, the economic risks seemed low. But increasingly big agro- companies entered the profitable business too. They brought down the prices while the costs for agricultural inputs increased. The Dieckows were forced to sell part of their land to repay loans. A drought and the crisis in the banking sector in the early 1990s were disastrous. Now, more than a decade later, Balduro and Edi still get teary-eyed when recalling how their dreams of prosperity vanished.

The Dieckow family is to some extent a typical example of the history of peasant agriculture, of its difficulties, but of its perspectives too – and not only in southern Brazil. Forty years ago the Green Revolution for agriculture was propagated and promoted by governments, agro-business, agro sciences and development policy, especially in Latin America and South and Southeast Asia. But for thousands of family farms this modernisation of agriculture meant first of all increased debts. For the switch to monocultures, with mechanisation of production processes and the use of high yielding varieties whose seeds must be bought new each year, increased farmers' risks. Bad harvests or reduced world market prices often led to the loss of farmers' land, their displacement, eviction and migration to urban centers. Big farmers and companies took over their lands, producing for industry and the world market with machinery and expensive inputs. They became rich. And the national economies earned hard currency. But without peasant agriculture the rural areas became desolate.

However the Dieckos were not in the mood to give up easily – and looked for an alternative. Today they grow maize, beans, linseed and sesame on six hectares of land – everything organically. Surrounded by fields of genetically modified soya, they feel as if they are living on an island. It hurts them that their own son "did not open his heart to health and nature, but does the same as everybody else". He cultivates 150 hectares of land with expensive machines and an insecure future in the north of Brazil, where even more land is planted with soya. The massive production of soya has led to price decreases. With their organically grown linseed the Dieckows earn 220 Euro per hectare, as much as with soya but with lower costs.

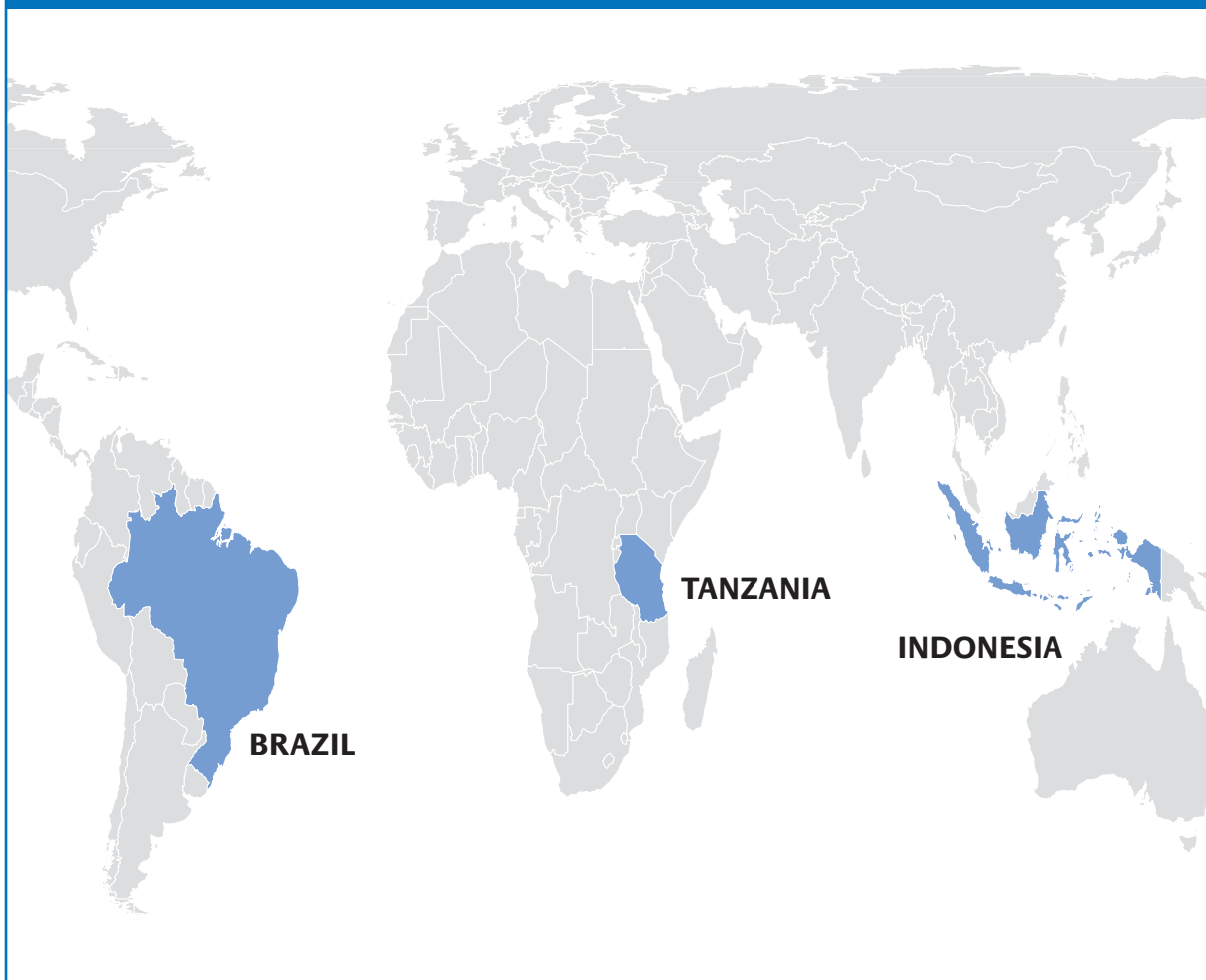
"Most of the farmers don't want to work hard," says Balduro, explaining the reluctance to change from soya to organic agriculture in spite of its advantages. "They prefer herbicides instead of weeding by hand for example. Spraying is the catch word," says Edi Dieckow, "the hoe is seen as a symbol of hard labor." Organic agriculture is only for "smart farmers", she adds, because for years it meant swimming against the mainstream in agriculture, fighting the neighbors'skepticism and the agro-industry's tempting advertisements. But the increasing number of organic markets and shops makes it possible to earn an income that is more than enough to lead a good life. And the increasing recognition of organic farming as a promising alternative for a comprehensive rural development is satisfaction enough for the Dieckow family.

Perspectives for an alternative Agriculture

Whether in Brazil, Tanzania or Indonesia – on all continents there are farmers like the Dieckows who demonstrate that peasant agriculture is not necessarily an “economy of poverty”, as some observers maintain, outdated, unproductive and harmful for the environment. Often supported by non-governmental and civil society organizations, small farmers around the world have shaped their own development alternatives:

- Σ In Tanzania women farmers rediscover indigenous knowledge about resistant and nutritious varieties, mixed farming or natural pest management, as well as local technologies discarded by modern agriculture that promised better and more convenient farming methods with higher yields. Planning by the communities allows for better protection and more sustainable use of scarce natural resources. Conflicts about the distribution of water and land, as for example, with the pastorals of the indigenous Massai peoples, can be defused. The food availability for local populations has increased while poverty has decreased.

Success studies from 3 continents



- In Northern Sumatra ecological farming methods and local marketing of products are planned and organized by farmers' organizations. They form savings and credit groups and develop measures to improve gender equality and participation in decision making, for example. Growing cocoa in the high-lands has turned into a profit-making enterprise, while auctions and marketing cooperatives have eliminated the need for middlemen and result in a better price for farmers.
- In southern Brazil “agro-ecological” farmers organized supportive services for the production and marketing of produce from organic farming. Selling at the numerous farmers' markets in the region as well as in the cities brings them a fair price. Exports of certified products to Europe and the USA open up new markets. Organic agriculture can prove that economically too it is a viable alternative to the cultivation of genetically modified soya.

There are many similar examples of effective and less costly alternatives to agro-industry. In many countries ever more small farmers, under pressure from competition with industrial large-scale agriculture and often from subsidized imports, look for new ways to rescue their farms so they do not have to migrate to the cities.

Not so long ago observers predicted the disappearance of small farmers. The Mexican economist Ernest Feder regarded them as “nearly extinct”, as a “species” that would not survive globalization. British historian Eric Hobsbawm called the world-wide death of the peasantry the decisive incident of “modernization” in the 20th century. The background to this were developments like the “Höfesterben” (demise of small farms) in Europe, the growing concentration in agriculture and the rapid expansion of the industrialized agro and cattle economy, which revolutionized production with new high-yielding varieties, mechanization, large-scale monocultures and meat production. With these methods three percent of the world's population would be in a position to feed the world – and the peasant would be useless.

Already, agro-industry squeezes small farms out of the market with its surplus. Hand in hand with global food corporations like Nestlé it expanded its control over large parts of agriculture in every part of the world. Farmers who want to keep up with the global competition must invest and increase production to make up for rising costs and decreasing prices. With subsidies and export promotion, the agricultural policy of many governments and within the European Union further contributed to this dominance of export oriented large-scale agriculture in individual countries as well as internationally.

But the peasants refused to disappear. It is true that their proportion in many countries was reduced, that many gave up or were forced to leave and moved to urban areas. Many others just simply disappeared from the view of the economists, the development institutions and the agricultural policies. Still, small-scale agriculture is the source of a meager existence for more than two billion people, offering them both a livelihood and a place in the world. In countries like Ethiopia, India or the Democratic Republic of Congo the number of small farms has doubled during the last three decades, because people had no alternative. Farmers continue to farm on marginal soils and under miserable conditions. As in Brazil, they come back to the countryside and occupy underutilized properties. They fight for land and agrarian reform, as in the Philippines. They capture new markets for organic products.

For example: according to a study by Jules Pretty and Rachel Hine (SAFE-World), while in the early 1990s just around 100,000 hectares of land in developing countries were under sustainable agriculture, according to their definition of sustainability, only ten years later they identified at least nine million farmers practicing sustain-

able agriculture, most of them as family farms or cooperatives. According to their definition of sustainable farming, which is not identical with the definition of organic agriculture as many use it, nearly 30 million hectares in developing countries were farmed sustainably¹.

At the same time, in many countries farmers build new cooperatives, movements and networks to increase their influence vis à vis agro-industry, corporations, international organizations like the World Trade Organization, FAO and World Bank or US policies and American foundations like the Rockefeller Foundation.

In India hundreds of thousands have protested against gene technology and supermarkets that are trying to control the food markets. The government of the state of Andhra Pradesh lost the elections after it tried to push through a strategy of agricultural modernization which would have made 20 million farmers families “superfluous”. Movements for land as in Brazil, organized by the landless people’s movement MST, are inspiring demands for redistributive land reforms in South Africa. New farmers’ movements like La Via Campesina form alliances with farmers’ organizations in industrialized countries in Europe and North America. Therefore, observers have started to talk about the “return of the peasants”, whose noisy and numerous presence has been very visible at World Trade Organization (WTO) meetings in Seattle, Cancun and Hongkong. Their resistance against a new WTO “Agreement on Agriculture” contributed to the breakdown of the present ‘Doha Round’ of negotiations in the WTO.

Small farms, big potential

Nobody knows exactly how many small-scale family farms exist in the world, as the definitions and characteristics of these vary from country to country. There are estimates in the literature of between 500 million farms with two billion people, with Balduro and Edi Dieckow two of them. Such small farms account for an estimated 80 per cent of the land used for agriculture. With small fields, worked under difficult conditions and with scarce means, these farms contribute nearly half the food that feeds the world, partly for subsistence, partly for markets. Their contribution to agricultural production is even on the increase, for milk, grains and meat, for example. In addition: It is the women farmers who grow the rice, the millet and vegetables and look after the small animals like chicken or goats.

With coffee and cocoa millions of small farmers – men and women – earn hard currency for their national economies; with raw materials like cotton and sugar cane they supply the industries. Far beyond the survival of their families, the small farmers in many countries essentially contribute to the economic development and well-being of their countries, providing hard currency, employment, services, and raw materials for agro and other industries.

In spite of this contribution, small farmers paradoxically often belong to the poorest of the poor. They are the majority of the more than two billion people who survive with the equivalent of less than 2 US-dollars per day, and many are among the 850 million people who suffer from hunger and malnutrition. Often they have been marginalized and displaced by plantations, huge irrigation schemes, national parks and cattle ranches, additionally by the growing mega cities, pushed towards areas with marginal, poor soils, without access to markets and services.

Community lands are usually very important for the collection of firewood and wild fruits or are used as pasture for poor people’s cattle. However communal lands are increasingly being claimed by governments or local authorities for other pur-

¹ www.essex.ac.uk/ces/research/susag/safewexecsummmfinalreport.shtm

poses or are being sold to companies for industrial uses, infrastructure or tourism. Small farmers' traditional land-use rights have not been sufficiently recognized, formalized and secured, because in traditional tenure systems only officially registered land titles had legal relevance. These lands and the people settling there often lack sufficient access to water and to other resources and services. In other land tenure systems you might find sharecropping, where tenants must hand over a third or even more of their harvest to the landowner. Tenancy contracts are normally made for several years, but sometimes just for one season. For many small farmers their agriculture is just sufficient for a basic supply of food. Many have to seek additional income opportunities as daily laborers or from home-based work, which again is mainly done by women.

Most of these farms are "organic by default", because they can't afford fertilizer, commercial seeds or agrochemicals. Those who do invest in modernization, buying commercialized or genetically modified seeds, bore wells, using inorganic fertilizer and pesticides, often slip into the debt trap. Meanwhile the liberalized imports of mostly subsidized surplus goods from Europe or the US drive down the prices for rice, edible oils or sugar, so that small farmers cannot repay their loans.

The case studies about farmers from Tanzania, Brazil and Indonesia, who might be representative for many other successful farmers, prove that some destructive market failures can be avoided. Agricultural economists agree that there is a huge potential for productivity increases in peasant agriculture all over the world, assuming the family farms get appropriate support and promotion.

Several studies prove the close correlation between farm size and land productivity. Most of the time small farms produce more food per acre with less capital.

Which agriculture?

The definition of small farmers or peasants varies, depending on the conditions in different countries. Many countries have set the limit at two hectares. According to this there are more than 500 million small farms world-wide. But in Latin America, for example, family farms are often considerably larger. In Brazil, farms with less than 50 ha are considered as "small", while in India farms with more than five ha are seen as almost estates.

In many countries small farmers produce mainly for their own subsistence. They use very little fertilizer, seeds or agrochemicals bought from dealers, and because they mostly manage without additional paid labor except in peak seasons they are called family farms, although many of them are run by women only.

With low external commercial inputs, peasant agriculture is often more or less "ecological by default", even if less so out of conviction than because of poverty. Either farmers simply cannot afford commercial inputs or these are

unavailable. So they must help themselves.

"Biological agriculture" as defined by rules for certification under law completely rejects inorganic fertilizer, agrochemicals and genetically modified crops. This form of farming tries to keep the damage to air, soil and water as low as possible and strives for a mode of production that maintains the reciprocal linkages between plants, animals and people.

Sustainable agricultural additionally considers the aspects of lasting economic viability and social justice – with sometimes less stringently defined ecological standards. Currently the term "sustainable" is over-used, discrediting the concept itself.

The low monetary investments are compensated by increased labor input per acre. In many cases the small-holders surpass larger industrialized farms regarding production per acre as well as production per unit of investment because the land they depend upon is scarce and they have to exploit it fully, while the optimal intensity of production of commercial farms is often lower than that of family farms. Thanks to low production costs, and to the willingness of self-exploitation, small-holders often supply food at lower prices which is in turn relevant for the livelihood of the poor urban population.

Small farms provide more employment. The UN Organization for Food and Agriculture (FAO) for example calculated that 100 hectares of land in the tropics cultivated by peasant families support 35 jobs, while when used as plantations for oil palms or sugar cane this land would provide employment opportunities for only ten people, further reduced to half a job when planted with eucalyptus and soya. Furthermore small-scale family units contribute strongly to the overall development of the rural economy because incomes and savings are mostly invested and spent locally. Surplus produce is traded and processed in the region, creating new opportunities in neglected rural areas with high levels of unemployment and poverty.

SAFE-World, in one of the most comprehensive studies thus far, analyzed in the late 1990s more than 200 sustainable ecological agriculture projects in 52 countries. It was able to show that farmers who switched over to “sustainable agriculture” – as defined by the study – and gave up inorganic fertilizer, agrochemicals and hybrid seed, were able to increase their food production per family and year by 1.71 tons, or more than 70 percent. For farmers who cultivated root crops like potatoes, sweet potatoes and cassava, the increase in food production was 17 tons per family and year, an increase of 150 percent. If this trend could be generalized, peasant agriculture could well be in a position “to feed the world”, as proponents of organic farming claim. At least the contribution to a secure and healthy nutrition and to reduction of poverty could be considerably expanded. Now it already contributes substantially to poverty reduction and food security. But the appropriate acknowledgment of these achievements in economics and development policy is still low, as economic activities that are not integrated into the market are often ignored in statistics about Gross National Product and poverty levels.

Displaced, forgotten, invisible

The main reason why small-scale agriculture in many areas and regions remains much below its potential is due to the dominant agricultural policy of national governments, international development organizations and agrobusiness.

In the last thirty to forty years rural development has been largely neglected by governments and bilateral or multilateral development organizations. The Green Revolution of the 1960s and 1970s that was supposed to combat hunger and rural poverty was focused on south and southeast Asia and Latin America and targeted the production of rice, wheat, maize and soya in regions with assured water supplies, fertile soils and good infrastructure. This benefited mainly the already well-off farmers well equipped with assets and capital, while many small farmers growing traditional food crops like millets, cassava or dry land rice under rain-fed conditions on marginal soils were hardly reached by the Green Revolution. In many cases they were even displaced by the more successful, economically stronger farmers.

When in the 1980s the World Bank and other international financing and development organizations pressed governments with their so-called structural adjustment programmes (SAP) to reduce public expenditures so they could serve

their foreign debts and balance state budgets, small-scale farming was greatly affected. Middle-sized and small farmers who thus far had managed to keep pace with the modernization of agriculture driven by the “Green Revolution” were now hurt by drastic cuts in administration, rural public services and agricultural expenditures. Government expenditures for public extension workers, veterinary services, state marketing boards, food stocks, training, research and other services were severely reduced. Only a few farmers were able to survive these policies. Commercial seeds, imported fertilizer and agrochemicals became too expensive for most of them. The import of subsidized agricultural surplus from Europe or the US drove down the prices for rice, edible oils and sugar, for chicken and beef. The incomes of many chicken breeders, often women, cattle raisers and milk farmers were heavily curtailed. Many of those who had been on their way to becoming modern commercial farmers were thrown back into subsistence production as the only alternative for survival.

For decades, family farms have tried to cope with so many odds and have been left more or less alone by states and development aid. They survived as a parallel economy to industrialized agriculture, using the space that plantations and imports left for them. Locally adapted family agriculture, as it still exists today in most parts of the world, survives under harsh conditions, ignored rather than supported. Financial support from the government and public investments, as for irrigation or veterinary services, are hardly targeted to the poor farming sector. Markets are difficult to access, information about prices does not reach the villages, and for the sale of their produce they are hopelessly dependent on outside traders.

At the same time their continued existence proves the vitality of family farming. The many initiatives by the smallholders themselves to tackle their problems and to open up new perspectives and opportunities underline their creativity. Small-scale agriculture is much more than just a niche for alternative farming. As the cases from Tanzania, Brazil and Indonesia demonstrate, there are many innovative women and men in the peasantry who successfully carried out models of survival. Their examples, their experiences and their successes can serve as contributions to reveal the potential of small-scale agriculture development.



Active landscaping:
turning eroded lands into
fertile fields

Tanzania: The crazy innovators from Dodoma

“People called me crazy,” remembers Raphael Chinolo, smiling like someone who knows better. Not as crazy as that group of Europeans who recently passed through the village Chamkoroma on their mountain bikes on the way from Cairo to Cape Town, covered with mud, emaciated, their faces red from sun and exertion. But definitely, their neighbours were convinced that Raphael and his wife Jessica had lost their minds. It was ten years ago when they started on their Shamba, or small farm, to „plug“ a three meter deep gully, one of those numerous erosion drains which in the rainy season turn into wild streams eating away the land.

At the top, where the gully was still small, they started to dig ditches and build barriers with sticks and elephant grass. Thus water could pass while the soil was collected. Bananas, planted in the ditches between the barriers, held the soil. Today nobody calls the Chinolos crazy anymore. Where once there was just infertile gravel and sand now there is a dense mixed vegetation of bananas, indigenous trees, oranges and lemons, papaya, maize, millet, sweet potatoes, cassava and lentils. In a pond there are fish that can be sold in the village. In view of such a success and increasing income, doubts about mental health in some cases changed to envy. Somebody poisoned Chinolo's tea. Luckily they knew an antidote from a local medicinal plant. Chinolo survived to explain the successful methods to other farmers in Chamkoromo and far beyond.

Udongo – Soil

Gullies like the one the Chinolos “healed” are the most visible signs of one of the worst curses for farming in Africa – soil erosion. Especially in semi-arid areas like the region around the capital Dodoma, where short, often violent rains alternate with long dry periods, millions of farmers are affected. The rainfalls that are eagerly awaited and welcomed also regularly wash out nutrients from the soil.

In earlier times Chinolo's family would have just moved on when the soil was exhausted. They would have cleared another piece of land where the soil was still fertile, burning all the green matter to clear it. Instead of ploughing they would have dug small holes with the hoe for the seeds, waited for the rains, removing some weeds from time to time. After some years, when the yields went down, they would have moved again. But in the meantime, suitable land for this traditional shifting cultivation has become scarce, also here in the vast central highlands of the Dodoma region.

Furthermore, with the new policy of decentralization introduced some years ago, the village government received the right to allocate the land. Now the village council can put conditions on land use, for example reserving some areas for forests or grazing grounds. Villages like Chitego, Leganga and Pingalame even declared some areas protected, acting to stop soil erosion and conserve water resources. So now farmers can stay on their land and look for means to conserve and increase soil fertility instead of moving on once the soil gets exhausted. Those who can afford it

compensate the silent erosion of the nutrients with inorganic fertilizer. But only a very few have the money to apply purchased inputs.

To demonstrate how it looks if you don't have manure, Chinolo conducted an almost scientific experiment – even if involuntarily. At first sight the plot with millet ready to harvest looks very good -- strong plants five feet high with dark green leaves, and thick ears. But on the plot next to it the plants are even higher, the stems stronger, the green greener and the ears almost double the size. The difference is neither due to the variety nor to different soil or moisture – like with a scientific trial these conditions are the same on both plots. The name of the reason for the difference is Mapambano: compost. The Chinolos didn't have enough biomass to make compost for their whole Shamba, so part of the field did not receive any compost. The results speak for themselves: the yield with Mapambano is 50 bags of maize per hectare, and the unfertilized one just 10 bags. In seasons with low rain fall 'no Mapambano' can well mean 'no harvest at all'.

In spite of this, the neighbor of Suzana Silvesta does without Mapambano. The sterile soil and weak maize on his Shamba demonstrate the effect. He refuses the organic manure, “because it has been invented by a woman.” By now Sizana is well known all over the region. Haubi, the village where she lives, is just 36 kilometers away from the district capital Kondo. But because of the rough road which is winding through the hilly landscape furrowed by erosion scars, it takes two hours by land rover to reach, and after the rains it is impossible. When Suzana was widowed



The Shamba from the sand river

Sister Martha still wears a nun's attire – blue frock, white cornet, and a white apron – although she had to leave the order some years ago due to poor health. Desperately trying to find a new task to sustain herself, she took lots of efforts to improve the family shamba but failed because of resistance from the elders to any changes. Sitting at the river bank contemplating what to do and watching the waters flow by, she had the idea to collect the loads of sand which were carried by the river. In the next dry season, a meter away from the bank into the river she built the first of many trenches to follow, and planted sugarcane in them. During each rainy season the sand began to settle behind these strong and at the same time flexible barriers. First, she too was called crazy

and even close relatives thought she had gone mad. But step by step and year after year the newly reclaimed land increased. Today there are nearly 10 acres planted with bananas, sugarcane, bananas, fruit trees and vegetables. There is a fish pond and a kindergarten for the village children. Hard work? Sister Martha agrees and smiles a bit. And what about others now using her idea and benefiting from it? “No problem”, she says – she wants to help in development and food security, that is “enough satisfaction”.



Thanks to her organic fertilizer *Mapambano*, yields are high and Suzana can feed her children

in 1957 at the age of 27, her shamba of half a hectare was just enough to feed her and her 8 children for two months, not to talk of chickens or a cow. So she started to experiment with composting. Instead of burning the stalks and other crop remains, the normal practice, she put them all together into a pit. Gradually she extended the cocktail with ash, dung and urine, wastewater from washing and the bathroom, grass, weeds and kitchen waste, till the mixture was right. She realized that the composting improved with the depth of the pit. Now, the contents of a pit three meters deep and two by three meters wide converts within six months into dark, crumbling, and fertile soil, enough to supply the plants on several hectares. Initially, this means a lot of work, she admits. But for two more years there is no need of further manure. Most important, the organic fertilizer she manufactures herself is free. And thanks to *Mapambano* she has “forgotten what a harvest failure looks like.”

Erratic rains, difficult soils, large distances to the next town and bad infrastructure – several factors contribute to make agriculture in many regions of Africa a complicated and risky affair needing much experience and persistence to manage. Over generations a diversity of farming methods have been developed that are adapted to these difficulties. But increasing land scarcity demands innovations.

Suzana and the Chinolos belong to a whole range of “crazy innovators”. Their innovations were developed mainly by the farmers themselves without support from outside. The African non-governmental development organization INADES took up these approaches – as a kind of civil society risk capitalist – and organized the exchange of experiences and further training. The innovators thus became the starting point for an innovative movement to improve agriculture, beginning with the farmer's own capacities, conditions and resources. Maybe the most important aspect: instead of the much deplored “dependency syndrome,” waiting for support from government or NGOs, the farmers themselves took up the initiative and looked for solutions.

In the meantime this kind of farming has become the role model for hundreds of other small-scale farmers in the region. As in the case of the Chinolos, the success of their innovation is visible, measurable and convincing. Suzana nowadays has four hectares of land and a new brick house. Each of her 8 children received a solid education. Frumense Vincent, another “innovator” from Kelema (see box), could buy a small restaurant on the township's main street. Hamza Abdalla bought an old truck and a mill. The woman farmer Dangilo Salum has enough money to hire a tractor for ploughing; others could afford the 180 Euro for a pair of oxen.

“The increased well-being reduced social conflicts”, says Abdalla Kifari, village chief of Chitego. Earlier, shortages of food or money often led to quarrels, but now there is “harmony in the family.” The recognition they receive today is a reconfirmation, says Suzana. But for her it is more important to help others – and especially other women – to improve the food security in their families.

Many farmers do “organic farming” because they are poor and have no money to buy inorganic fertilizer and pesticides; in the meantime ever more farmers are “organic” out of conviction. *Mapambano*, for example, not only increases his own

yields, but it also sells like “hot cakes”, says Chinolo. For 20 kilos farmers are ready to pay 1000 Shilling, around one US dollar. At the same time there are hardly any takers in Kondoa district for the inorganic fertilizer, which is promoted by the Bwana shamba, the agricultural extension workers of the government. This is true in spite of the fact that the imported synthetic fertilizer is subsidized by government. Even the district administration supports organic manure now. Some areas, like the villages of Chitego and Pingalame, have been declared “chemical-free zones”, says Baruani Iddi from INADES.

Everyone seems to know the bad experiences of the “big four.” For many years, the four most important agricultural provinces -- Iringa, Ruvuma, Mbeya and Rukwa – applied tons of synthetic fertilizer on their maize and cotton fields until the soil fertility collapsed. Now nothing grows there any more without fertilizer, and even with higher doses the yields are now lower than before.

But the group of young farmers who grow tomatoes and other vegetables in Chamkoroma don't want to give up chemicals. “We need the synthetic fertilizer and pesticides,” they insist. Chinolo invited them to a discussion about organic agriculture. And soon there was a heated debate going on. Chinolo and his group point out the low costs and the use of locally available resources as well as the environ-

INADES



The African Institute for Economic and Social Development (INADES) began with adult education for the rural population. Set up in 1977, the non-governmental organization based on Christian traditions soon widened its engagement to action-oriented research and training (ART). From offices in several African countries, INADES supports small farmers – men and women alike – to further develop and share their knowledge and experiences, to make the best use of available resources and to defend their rights and interests vis à vis the State. A priority is the sustainable use and protection of the sources of livelihood for the rural and peasant populations. Cooperatives and access to markets create income opportunities that allow families to get themselves out of poverty.

EED has supported the work of INADES in Tanzania since 1977. EED appreciates INADES' orientation in matters of rural development and food security. Especially the use of one's own resources and knowledge and INADES' promotion of the people as independent actors gets strong support from EED. The poor need to find their own solutions to their problems. EED contributes financially to the programme of INADES' work in rural areas as well as to its administration.

mental aspects: preservation of soil fertility, protection of water resources. Furthermore: “The products from organic agriculture taste better,” the women stress. Bravely, the young farmers defend their position. They talk about pests and diseases and the need to have an assured yield to repay their loans. For them agrochemicals mean less work, because they just have to go to the shop to get everything. “The dealers are only interested in their own business,” the Chinolo group counters, and would sell useless and even inferior products. But regarding the workload, the “eco-group” has to admit that it is much higher, especially in the initial phase. However this can be more than compensated for by much higher net income later on. Chinolo triumphantly refers to a study by the regional agricultural university. Although he can't convince the young vegetable farmers, at least they admit that for the soil and environment, Mapambano seems to be the better choice.

Mbegu – Seeds

The complaints about the agro dealers are widespread. “They sell us the wrong seeds,” reports Asha Mwinyi from Chitego. Many so-called high-yielding varieties, often imported, which are offered by traders to the farmers are not suited for minimal and erratic rainfall and precarious soil conditions. Furthermore, they achieve their potential only together with a high dose of fertilizer. Hybrid varieties increase the turn-over of the traders most, because their seeds can't be sown again after harvest. Hybrids force farmers to buy new seed each year. For beans, tomatoes or cut flowers with smaller quantities of seeds this is less problematic. But for maize or millet, which are staple foods, the wrong advice from dealers and the high costs of the seed can spell disaster for small farmers.

Fertilizer for the Green Revolution

Africa's farmers by international comparison use very little synthetic fertilizer because they are poor. The international fertilizer companies see it just the other way around: “They are poor because they hardly use fertilizer,” they claim. While farmers south of the Sahara on average apply around 8 to 9 kg per ha, farmers in the areas of the “Green Revolution” in Asia and Latin America use more than 140 kg. Because most African countries don't have the resources to set up their own fertilizer production, the market potential for the companies from Europe mainly seems to be tremendous.

With high-ranking conferences like the “Fertilizer Summit” in June 2006 in the Nigerian capital Abuja, organizations like the US-American International Fertilizer Industry Association (IFA) advocate for trade liberalization and subsidies to support the marketing of fertilizer. But the calculation for the farmers could prove difficult. As the UN Organization for Food and

Agriculture (FAO) estimates, for one ton of fertilizer applied on the field the farmers have to sell five to ten tons of agricultural products.

Most farmers, who have no access to credit, cannot afford synthetic fertilizer. Furthermore, the fertilizer has to reach the customers. Import, storage, transport and distribution are costly and logistically demanding because the substance is susceptible to heat and moisture and has to be delivered on time to the farmer, at the time of sowing for example. The danger that the inorganic manure is washed out with the first rains because of the eroded soils is great.

These kinds of difficulties clearly don't exist with Mapambano, the locally produced organic manure.



The selection of seeds from plants with high yields and proper storage are preconditions for bountiful future harvests

For Suzana “Mama Mapambano” this is no problem at all. She uses maize seeds from varieties inherited from her parents and grandparents. These are more nutritious than modern ones, she declares, mature just as fast and are resistant to pests. Each year after harvesting she selects the corn cobs of the strongest plants with the highest yield and the best taste, a simple, patient method of selection and improvement process over decades, which results in adapted, diverse and suitable varieties. Proper storage for the selected seed protects it against loss by rats; ash and dried goat droppings are useful household remedies against fungus and pests.

Mathias Mtwale also contributes to more independence from agrodealers. Thirty years old, he is a Jack of all trades – a successful innovative farmer, elected village head of Chitego and board member of the regional network of farmers groups. Also active in the network of innovators, he has just returned from an exchange programme in India. Some time ago he started to multiply certified seeds of several maize and sunflower varieties. He gets the initial seeds of these improved, locally adapted varieties from a government seed farm. His Quality

Declared Seeds (QDS) are less costly, he gives them on credit, and his customers know what they get, as opposed to commercial seeds, where fakes are widespread because there are hardly any quality controls by the state. Also the varieties farmers get from Mathias give them seeds for the next season because they are neither hybrids nor restricted by intellectual property rights.

Because most farmers are like Suzana and Mathias, the commercial seed market in Africa is rather “underdeveloped”, much like the fertilizer market. Its turnover was only around 820 Mio. US \$ in 2005. The largest market is South Africa with an industrialized, export-oriented agriculture. As in many other countries, African farmers use their own seeds – farmers’ seeds – exchange seeds with neighbors or buy them at local markets instead of from the agrodealer. This informal seed sector fulfills between 80 and 90 percent of farmers’ needs in the developing world. Seeds which the farmers get here are not only less costly than commercial seeds. The locally adapted and tried varieties also often correspond much better with the needs and demands of peasant agriculture than high-yielding and hybrid varieties, which demand favorable agroclimatic and soil conditions and cause further costs, because they need additional fertilizer, pesticides and assured irrigation to recover their costs. Still, this traditional seed sector could use improvements, because yields are low. Participatory breeding arrangements, where farmers and professional breeders work closely together, evaluating and improving local varieties often result in unexpected successes.

Like the fertilizer industry, international seed companies put pressure on African governments to proceed with “reforms”, which could open up the growth potential of the seed market. Foreign business organizations like the American Seed Trade Association (ASTA) or the European Seed Association ESA actively promote regional integration and harmonization of policies and regulation in the seed sector. They pressure African governments to join UPOV, the international agreement to protect breeders’ rights. Top priorities are a rigid patenting system, the containment of farmer’s seed systems and the set-up of a network of agro-dealers to supply commercial seeds, fertilizer and pesticides to the farmers. Support for this comes from

Biological diversity: farmers revert to traditional seeds, which often give higher yields than new varieties



development organizations like USAID, the World Bank with programmes like the Sub-Sahara Africa Seed Initiative (SSASI) and private foundations like the Bill & Melinda Gates Foundation and its “Alliance for a Green Revolution.” For them, progress is measured by the introduction of new technologies and the spread of private business.

At the same time seed multinationals like Monsanto, the US-American market leader for genetically modified plants, try to conquer the African continent for their products and weaken the opposition of many African governments to modern seed and genetic engineered organisms (so-called GMOs). Resistance to GMOs derives from the fears of negative impacts on health and agrobiodiversity. The government of Tanzania was among the first to yield to diplomatic and economic pressure from USAID and the US government to authorize GMOs. In the near future it may allow field trials with genetically modified cotton, despite the experiences of farmers in India or South Africa who were harmed rather than benefited by genetically modified crops. According to Baruani Iddi from INADES, the reduction of subsidies going to US-American farmers, giving them an unfair advantage in competition on the world market, would be much more important for Tanzania’s cotton growers than gene technology.

Maji – Water

The innovative farmers around Dodoma today are also less dependent than before on another external force – the unpredictable rains. As a free gift of nature, there are on average 500 to 600 millimeters of rainfall between November and April. When the rainfall is abundant, there will be a bumper harvest. But when the rains are below normal, erratic or too short or too late, it can mean a total loss – even the end for the farmers.

The farmers hardly have the money for bored wells and pumps. Often the groundwater level is too deep anyway. There are no perennial rivers or lakes. A few small dams and tanks were built during colonial times, but after independence they were neglected by the State and are now silted up and decayed. The hilly area is not suitable for new large-scale and costly irrigation schemes. Again, Mapambano comes to the rescue. The loose, fertile dark soil from the pit doesn't just supply nutrients. Ploughed into the ground together with the green matter remaining on the field after harvest, it also helps retain moisture. This can affect the yield. Prospects for a sufficient harvest improve with every week that moisture is retained, reducing the horror of the long dry months without a drop of rain, when the color green disappears from the countryside and the rivers turn into wide sandy highways.

In Chamkoroma, the village council decided that some denuded community land in the watershed area of a sandy river should be afforested. The landholder planted fruit trees and fast-growing indigenous species. Within a few years they developed into a shady grove, where only beekeeping and cutting of grass as fodder for the cattle is allowed. The roots hold the soil; the rains are held in the soil instead



Water below the sand

Frumense Vincent recently had malaria. The tall strong man looks sick. Still, he wanted to keep the appointment to tell his story, which has become the story of hundreds of farmers in Kelema, a small village along the road from Dodoma to the district capital Kondoa. We meet in his café, a small stone house in a row of stone homes lining the street. There are a few tables and wooden benches, a calendar and a clock at the wall. We get soft drinks. Now he owns this café besides his farm, but ten years ago it looked as if he had lost nearly everything.

During the rainy season the river had shifted its bed by a few kilometers. And literally overnight the farmers' shambas in Kelema were covered with fine, white sand, sometimes up to three feet. "We wept, but we did not give up," says Subira Mwinnyuma. We are standing on her former shamba – now just white, dry, sunbaked sand. But Frumense starts digging, as he did in that fateful year a decade ago. After 10, 15 inches he hits a layer of soil – wet, dark and fertile.

He did the same after the deluge. In the pits he planted maize. As the plants were growing, he put sand around them. The maize seems to grow from sheer sand. Yields were good. Neither weeding nor pesticides are necessary as the sand functions as a natural herbicide and pesticide. What was even more important was that the method allowed for a harvest during the dry season, when normally everybody sits idle as there is no rain. Nowadays the farmers grow tomatoes, sweet potatoes and eggplants to sell for a good price in the next town. The curse of the sandy river turned into a blessing when Frumense did not despair and give up his plot. Today the shambas under the sand in the river bed have become the most desired fields, driving up land prices four to eight times higher than those in the neighboring villages. This is not surprising, because now Frumense can earn up to 1.5 million Tsh, around 1000 Euro, per acre. Because others do the same, Kelema is prospering. "Earlier we did not have money," remembers Subira, "but today we women can make our own decisions."

of causing floods, and surface again gently lower down in the valley as springs used for vegetable gardens and drinking water. The wood belongs to the owner, but the villagers expect to get a share for community purposes, as for a new meeting hall.

The villagers from Chamkoroma feel that the next step towards becoming even more independent of the whims of the rain spirits is still beyond their means – building small dams to store the rainfall. Organic agriculture is very demanding: to produce Mapambano, build terraces and plant buffalo grass to stabilize them, to plant trees, plug gullies, to cover the ground with straw to keep the moisture, etc. But Raphael Chinolo has already collected information about “rainwater harvesting.” He has been to India, where many groups of farmers improve their access to water through construction of small dams, tanks, afforestation and other methods. The villagers from Chamkoroma cannot count on state support. As a first step they are now planning to rehabilitate a small decayed dam further up the hill, dating from colonial times.

Kujitegemea – Self reliance

Like the five fingers of a hand, farmers in semi-arid areas like Chinolo and Suzana coordinate the local resources available to them into a flexible, complex farming system – land, manure, seeds, water and labour. The yields are already more than enough to beat the dreaded hunger period of the dry season. “Food security has priority,” explains Mathias Matwale. The surplus they sell to the middlemen. Their success is also a contribution to national food security. The region around Dodoma is the biggest maize producer of the country today, while in former times it used to be a food deficit area. It contributes to the fact that Tanzania doesn't need imports of grain any more, not to talk of food aid. On the contrary, exports to neighboring countries bring money into the state's coffers. Thus farmers like Suzana and Mathias help fulfill the dream of Tanzania's first President Julius Nyerere – if with some delay.



In village meetings farmers discuss their problems and coordinate activities

“Self reliance”, Kujitegemea in Swahili, was his slogan for Tanzania's attempt to find its own development model, based on rural development. This desire for a development based on self-confidence and one's own strength came to a halt with the skyrocketing oil price in the early 1970s. Indebtedness, structural adjustment programmes and subsequent cuts in government expenditures led to a breakdown in public services for agriculture including distribution of seeds and fertilizer, guaranteed prices for farmers and support for marketing, infrastructure and extension services, hitting the small farmers in particular. With creativity many farmers developed their own solutions for Kujitegemea.

Professor Amon T. Mattee from the agricultural university in Morogoro admires the “innovative farmers” and their enthusiasm, urging that agricultural research and the State should support them more. At the same time he insists that organic agriculture alone is not sufficient for the necessary yield increases, but should be combined carefully with the use of external inputs. A balance between costs and productivity is necessary, assuring sufficient food but also a marketable surplus. As long as the final scientific proof that large-scale ecological agriculture is possible and sustainable is still missing, he doubts that it alone can feed Africa. He therefore understands the government policy of subsidizing inorganic fertilizer and other agricultural inputs to make them affordable for more farmers. “Food security is a question of national security,” he says, “because without it a country will lose its sovereignty and a government its political support.”

Indonesia: Peasants and the world market

The village of Marlaung in the eastern lowlands of Sumatra is surrounded by a seemingly endless green, undulating ocean of oil palms. A sea of money, perhaps, but not for the inhabitants of Marlaung, most of whom belong to the Batak, the indigenous peoples who once owned all the land around here. But the Dutch colonized the Indonesian archipelago, including Sumatra, one of the largest islands in the world. With the Dutch came the plantations that were expanded ever further following independence in 1945. First the valuable tropical woods were cut, and then came rubber and tobacco, coffee in the highlands, and since the 1970s oil palm. Houses, graveyards, wells and fields are proof of the centuries-long ownership by the Batak. But as they had no land register, documents or tax certificates to show, state enterprises and private, often foreign, companies got concessions for thousands of hectares of land from the central government in Jakarta.

From land owner to contract farmer

The men of Marlaung and surrounding villages have assembled in an open market hall in the large village square, surrounded by a green mosque, small shops and low wooden or brick houses. A few women sit to one side, listening. One by one the men voice their complaints about the plantations – land robbery, loss of water, expulsion of farmers, hopes disappointed, promises broken, decline of indigenous culture and community values. The effluents from the oil mills have forced them to abandon rice cultivation along the river and fishing. After losing their land, their river and forests, they now try to survive from three or four hectares of rubber trees and some vegetable gardens. A few young men from the villages got temporary jobs at the

plantation as laborers or security guards, but the labor demand is low, the working conditions back-breaking, and salaries low.

Some years ago more than a thousand villagers occupied the plantation. But after three weeks military police in full battle gear arrived and drove them away. Some were jailed. With the current boom in lucrative agrofuels, the chances that the Batak from Marlaung and surrounding areas will get back at least part of their lands seem increasingly remote. World market prices are on the increase and new oil palm plantations in many regions of the country are driving more small farmers off their land. Additionally large tracks of tropical



At a meeting in the market hall of Marlaung, Sutan Humala Hasibuan airs his grievances against the plantations

Ngatimin “Keling’s” nickname “black” fits his appearance, with his black hair, dark skin and eyes, and a black washed-out T-shirt. His ancestors were brought generations ago from Java to toil on the plantations of the Dutch N.V.Rubber company. During a hunger crisis in 1936 the laborers cleared nearly 300 hectares of forest to grow their own food. They paid duties and received a document from the local authorities confirming their status as land users. But since independence the plantation, which has changed ownership several times since then and currently belongs to LonSum, a large Indonesian company that produces rubber, coffee and cocoa as well as palm oil, expanded onto their land. Whoever resisted was labeled a “communist”, which in the 1970s was close to a death sentence.

Right now Keling and a few other families cultivate together the 15 hectares which are left to them, others work as daily laborers. Day and

night they keep watch, because the plantation tries again and again to evict them. During confrontations the women stand in the first line. “They argue, while the men would kill,” explains Keling. The powerful company answers their demand to return their land with threats and delaying tactics, with courts cases and military police. Why is LonSum so eager to get hold of their land since it owns already thousands of hectares? “Pure greed”, is Keling’s short reply. Their resistance is a test case. LonSum and other plantations are confronted with similar demands in several parts of the archipelago. “We don’t want to get our land back to become rich,” says Keling, “but for 511 families this is a question of survival.”

forests are being cleared. Oil palms, which provide ten times more oil than soya and four times more than rape seed, promise to become another gold mine.

The only hope for the inhabitants from Marlaung right now is the “people’s plantation”. Their elders signed a contract with a company which allowed the farmers to look after the oil palms on 40 percent of its plantation. The overall management and the oil mill, to which the farmers have to deliver the oil fruits, remain in the hands of the company, which also keeps 40 percent of the yield as payment for the land preparation and its investments. With one stroke the farmers would solve their problems and earn an income of around 70 US dollars per month, the company calculated. After six years, they could have paid off their debts. After 25 years at the end of the life cycle of the oil palms the land would be handed over to them.

However “the benefits are much lower than initially expected and hoped for,” says Safaruddin Siregar, director of the Indonesia development organization BITRA (see box), dampening expectations following experiences with similar agreements. The farmers become dependent on the company management, calculations cannot be verified. The plantation, on the other hand, can get a lot of political mileage out of such arrangements: they turn farmers into business partners and reduce protests and conflicts like land occupations, which could harm the image and profits of the company.

BITRA: Land rights for sustainable development



The land question is part of BITRA's work since its foundation in the 1980s.

Rubber plantations, international airports, mining projects and palm oil plantations for agrofuels threaten the livelihoods of people again and again. BITRA supports them to stand up for their rights, to work against corruption and to resist evictions.

Sustainable development cannot be separated from democracy, environmental protection and justice. Support for the small-scale farmers to change to ecological farming, to form cooperatives and to improve market access is therefore part of BITRA's work, as well as lobby and advocacy work for land rights.

BITRA emerged from a broad coalition of Christian and Muslim activists in the province of Northern Sumatra. It soon became an important focal point for civil society, functioning as a link between grassroots groups in remote areas and regional, national and international politics. Internally, the organization combines democratic structures and professionalism. The EED has cooperated with BITRA since 1993 in various programmes for integrated rural development.

Where the chocolate grows

John Purba sees no reason to be afraid that some investors or plantation companies could try to take over his beautiful farm in the highlands west of Medan, the biggest city on Sumatra, although he also has neither a land registration nor a title deed for it. He only registered his fertile rice paddies down in the valley – to be on the safe side. In the rugged mountains around the hamlet of Sayum Sabah, two hours west of Medan by car, the companies have hardly any interest in starting plantations. Furthermore, the traditional system of land rights is still intact and any violation would be unacceptable to the community, John is convinced. This customary law is “strong because it talks with the knife,” underlines one of John's neighbors, expressing the will to defend their land. “But the others talk with the gun,” another neighbor warns.

A small footpath leads to the exploding diversity of John's farm not far from Sayum Sabah. There are chili bushes with small rosy blossoms and first tiny white pods, dark red flowers, papaya trees with large green fruit, a little jungle of grasses, bushes and creepers topped by towering sugar palms and old durian and nut trees. John's farm looks more like a grove, the ground covered with dry leaves from cocoa trees, which rustle like autumn foliage. A row of Areca palms with their slender straight trunks mark the border to the neighbor's plot. “Border stones can be moved,” explains John, “but not trees.”

In the past two years John has improved more than 400 old cocoa trees by grafting with higher yielding varieties. The young leaves are light green, later they will turn to orange, red and varied shades of green. Right at the trunk there are tiny blossoms and some pods, small as a fingernail. It takes months for them to grow into heavy fruit ready for harvest.

Mixed farming has a long tradition here in the highlands – rice and fish ponds in the valleys, vegetables and fruits on the slopes, pigs, chickens and sugar palms. Some years ago BITRA introduced cocoa as a new crop into this traditional system, which until then was mainly cultivated in plantations. It serves to secure food and some additional income. They sell it to exporters who deliver to chocolate producers in the industrialized countries. Today cocoa in Sumatra is mainly grown by small farmers like John. “Cocoa helps to pay our children’s school fees,” explains one of the farmers. While subdivision continuously reduces the size of farms, cocoa allows for intensification and could stop farmers from extending their land further into the remaining forest, which is the watershed area for the water supply of Medan city with its more than one million inhabitants.

The members of the farmer’s group “Dalan Rukur Tanjung Selamat” spread out a huge plastic sheet as a meeting place. Otherwise it is used to dry the cocoa. The cocoa bushes give some shade; fresh coconuts are cut and offered as refreshment. The farmer Junaidi cuts open a twenty centimeter long cocoa fruit. There are the beans, surrounded by whitish pulp. For fermentation, plastic bags with the beans are hung in the trees; the liquid is collected and used as a nutritious addition to the cattle feed. After several days the beans are spread out for drying. Junaini explains how the beans can be made to sprout, so that the farmers have their own seeds.

Compared to this process the care for the bushes is a lot of work. Every day old branches and young shoots have to be removed. Pests are collected by hand instead of spraying pesticides. Squirrels, which discovered the fruits as a delicacy since the forests were decimated, must be driven away. “But it is easy work”, says Junaidi, “more a leisure and a joy, you can even sing while doing it.” The others nod in consent. After putting up a short resistance, his 20 goats got used to cocoa leaves as feed. Junaidi had to put them on a diet first for a few days.

The cocoa farmers remove the seeds from the fruits and pack them in plastic bags for fermentation. The liquid seeping from the bags is being used to enrich animal feed



Attempts in the market economy

Normally several traders turn up in the village every day during harvest season to buy the beans from the farmers. Tahan Gurusingha has done this for nearly 40 years. Every day he travels from market to market, from hamlet to hamlet, from farm to farm to buy spices, nuts, and brown sugar from the syrup of the sugar palms or cocoa. He resells them to the wholesale traders in Medan. He is more a friend than an exploiter, the farmers say. But they are also convinced that his profit margin must be quite high. Thousands and thousands of middlemen like Gurusingha provide market access for the small farmers.

To get a better price some farmers around Sayum Sabah formed their own marketing cooperative, KPBut. Twice a month they organize an auction in front of a shop at the main road to Medan. The farmers bring their harvest to the auction place with bicycles and pushcarts. Albana, employed by BITRA, serves as a neutral quality controller before a minimum price is fixed. Normally there are three to four traders. Even Gurusingha participates in the auctions once in a while because it saves time. The highest bid, which on average was around ten percent higher than the minimum price, gets the whole lot. "They could sell much more," says the treasurer of the cooperative, Soedirman Tarigan. "But they should offer higher quantities to become attractive for bigger traders." Many farmers still sell a good part of their harvest to traveling traders like Gurusingha. For them this is more convenient, and the traders also buy lower quality produce, while Albana occasionally rejects a delivery due to inferior quality. Furthermore the direct sale brings immediate cash into the hands of the farmers, while the payment from the cooperative takes a little while to process and there is also a cooperative tax deduction.

Farmers formed a marketing cooperative to get a better price for their harvest. Albana, working for BITRA, checks the quality of the cocoa seeds before the auction



Safaruddin Siregar, director of BITRA, already has more ambitious plans. After the small middlemen have been cut out from the marketing chain, already increasing the price the farmers get, as the next step he wants to eliminate the exporters, whose margin is substantially higher. With other cooperatives like KUD in the Asahan district he is already working out how this could be achieved. The cooperative KUD is already more experienced with auctioning. During the season they have a turnover of 60 tons per month, more than 40 times the quantity auctioned by KPBT in Sayur Sabah. But to become a player in the world market, quantity as well as quality has to increase much further.

“If we can offer a better price to the farmers, they are also prepared to increase the quality,” the board members of KUD are convinced. The fermentation, the degree of moisture, the purity and instances of pests or fungi determine the quality, which the controllers from the importers check thoroughly. Other important criteria are the content of unsaturated fatty acids, the pH value, and of course the aroma. The board members of KUD admit that there is still a long way to go to meet these standards fully.

Indeed, they have to compete with powerful rivals. The West African cocoa growers, for example, dislodged Indonesia in the world market from second to third position and automatically receive a topping-up on their price, while Indonesian cocoa is being traded with a deduction. The cooperatives are right at the beginning of understanding the rules and laws of the world market, not to speak of mastering them. But the first steps on the road away from the dependency on middlemen and exporters have already been taken. Safar is convinced: “What others can do, we can do as well,” he says confidently, “of course we know the difficulties, but we have a vision.”

Allies

A hopeful sign is the growing support from local governments. For many years the state ignored and neglected the small farmers and channeled its entire means into export oriented agriculture. This can be taxed and thus provides far more income and hard currency for the economy. But this is changing, at least at the regional level. The provincial government of Deli Serdang, for example, has set up a big new auction hall not far from Sayur Sabah, and the cooperative KPBT has been offered the management. This could help to win over more farmers to participate in the auctioning of their cocoa beans by the cooperative.

The provincial government of Asahan even financed a small chocolate factory for the cooperative KUD. Proudly, the board members demonstrate the new roasters, peeling machines, blenders and oil presses, with the handling instructions still attached. Catchwords like “zero waste processing”, “employment for women” and “value adding” fill the air-conditioned production hall. The husks of the roasted beans could be sold as fish or cattle feed, the white cocoa butter is being used by the cosmetics industry for lip sticks, for example, and brings a good price. And “in the future the people of Asahan can eat chocolate from their own cocoa,” beams one of the board members and presents the first packing boxes.

The decentralization introduced after the fall of President Suharto at the end of the 1990s as part of political reforms (reformasi), gives provincial authorities more space and independence from the central government. This also gives more self-confidence. It opens up opportunities to implement development alternatives different from those of the central government in Jakarta, which for decades determined the economic policies, installed office holders and suppressed every kind of opposition.

The newly found interest in peasant agriculture has strong economic and financial reasons too: despite decentralization and reformasi, district authorities are still dependent on the central government. They must submit their development plans for approval and the parliament in Jakarta has to allot the financial resources for their implementation. Because of large-scale corruption, much of the money “evaporates” on the way from Jakarta to the provinces, “depending how warm the weather is,” jokes Mangara, the provincial government’s agricultural expert. Strengthening the farmers and their cooperatives could speed up the economic development in the provinces. Cocoa cultivation is highly productive: two hectares can yield as much income as ten hectares of oil palms, explains Mangara. While the revenue from the oil palm plantations belongs to the central government, the tax from cocoa stays with the provincial authorities.

“Millions of farmers are an economic factor which can bring money into the coffers of the provincial government,” says Soekirman, vice-chief of the district. But to develop their potential fully, the farmers above all need secured land use rights, giving assurance that no one will take away the land they have used for generations. A land reform that could make more land available for small farmers would be the next pressing issue. The national land law from 1999 already announced such a fundamental reform of land ownership. But the central government in Jakarta, which is in charge, “has since forgotten to implement this law,” laments vice-Bupati Soekirman. Again and again there are promises to redistribute land to the landless and the small farmers. But hardly any politician dares to touch the powerful and influential plantation owners, except some farmers groups like the one of „Keling“.

Brazil: The value of agriculture

For Eco and Fair Trade products, getting placed on supermarket shelves is considered an important success. Leaving the niche markets and entering larger stores is a sign of acceptance and raises hopes for higher turnover and new groups of customers. Various products have already made this step into Brazilian super stores like Guanabara and Master: brown sugar from the cooperative AAFA, biscuits and sweets, wine and Cachaca, the rum for the Caipirinha, as well as organic vegetables, fruit juices, rice, beans, medicinal herbs, flour, the traditional tea mate, honey and much more.

"Backward looking romantics"

The farmer Loro Natal Bosembecker turned to organic farming, selling the products at various Eco-Fairs in the region

Nobody would have predicted this 30 years ago, when Loro Natal Bosembecker and his wife Luisa Helena started eco farming. Like many families in Rio Grande do Sul and other states in southern Brazil the Bosembeckers are descendants of German immigrants from Hunsrück, Pommern, Berlin or Holstein that came to this Latin American country from the early 19th century.

Like many other farmers, Loro and his wife succumbed to the promises of the Green Revolution, which at first looked so beneficial to the farmers. Government and agro-industry repeated the mantra that high-yielding varieties, fertilizer, pesticides, herbicides and mechanization would be the future of agriculture. For the farmers some of this looked convincing. Synthetic fertilizer and new seeds seemed to be the right answer for exhausted soils, low productivity and meager incomes. Additionally there was a lot of support for farms that changed to growing tobacco, soya and other industrial raw materials or export products. The agro-industry supplied everything from seeds to fertilizer to extension services. In many cases the companies also bought the harvest, like soya or tobacco. The farmer just had to look after his field, the plants and the harvesting process. Still today the agro-industry repeats the promises of the



Green Revolution on huge posters along the roads: golden corn fields, green, strong soya plants, and a friendly looking agent from Pioneer, who explains to a farmer the benefits of industrial agriculture.

But for the Bosembecker family the promises lead them straight to disaster. Within a few years, even with around 20 hectares of land, they were hardly able to feed themselves. The pesticides needed for soya, tobacco and peaches ruined Loro's health. So he opted for a clear change: no more chemicals on the fields, no herbicides, no insecticides, no fungicides, no synthetic fertilizer. "Economically this was a catastrophe," remembers his wife Luisa. Still there was no thought of giving up and migrating to the city. They had no professional training. They could not imagine leaving their neighbors, friends and elderly parents back home and migrating to town.

So instead they sold some land, borrowed money from friends and started a small trade. Slowly the organic farming started to pay off. By planting legumes the poisoned soil recovered. Now the fertile soil is black, moist and half a meter thick. Loro's land looks completely different from the Pioneer advertisement: cabbage and root crops, a plot with tapioca, a field with sweet potatoes, various fruit trees, a grove, some small terraces for rice on a slope, onions, a manure heap, straw, chickens, cows and a fat pig. Looking around you think of pictures of a good old German farm in children's books.

How much do they earn now with their eleven hectares left? "Difficult to say", Loro evades a clear answer. They still have some debts. "But I don't do all this to become rich," he explains. A healthy life, the company of other farmers at the week-end markets, the family, the church community, the cooperative – in short: the social surrounding is more important for them than money. Many of the conventional farmers, who still use chemicals, would do much worse because the prices for tobacco, onions, potatoes and beans are so low.



Elusive security

Valdari Gularte is a tobacco grower contracting for Souza Cruz, one of the largest Brazilian tobacco concerns. He plants 16,000 to 18,000 seedlings per hectare by hand. Later on he must remove every single blossom so the leaves grow better. Some time ago he fell sick from the herbicides sprayed against weeds. He had to employ laborers for the spraying operations. Diseases, moisture and drought – numerous threats to the plants can reduce quality. Harvesting the leaves is again manual labor, leaf by leaf. Tied into bundles they are dried in the huge drying shed. Here again there are further dangers for

the quality. Forest is cut to supply wood for the drying process. Then the farmer sits for days in the shed where he stores the dry leaves, sorting them by color, size, and condition – again leaf by leaf. He is able to sort the leaves into three different categories, while the factory distinguishes 60 quality grades. Finally the leaves are pressed into bales of 60 kilos each, which are then collected by the company. The final quality control takes place in the factory without the farmer, who is just informed about the results. Mostly, the classification done by the company is lower than his own categorization. If he doesn't accept the result and the payment, the company generously allows him to come and take his tobacco back to try and sell it somewhere else.

Three or four days every week, Loro sells the produce of his farmer's group "Sul ecológica" at one of the organic markets in the area. Initially it was not easy to convince other farmers about the advantages of organic farming. The neighbors looked with distrust at people who turned their back on modern agriculture and thought of them as backward oriented romantics. The change to organic farming takes at least three years until the soils have recovered and the yields increase. This time has to be bridged. The farmers are used to an all-inclusive solution, to "the package" of seeds, fertilizer, chemicals and purchase of the harvest by the company. Such a package cannot be offered to the organic farmers' groups and cooperatives. For organic farming there are no easy, ready-made solutions. The eco pioneers from Rio Grande do Sul had to organize everything by themselves – manure, seeds, protection from pests, processing and marketing as well as extension service, training and information about market situation. The staff from the government agricultural extension service EMATER had been sworn in on industrial agriculture and opposed agro ecology. Three members gave up because it took too long for them to see any success. "Even today many neighbors don't believe that we really manage without chemicals. They suspect that we spray secretly at nights," says Loro.

Initially the marketing did not run smoothly either, because the appearance of the organic products was less attractive. But now sales are booming. The agro ecological vegetable market right opposite the town hall at one of the most beautiful squares in Pelotas, the district capital, offers various vegetables; thick sweet potatoes, manioc, onions, white, yellow and red maize, tomatoes, packages with beans, brown sugar and rice. Everything here is organic. Loro, wearing a green cap and a T-shirt with the logo of the farmers cooperative "Sul ecológica" boast: "In the evening almost everything will be sold."

"We could sell much more than we produce"

Rosalina Pagliari stirs the *garapa*, the fresh sugar cane juice. After seven years, the small factory run collectively by five families finally made a profit.

The five families of the AAFA groups – Associação de Agricultores Familiares Agroecológicos – in Campo Alegre, most of them descendants of Italian immigrants, took up the next stage in the "value chain" and started to process their sugar cane. Immediately after harvesting, the sweet *garapa* juice is squeezed out of the sugar cane and heated. While cooling down the mass has to be stirred, sieved, weighed and packed. The investment into the small factory in the hills of North Western Rio Grande do Sul was a high risk for the small group. To keep the credit burden low they moved slowly, advised and trained by CAPA (see box), spending every Real they earned on the factory. It took seven years to break even and have some surplus.

Now they produce 50,000 kilo of brown sugar each year. During the Zafra, the harvest time, they employ additional laborers, from other farmers they buy wood for the huge boiler. Thus the project creates employment and income for other people in the area as well.

The members of AAFA have come together in the spacious meeting room next to the factory. The Chimarrao travels around, the traditional mate drink of the Gauchos. The Latin American cowboys used the hot pot made from a calabash to stay warm during the cold nights in the



CAPA: Dreams



“Initially we were like missionaries,” says Vitor Hugo Hollar from the CAPA office in Erechim. CAPA, the “Support Centre for Small Farmers” started during difficult times. Rejecting agribusiness and chemicals and thus “opposing progress”, as executive director Silvio Schneider recalls ironically, it started to offer alternatives. At that time this was an engagement that could be suspected as being critical of the system. The Green Revolution was at its peak. Everything else appeared as a provocation. “CAPA is the non-violent answer of our church, the IECLB, in times of tension between military government and civil society,” adds Silvio Schneider. The IECLB is the Lutheran Church of Brazil.

One of the motivations for starting CAPA was that many farmers had lost their land and migrated to the cities. At the same time there were farmers like Loro Bosembecker who resisted the Green Revolution. So the idea and desire to promote an alternative development concept were born. In this vision the ideals of agrarian reform, organization of cooperatives and democratic development, which were brutally cut off with the military coup in 1964, survived subversively like a peaceful and constructive agrarian guerrilla. They merged with the Protestant ethics, which were deeply rooted amongst the members of the IECLB, most of them of German descent. Initially it looked like a “mission impossible”, but in the meantime and after several changes and difficult learning

processes it is now well established. “Today we are visible”, says Ingrid Margarete Giesel, CAPA-coordinator in Erechim, “even if we are not yet accepted everywhere.” But they proved that what in the beginning looked like a “backward idea” can succeed.

At the same time the development reminds one a bit of the story of Sisyphus, with his never-ending task. Because the very same concepts of several decades ago are still dominant. Back then they were monoculture of soya and poisonous chemicals in tobacco cultivation. Today it is genetically modified soya and maize, eucalyptus plantations for the paper industry and expanding sugar cane growing for agro-fuels. Again, small farmers are evicted or have to give up because there is no perspective for them in farming any more. Still it is difficult for agroecology. “Therefore they have to continue to dream”, as journalist Susanne Buchweitz, who wrote a book about CAPA, puts it. On the other hand, unlike the earlier period, CAPA today is part and parcel of a broad-based movement of organic agriculture and social movements in the rural areas. With the Worker's Party PT and president Luiz Inácio “Lula” da Silva there is at least some support from government and politics.

The EED has successfully cooperated with CAPA since 1989 in programmes for the support of rural development for small-scale family farmers and their organizations in southern Brazil.



During the discussions, the *Chimarrao* circulates: the hot mate drink revitalizes and gives new energy

Pampas, the vast grazing grounds. Advertisements for the *Chimarrao* still describe it as the drink “for those who really work.” Rosalina Pagliari continuously fills up the pot with the mate leaves with hot water from a thermos flask and hands it around.

Processing of sugar cane is a profitable business, explains Décio Agostini, president of Cooperfas, a cooperative of agro-ecological family farmers of which AAFA is a member. He knows the figures: for 1000 kilo of sugar cane they would hardly get 50 Real, but when the same quantity is processed into brown sugar this sells for 300 Real. After deducting the costs there are still 60 Real net income. Unfortunately, various difficulties continue to slow down the growth of the cooperative. Some members left the group. “They are just interested in a fast buck,” Décio grumbles about such “capitalists”. For quite a few farmers the collective decisions, the rotation of posts within the cooperative, and the equality within the group are difficult to accept.

“Our biggest enemy is individualism”, says Rosalina. “There is lack of patience,” Décio adds. Others were deterred by the perspective of a woman leading the group. The agro ecologica not only demands hard work on the fields but also lengthy and controversial democratic processes of common decision making, planning and advanced training.

In spite of such drawbacks Décio has ambitious plans. He wants to increase the production threefold. Yields of organic sugar cane cultivation are as high as yields from conventional sugar cane but with lower costs. Selling more sugar wouldn't be a problem. The supermarkets' buying agents would buy much more than now. For this expansion programme they would need more workers. Already now they work up to 200 hours per month in the factory besides the work in the fields and at home. Such new jobs could help to stop migration, they hope, and contribute to the development of rural areas. The son of Rosalina already returned from the city because of the factory.



Proudly, farmer Décio presents his sugar cane harvest from organic farming: yield is as high as with conventional methods – but costs are lower



Farmers' seeds

Cangucu is a small town in the hills not far from Pelotas. Here UNAIC, an alliance of several farmers' groups from the region, set up a production unit to clean, sort, and pack seeds, which have been multiplied by the farmers in their fields. Darneci Rodrigues Cardoso, for example has multiplied seed of „pommer-sche“ beans and of maize for ten years together with six families. Other groups produce seed for more than two dozens different varieties. While it is true that the agro dealers offer a wide range of varieties too, those seeds were too expensive for the small farmers, says Darneci. Their “Sementes crioulas”, the indigenous, local seed are much cheaper and also can be sown again the next season.

Darneci Cardoso earns nearly twice as much with his seed as with normal maize, around 350 Real per month, which is more or less the minimum wage. Multiplying and selling seed that can be used again as seed at a reasonable price doesn't seem to be a profitable business strategy for UNAIC. “But that is not our priority,” says Cléu de Aquino Ferreira, president of UNAIC. “More important is to create a reliable supply.” At the same time the groups contribute to what the experts call In situ conservation, the protection and preservation of varieties which are threatened by extinction, in nature and in their own habitats, instead of the acclimatized chambers of a gene bank. The farmers are continuously searching for more traditional varieties, for example at markets where farmers exchange their seeds to include them into their protection programme.

“We need alternatives”

Until recently the agro ecology movement had to be self reliant. Support for agriculture from the state went mainly to rich farmers. The Pronaf law of 1995 was a first important step towards change. Unlike before, family farmers can now get government loans. With president “Lula” da Silva from the Worker's Party (PT) things have improved further in the past years. Now 20 percent of the national government's budget for agriculture goes to support peasant agriculture. There is growing acknowledgment in government circles that family farms could be a chance for the millions of landless people, for poor families and for the cities to be saved from the total collapse. Also extension workers from EMATER are now cooperating with organizations like CAPA.

An additional push for such changes paradoxically comes from globalization. The repercussions of world politics reach even Rio Grande do Sul. When in Europe smoking is restricted by law, this naturally affects the region where a substantial part of the tobacco for the world market and the cigarette industry is grown. At least vice mayor Liro Vollbrecht and his secretary for agriculture, Carmo José Mayer from Vera Cruz, a small municipality with around 23,000 inhabitants, realized that they cannot afford to ignore developments like smoke-free pubs in Europe or in the US. Vera Cruz is in the heart of the region where in the 1960s the military government and agribusiness from the US developed the largest tobacco growing area in Latin America with numerous factories. For Vollbrecht and Mayer it is now time to change



At the weekly Eco-Fair in Pelotas, members of the cooperative sell locally produced organic products: Because production and transport costs are low, customers can buy healthy food at affordable prices

and develop alternatives to tobacco.

One of these alternatives for them is agroecology. Unlike tobacco, the demand for organic products is growing, they are healthy, and the environment remains intact. This last aspect is a precondition for another alternative, namely tourism. Regional economic cycles get strengthened and money stays in the district or the State instead of being spent on food coming from outside. With an increasing economic independence the vulnerability to pressures from tobacco companies and the world market decreases. There is strong resistance from the tobacco industry, the two local politicians admit, and “the relations are not really relaxed,” says the secretary for agriculture, “but there is no war either.”

Undoubtedly, the movement of organic farmers is fully established nowadays and has grown into a factor politicians and business have to consider. The groups are well organized and strong enough to make political pressure at least at the local and regional level. Besides CAPA, as one of the first and best known organizations, there are now many more organizations supporting peasant agriculture and organic farming. Groups like UNAIC (see box) which produce their own seeds, Loro Bosenbecker's 'Sul ecológica', and AAFA's sugar factory are all part of a broad, articulated and growing agrarian movement. Various other organizations like the movement of landless people, MST, support organizations for alternative technologies like CETAP, and civil society organizations have evolved. On the other hand, conventional options for small farmers to live from their farm-based tobacco growing are becoming less viable, making agroecology an attractive or even the only alternative to selling the land and migrating to the bursting cities. It could well be that agroindustry and globalization are not just a threat to small-scale agriculture, but also could strengthen its position as a sustainable alternative and perspective for many more farmers.

“Solidarity-based Commercialisation”

Naturally, Décio and the other members of the cooperatives are proud that their products have found a place on supermarket shelves. This proves the acceptance that organic products have achieved and also shows that the cooperatives' capacities have developed to fulfill company and consumer demands regarding packaging, reliable delivery and quality. On the other hand, this success can also lead to dependence on the supermarkets' turnover targets and marketing strategies.

Their own shops are still important outlets. The cooperative 'Sul ecológica' alone runs three of them in Pelotas. There are also numerous weekend markets with organic products in Pelotas, Erechim and Porto Alegre. With their rapidly growing popularity, these markets have become a permanent feature in many Brazilian cities. And the food security programme *fome zero*, “zero hunger”, run by the state, provides another market outlet for family farms. As their products are not only healthier but often also cheaper, municipalities commission them to supply food to poor families or to school meal programmes. The cooperatives organize the delivery of

... trusting is better, or: Participatory certification



“I trust you,” says a regular customer, a secretary working in the town hall, at the organic market in Pelotas. But buyers who are not directly in touch with the producers want to see an eco label. Supermarkets want assurances and for their export, organic products must be certified in any case. But this certification is expensive, because the standards are fixed by the labeling organizations and the external controllers who decide whether producers are allowed to use them have to be paid.

Ederson Wuaden is a kind of barefoot certifier. The 24 year old son of the Wuaden family, which is member of the group Linha Florestal in Alto de Bela Vista is a members of an ‘ethics committee’ of the network Rede EcoVida. Together with two other farmers and an agro-economist he visits farmers groups which have applied for an eco label

from EcoVida. They talk about farming methods and processes and visit the fields and processing units. Based on the report of the committee the local EcoVida group decides on the application. When the label, which certifies not only the ecological quality but also the social values of collective production, is granted, it is valid for all member of the farmers' group and all their products.

juices, rice, beans, potatoes, vegetables and fresh fish, a logistical effort which is shouldered by a broad network of producers, municipalities and civil society organizations. This “system of solidarity-based commercialization” helps producers and consumer alike, says Rita Surita, CAPA coordinator in Pelotas, and strengthens the organic agriculture further.

Thinking in strictly market economy terms, the increasing demand for organic products should lead to higher prices. Most customers, often from the wealthy middle class, are ready to pay more for them than for conventional products. But surprisingly, the agro ecological farmers look at it differently: They ask why their products should be more expensive at all? Cultivation doesn't require any expensive inputs like inorganic fertilizer, patented seeds or chemicals. Because of regional marketing transport costs are low too. There is no question that the farmers want to recover their investments and expenditures and like to earn some profit too. But equally important for them is “awareness building”. Therefore weekend markets are not only for selling and earning money but are also an occasion to spread the idea of “agro ecology.” The critique of Décio from the cooperative Cooperfas about people who left the cooperative strongly reflected the conviction that the cooperatives don't work only for the money. For the Wuaden family too, food security has priority. Once this has been achieved they try to strengthen their economic independence. The cistern they built to collect rainwater is one step towards this. Fuel from sugar cane for the aged tractor and solar panels are still dreams for the future. But step by step the agro ecological family farms in southern Brazil have liberated themselves from the web of dependencies woven by agro companies, big landowners, the state and the mainstream cooperatives – and they are proud of it.

“Yes’ to the market, but ‘No’ to a market economy based solely on profit and ruthless competition” – that’s their position, in brief. It is the vision of an economy that differs from the pure logic of the market, where supply and demand determine the price of everything, and instead values time and space for social and community activities like family, religious gatherings, organizing, continuous learning, assemblies, and social life and solidarity. While for the classic economy, these factors don’t count, for “agro-ecology” they are a necessity even if they may reduce productivity and profit.

Farmers like Loro don’t want to work in their fields all the time toiling for an increase in the Gross Domestic Product. They are longing for a life beyond economy, turn-over increases and loan installments. “We could produce much more”, he says, but “a good life” is more important for him. Just a few years ago this looked like the hopeless dream of a few eccentrics for whom values like sufficiency and community were more important than profit, like a backward romanticism of an outdated, self-sufficient agriculture. But in the meantime it has developed into a sustainable alternative with a promising perspective.



The Brazilian agro-sociologist and former scholar of the EED, Antônio Inácio Andrioli, warns of the dangers of genetic engineering

Warning about gene technology

In the 1990s the government promoted genetically modified soya which led to the displacement of conventional soya.

Is the same happening now with genetically modified maize?

Andrioli: After the government enacted the law about biological safety it left it to a commission of academics, whose majority of its members supporting gene technology, to decide on approval of release. This attitude is part of the government’s strategy to promote exports of agricultural products and the cultivation of energy plants. Meanwhile the cultivation of genetically modified maize has been stopped by the courts. However smugglers from Argentina do bring small quantities into the country.

If gene maize would be approved, what would be the impact on organic agriculture?

Andrioli: There is no coexistence possible between the cultivation of gene maize and organic maize. The maize plant crossbreeds easily and it is impossible to isolate the different crops from each other. This would make an ecological as well as a conventional cultivation of maize impossible.

And the consequences for the family farmers?

Andrioli: The cultivation of genetically modified plants increases technical problems, expenses for agricultural inputs and therefore the costs of production, which is a clear threat for smaller farms. Since land is a limited resource, an increasing dependency of the small farmers on the agro industry which controls the production would lead to further land concentration, migration, poverty, and hunger. Furthermore, the destruction of the existence of small farmers would lead to a reduction in the production of food, because family farms in Brazil are still producing 70 per cent of the food.

Tail wind for peasant agriculture

The “crazy” innovators and inventors from Dodoma, the ambitious cocoa farmers' cooperatives in Northern Sumatra and the insistent “agro ecologists” from Rio Grande do Sul give names and faces to the numerous approaches and initiatives that are ensuring the existence and survival of peasant agriculture.

All the various and varied success stories have in common strong organization and cooperation, as well as broad and equitable participation, with women playing especially important roles. Tensions and differences of opinion and interests, which are unavoidable, should be discussed and solved by discussion within the community. This makes it possible to create, defend and implement the preconditions necessary for their success – often against the strong resistance of vested political and economic interests. These preconditions include above all secure rights to land, water and other natural resources, a common, equal and sustainable management of resources and the formation of structures which strengthen economic success, including education and training, quality control and productivity increases, loans and marketing.

Furthermore they have in common the commitment to ecological farming methods – initially often due to lack of money, but increasingly out of conviction. Instead of monocultures they make use of their local biological diversity. Instead



The families of the group AAFA formed a cooperative: the whole production process from harvesting the sugar cane to packaging the brown sugar lies in their own hands

Small farmers all over the world are demanding more support, to be able to earn their livelihood from their farms



of commercial inputs they use their own seeds, manure and simple technologies as much as possible. Farming systems developed over the generations and improved by modern ecological methods protect the soil from erosion and the diversity from extinction. Rain-fed agriculture can flourish without expensive infrastructure like huge dams and irrigation systems which often cause harm to people and the environment. The cultivation of a wide variety of food crops has priority over production for the market. Only when the food for their own families is secured will farmers sell any surplus, preferably in local and regional markets. For them environmental protection and economic success are mutually supportive goals, not contradictions. Solutions and approaches normally start from the situation on their own farms and their own particular needs, capacities and interests.

Thus location-specific peasant agriculture not only contributes to food security at the local and national levels. It also strengthens local autonomy and economic and human security by reducing dependence on global markets and prices set by companies, trading companies, and government policy decisions. Peasant agriculture can therefore become a solid pillar for broad-based, stabilized and socially just rural and regional development, integrated into regional value chains but without the dependencies and influences that threaten its existence.

There is another positive aspect to promoting location-specific peasant agriculture as an alternative – its cost. It is much cheaper than further expansion of industrial agriculture, with its expensive investments. Major ecological problems can be avoided, such as water logging and salination or receding levels of groundwater caused, for example, by large-scale irrigation schemes. Most importantly, an upswing in peasant agriculture would directly contribute to reducing poverty and food insecurity. The benefits of better support, improved productivity and increased incomes would be distributed among a much larger number of people. Development of small-scale farming, still the main livelihood for a majority of people in many countries, can contribute much more to broad-based economic growth than do a few large enterprises or highly modernized farmers who depend on imports by the chemical industry.

But most initiatives to defend locally adapted peasant agriculture against the expansion of the “Green Revolution” have to fight it alone. The mainstream in rural development has another orientation. It is an agenda supported by all major ‘actors’ involved: the agricultural ministries, the scientists, the bilateral and multilateral international development cooperation – with the Global Donor Platform on Rural Development, which represents 80 per cent of the funds for rural development – the World Bank and new global actors like the Bill & Melinda Gates Foundation. Their main aim is a new Green Revolution and they equate rural development with the advancement of agroindustry.

Support for location-specific peasant agriculture comes mainly from non-governmental, often church-related development organizations and civil society movements. But peasant agriculture can only survive in the long run if the neglect, the obstacles and the suppression by politics and the agro industry ends. Local small-scale agriculture needs and deserves appropriate support and promotion to meet its potential for overcoming poverty and its causes, for food security, social justice, strengthening of self-reliance and cultural identity. Only then will it be possible to prevent peasants turning into slum dwellers, surviving as daily laborers or with all kinds of odd jobs.

The rediscovery of agriculture

There have been some signs of the rediscovery of agriculture by bilateral and multilateral development organizations in the past four to five years. The World Development Report 2008, published by the World Bank is a kind of flagship publication in development discussions, covered the issue of agriculture for the first time since 25 years. A comprehensive new strategy is supposed to promote economic growth and reduce poverty and food insecurity. Governments have promised to increase expenditures for agriculture up to at least 10 % of the national budget in Africa. For



The recovery of traditional farming methods and the use of local varieties conserves biological diversity

Africa, where the proportion of family farms is still very high, former UN general secretary Kofi Annan together with the Bill & Melinda Gates Foundation and the Rockefeller Foundation called for a „new Green Revolution,“ supported strongly by NEPAD, a group of African statesmen, the World Bank and CGIAR (Consultative Group on International Agricultural Research).

This new agricultural policy propagated by the World Bank, other international organizations and governments promised to liberate peasant agriculture from its niche existence and to integrate it into the market economy. According to them the market would offer the best perspectives for growth, poverty reduction and profits. Improved supplies of commercial seeds, fertilizer and agro chemicals should help to increase production and surplus. New roads, airports and container terminals should improve links with the wider world. Private traders and supermarkets would organize the marketing of produce. Agro companies and science have already invested a lot of money in a “double green revolution” by genetic engineering. They promise that genetically modified plants can solve the difficulties in small-scale agriculture caused by drought, marginal soils and pests. Further trade liberalization and the “supermarket revolution”, the growing importance of global trade chains for agriculture and food marketing, should open up new markets. Observers even praise agrofuels as a chance for small farmers to participate in the global upswing, especially if they work as contract farmers for large companies.

On the other hand, many farmers' organizations and non-governmental development organizations fear that this “New Green Revolution” will bring with it a new wave of dangers and destruction for location-specific small-scale farmers and further impoverish the rural population. Most smallholders will not be able to benefit from such an “integration into the market” but will be pushed aside again. Alternative concepts of an agriculture adapted to the circumstances of small farms, which have been developed by farmers' groups all over the world, hardly appear in the new agricultural policies. This is surprising because probably everyone would agree that the farmers are the best advisers for other farmers when it comes to articulating solutions to their own problems and perspectives for their own future.

Food sovereignty

“Food security” as a main aim of the new agricultural strategy sounds correct and promising. But in the mainstream discussion of development organizations this term just means enough food for everybody – whether from their own farms, from imports, or because people have an income that allows for sufficient nutrition, or finally through food aid for those without these possibilities.

Food security in this sense is no longer necessarily a result of farmers' agricultural production in one country, but could just as well be provided by the world market. Export of agricultural products like flowers, vegetables, agrofuels, fish, meat or wine, which demand high investments, would be a contribution to food security as well.

Opposing this model of “integration into the market,” the new farmers' movements see “food sovereignty” as the opposite. It is their perspective for the promotion of peasant agriculture. According to this concept, governments are obliged to create the conditions for a healthy, environmentally sound production of agrarian products, fair conditions for all farmers, and secured food supply for the urban populations. This would include both providing sufficient support for peasant agriculture, secured user rights for land and other natural resources for all rural people, including herding and fishing communities, and also protection from cheap imports

by tariffs. Agrarian reforms and the participation of the rural population in political decisions regarding agriculture is also part and parcel of this concept. It is about first and foremost food security based on local production, self-reliance and social justice, environmental protection and the maintenance of social, cultural and ritual diversity – in short the “multi-functionality” of agriculture. Relevant is what kind of food is being produced, by whom and with what means, methods and processes, with employment generation playing a central role.

“Rainbow evolution”

Furthermore, farmers and peasant organizations demand their fair share in governmental support for agriculture. This support should strengthen the strong points of peasant agriculture. Farmers and especially women farmers have a rich knowledge of and valuable experience in location-specific sustainable agriculture. This knowledge should be recognized much more, it should be spread and included into programmes of agricultural and integrated rural development. “Participatory methods” should especially recognize the important role of women and assure their equal participation, because they are the ones who have carried on the knowledge about organic agriculture, adapted to local environmental conditions, from generation to generation. They are also the ones who bear the main responsibility for the food security, health and livelihood of their families. The wealth of the knowledge of farmers and its relevance for poverty reduction has been recognized for the first time by a comprehensive scientific consensus².

At the local level some positive signs are already visible. Provincial governments and authorities in Tanzania, Indonesia and Brazil and other countries alike recognize the importance of small-scale location-specific agriculture for regional development. Also the promises by governments and financial institutions to allocate more money for agriculture can be seen as a positive signal. But this additional funds should be spent for strengthening and expanding small-scale sustainable agriculture.

Therefore most of the new peasant organizations reject the concepts of the new agricultural policies which resemble in many aspects those of the “Green Revolution” of the 1960s and 1970s, taking place in Asia. Instead they demand a “rainbow evolution”, using a variety of approaches, methods and improvements that are not implemented “top down”, but which start from existing conditions on the ground and are realized in a participatory and mutually beneficial way.

Shelter from the storm

More support, more funds, advice and training alone will not be enough. The political space for implementing these kinds of policies is threatened by processes of globalization. Peasant agriculture therefore urgently needs more protection against the overwhelming competition from subsidized imports, from abusive agrobusiness practices, and from massive international pressures for trade liberalization.

Farmers are under pressure. Their land is becoming increasingly valuable for investors and speculators. The international boom in agrofuels has kicked off an incredible run on agricultural land all over the world and brought new actors into

² The intergovernmental report of IAASTD (International Assessment of Agricultural Science and Technology for Development) Synthesis Report recommends the combination of the two knowledge systems – the traditional, local and practical experiences of the farmers and the analytical sciences of modern research – as the formula for just progress, see

***www.agassessment.org/docs/Synthesis_Report_261107_text.pdf, p 109

Peasant agriculture guarantees food security. Access to water is one of the preconditions



the field, like car manufacturers, oil and energy companies. They are about to buy large tracts of land in developing countries. Insecure ownership and user rights for land and water are the biggest worries and threats for peasant agriculture. National parks, cattle ranches and tourism also remove forest areas, grazing grounds and access to various means of survival from small farmers and pastorals. Well-off urban middle class consumers and speculators drive land prices up so that the “market value” is several times higher than the “productive value” of land utilization by agriculture. Mining and large new plantations of oil palms, eucalyptus, genetically modified soya or agrofuels pollute the water and dislocate the cultivation of food crops.

To strengthen the position of peasant agriculture, individual or collective land ownership or at least long-term user rights are necessary to prevent evictions and displacement. There is also widespread demand for agrarian reforms and redistribution of land. The farmers demand no more privatization of public goods and services like grazing grounds, water, passage rights or agricultural extension and training.

With trade liberalization and the growing import of the surplus of industrialized agriculture, small producers come under competitive pressure from low priced agricultural products like wheat, meat, sugar or edible oils. Subsidies for industrialized agriculture and its exports create a totally unfair agricultural trade. Proposals before the World Trade Organization to allow poorer countries to increase tariffs for specific goods vital for the protection of food security got stuck when the negotiations broke down. New bilateral trade agreements like the so-called “Economic Partnership Agreements” (EPA) pushed forward by the European Union with the African, Caribbean and Pacific states give high priority to further abolishing exemptions and clauses shielding small-scale agriculture. Farmers' organizations demand a moratorium on all trade negotiations in the agricultural sector as long as the right of developing countries to defend their agriculture is not recognized.

Lobbyists

Many political decisions impacting peasant agriculture in developing countries are made by governments, scientists and international development institutions from industrialized countries or by multilateral organizations.

- They provide the funds for development projects;
- They design reforms for land and water;
- They decide on subsidies and other support measures;
- It is here that negotiations are shaped, which in the name of “free trade” try to open countries’ markets further and reduce protections for small farmers.
- Their corporations try hard to influence political agreements, international laws, distribution of funds and national legislation in their favor.

This is a challenge for the civil society groups and non-governmental organizations in industrialized countries that are actively engaged in promoting food security and sovereignty, in battling poverty and in improving the development opportunities for rural areas and populations to provide a counter-weight. They can contribute to give voice to the interests, demands and aspirations of locally adapted peasant agriculture and farmers' organizations. At local and regional level, the groups in Africa, Asia and Latin America have repeatedly proved that they can achieve a lot by themselves – with a little help from their friends. But to influence the global framework conditions and the decisions in the industrialized world affecting them in many ways, they need allies world-wide.

Poverty Reduction by Promotion of Small-holder Agriculture

The three case studies of this booklet demonstrate that small-holder location-specific agriculture is able to sustain individuals and communities and gives ground for its support even in times of globalization. In some respect like social, ecological, economic and cultural matters, peasant farming might even be superior to large-scale industrialised agriculture, which produces for export markets. Small-holder development has the potential for a broad-based programme to combat hunger and poverty. Embedded in an approach of integrated rural development it can be a step towards food sovereignty. From the experiences of the partner organisations of EED we can formulate some general criteria of success for location-specific small-scale agriculture:

Access to Resources

The access to land, pasture, water, forest and other natural resources is a precondition for people to survive on small farms with location-specific sustainable methods of production. They depend upon individual or collective land ownership with clear land titles. They have to be registered in the official land records or other legal



documents to proof the long-term usufruct rights as peasants, tenants, indigenous or pastoralists. This often presupposes a land reform programme. Essential resources like land, water or forest are increasingly turned into use for infrastructure, privatized agroindustrial undertakings or other non-food purposes. For the poor of the rural society it must be guaranteed that the common goods are protected for common use, that their distribution is regulated and that traditional rights are not compromised.

Self Organization of the Rural Poor

Next to the physical and material preconditions what is also vital for the peasants' survival is strengthening their communication networks. Small farmers will only sustain the pressure of agents of modernization if they can collectively keep their resilience. As we mentioned in the case studies the mainstream of development thinking and programmes are hostile to their case. The agents of development propagate globalization and modernization of agriculture. To withstand this it is important that the peasantry is organized as political pressure group in local, national and international arenas.

Capacity Building and Knowledge Management

Up to now the peasants have rich knowledge about ecological methods of farming in their specific location. This knowledge often receives little appreciation and gets marginalized by modern science and technology. For many centuries this knowledge was a guarantee for their survival. Before the remaining traces of this traditional knowledge erode totally, development should make use of it. This means collecting the knowledge to evaluate it, to broaden and improve it and to transfer it into systematic programmes of rural development. Through training and awareness programmes this knowledge can be spread among poor rural farming communities. It is important to develop mechanisms to protect this knowledge from intellectual piracy.

To Build a Sustainable Local Economy

Another important precondition for a successful upgrading of smallholder development is their integration into a comprehensive concept of rural development. Local and regional production and value added chains have to be created by the producers under their control. To generate economic dynamics, rural markets must be expanded and their functioning improved. The same refers to rural infrastructure. Rural craftsmanship, small-scale workshops and local food processing need to be supported and diversified. Producers' and marketing cooperatives, credit and saving associations and collective selling of cash crops are good starting points. To curb the local business a functioning rural micro credit system has to be in place.

Participation of Women

Central to everything is the systematic consideration of the key role of women in everything that refers to peasant agriculture. In most cases it is they who carry on the complex wisdom of ecological location-specific agricultural production methods from generation to generation. They take the primary responsibility for the food security of the family, for family health and livelihood. We have experienced that the success of programmes for rural development are greater the more that women are fully included into all decision-making .

Integration of Local Projects into Politics and Influencing the Political Framework

Because of globalization it is unavoidable nowadays that the grassroots programmes are part of political initiatives on local, national and international levels. The political and legal framework has to be changed in order that there is sufficient backing for small-holder development. For instance the access of the rural poor to land and water has to be defended. The booming international demand for agrofuels give rise to speculation on farm land in order to plant energy crops for biodiesel and bioethanol. This refers mainly to palm oil, soya, sugar cane and Jatropha. Some developing countries plan to shift land use to energy plants on a huge scale, like Ethiopia's plans to turn to agrofuel with 10 million hectares, Indonesia with 20 million hectares, or India with 8 million hectares. Another topic of concern is the planting of genetic modified plants. These may affect local seed supply quite substantially. The voices of the small-holders are to be included into the decision-making process. The link between advocacy work on behalf of small-holder interests and the grassroots work is important because this kind of lobby work only receives legitimacy from the peasants themselves.

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Uwe Hoering



Who feeds the world?

The future is in small scale agriculture

Many observers consider them as backward, romantic opponents of progress – those peasant farmers, who still refuse to shift to “modern” agriculture. They don't invest in machinery, newly developed high yielding seeds and chemical fertilizer for the purpose of increasing yields and accessing the global market. These farmers refuse to get into debts and instead remember their traditional knowledge, which has been handed down from generation to generation. Innovative and versatile, they secure sustainable harvests, develop their own markets and contribute to the conservation of the environment.

Why do they do it? This is depicted in three stories from Tanzania, Indonesia and Brazil.

