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Campesino Settlements and Agro-ecology.

Ordering and Reordering of Vital Spaces: Some aspects related to this pressing challenge.

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The Claim for Land during the Transition.

It is not coincidence that campesino claim for land reactivates cyclically in such a way as to become one of the most recurrent and sensitive social and political phenomena of the transition in a country whose economy is sustained by agriculture, where half of the population still lives in rural areas and where the agrarian structure remains imbalanced. It also has serious ecological repercussions since demands are focused almost exclusively on forest plots of land considered as "idle" or not "rationally exploited", encouraging big landowners to rid themselves of forests in order to avoid expropriation.

Claim for land reactivated in 1989 with the end of Stroessner's dictatorial regime is addressed by way of legal/administrative transactions -expropriation and/or purchase of land for new settlements. In many cases the lack of prompt response has induced campesinos to adopt different forms of pressure, in particular that of occupying the land. Nonetheless, the issue of struggle for land has not always been dealt with in an objective and realistic way, so much so that even the existence of "landless campesinos" has been questioned.

The following are some of the main items that have encouraged the reactivation of claim for land:

- a) Greater political freedom and a process of democratization which create a context more open to the transaction of postponed claims;
- b) The persistence of the phenomenon of concentration and inequality related to land tenancy. As determined by the 1991 Rural Census, 40% of the producers have less than 5 hectares, that is to say they are small land owners as opposed to 1% who own estates of more than 1000 hectares that account for 77% of the land.
- c) The economic recession, the scarce attraction of cities as a source of employment and the limitations and ups and downs of migration abroad (Argentina);
- d) The crisis of the monoculture production system dependant, for example, on cotton, and the process of soil degradation and erosion in areas previously settled, which induces migration in search of more fertile land;
- e) Demographic pressure due to the persistence of high fertility rates in rural areas and the lack of explicit policies regarding birth control; in other words, ensuring that women in rural areas exercise their reproductive rights;

In view of campesino claims, the State's response has not changed substantially. It has not kept up with campesino initiatives and has not overcome its restricted and erratic nature. In 1989, the new regime established the "integral land reform" as one of its priorities based on interinstitutional coordination, campesino participation and concertation with landowners. However, these intentions have slowly faded away due to setbacks and confrontations. Expropriation is limited by the opposition of the latifundistas (large estate owners), legal ambiguities, obstacles and bureaucratic inefficiencies.

However, now there is a predisposition to solve agrarian conflicts by way of negotiation and purchase of land, but budgetary restrictions and lack of planning do not allow this new political will to be more fruitful.

According to official data, 25 thousand families have received a plot of land since the new regime came to power and around 50 new settlements have been established but most of them face serious obstacles due to the following reasons:

a) the soil is not always suited to agricultural activities; b) legal problems delay the transfer of land and access to key services such as roads and health posts; c) the design of vital space settlement: plot distribution, road location, selection of urban centers, is not suited to the ground's agro-ecological features; d) the absence of criteria for selection of land demandors and leadership conflicts.

The progressive exhaustion of the agricultural frontier tends to stop the "easy" generation of jobs in rural areas. Even the sustainability of agriculture is in jeopardy today and thus encourages drastic changes in order to ensure agricultural reactivation and future growth in more diversified, labour intensive and sustainable terms. Thus, agrarian conflict solution can only be achieved within the framework of deep changes in rural development policies and the reordering of the State.

A look within campesino settlements.

The majority of new settlements are located in subtropical forest areas that make up fragile ecosystems of vast biogenetic diversity and energy balances in different states of alteration. This does not encourage the achievement of an adequate equilibrium of natural conditions and agricultural and farming activities in order to allow environment preservation and sustainable production.

Agricultural frontier exhaustion and the lack of rational planning in agrarian distribution has encouraged the occupation of forest areas not entirely suited to traditional campesino activities centered on the "chacra" and its cultivation. We shall analyse some current problems by comparing an old campesino settlement with a new one.

Taruma, created at the end of the 70's, as well as SIDEPAR, created at the end of the 80's, have red and white, sandy soil, with scarce agricultural potential. Taruma was chosen as the pilot area for the GT/MAG-GTZ Natural Resource Planning Program. It is located in the microbasin of the Taruma stream and settled by 70 campesino families. SIDEPAR is a new 10 thousand hectares settlement crossed by streams, gorges and ditches, now being settled by 800 campesino families. Both

settlements have borders with indigenous communities and the impact of campesino presence and the surrounding deforestation is yet unknown.

In both cases, the "square" plotting of land was originated by the Institute for Rural Welfare (IBR) in charge of land transactions and the establishment of new settlements since 1963. The allotment of vital space has not taken into account soil topography or suitability. The setting of boundaries is still the one used traditionally: 10 hectares plots with fixed measurements of 100 meters X 1000 meters.

These plots are also distributed in lines that depend on settlement boundaries and on the access road to the same. Road location is not the most appropriate because the eagerness to make distances shorter and reduce costs does not always imply avoiding slopes, and when drainage systems are incorrectly built they encourage the formation of ditches. This could easily be avoided if adequate measures were taken. Without prior topographical and feasibility studies, roads end up being more expensive and their completion is complicated because location, construction of bridges and drainage systems were not foreseen at the beginning.

In these cases, deforestation is an inevitable process. However, lack of foresight leads to a greater, and in many cases, irreversible, impact contributing to the uprooting of campesino families. Due to technical-burocratic and political reasons, necessarily the greatest possible number of campesinos end up being settled in the land obtained for distribution. Additionally, conflicts related to claim for land accelerates the occupation of plots and allotment is often spontaneous and made by the campesinos themselves without the support of surveyors, therefore creating further chaos.

As a result of this, and due to other motives as well, forest reserve areas have not been foreseen, particularly where there are steep slopes, in order to preserve water resources or as a supplement to agricultural and livestock activities. In Taruma, there are streams that cross the same plot many times, while other plots have no access to water, which makes raising even a small herd of cattle difficult.

Therefore, areas not suited to cultivation are felled/deforested instead of being preserved in order to guarantee the future of settlements in such a way as to avoid further campesino migration due to erosion worsening and decrease in soil fertility and yields.

In Taruma upto 4 agro-ecological areas have been identified on the basis of soil, slope maps and campesino information as to actual land use: areas for annual crops with or without use restrictions (conservation techniques); areas for forest, farming and animal-raising use, which allow a combination of cultivation and animal production (piquetes); forest areas which may be taken care of with forest management practices and areas where forests must be kept unaltered in steep slopes and near streams.

Studies made in Taruma indicate that only 19% of the soil, with limitations, is suited to agriculture. Nonetheless, the majority of cultivated plots are found on severely eroded 8 to 25 degree slopes. It has been also estimated that 41% of the soil must be kept as virgin forest in order to preserve the area's water resources. These instructions will be useless if progress is not made in order to regulate the use of soil, -including penalties for violators as well as incentives for the adoption of conservationist practices.

There are no soil studies for SIDEPAR. However, settlers estimate that 70% of the land is white soil of scarce agricultural potential since white sandy soil has an acid PH, little organic matter and few exchangeable elements.

Another cause for concern is related to the legal ownership of the land. In order to guarantee land tenure, campesinos must go through endless stages: plot measurement, adjudication, price setting, payment in (5) installments, readjustment of installments in case of delay in payment, transfer and final ownership. Most of the problems arise because of lack of land measuring or remeasuring, uncertain land prices and a centralized bureaucracy, which often implies turning to intermediaries thus increasing the cost of transactions.

Taruma's campesinos, after 10 years of settlement, have not had their boundaries measured nor do they know the price of their land. In SIDEPAR, the land has not been transferred to the IBR yet. Therefore, in Paraguay, insecurity regarding land tenure is the rule for campesinos, influencing people's state of mind and making them less eager to carry out "improvements" or necessary investments for appropriate handling of natural resources.

Thoughts for action

Only an agro-ecological perspective in vital space ordering, reinforced by integrated and coordinated actions, will guarantee the future of campesino settlements. Nonetheless, currently nothing ensures that efforts will head in this direction and overcome the predominance of "laissez faire".

Obviously if relevant steps were taken, the repetition of this situation in the future could be avoided. In this regard, external credits must be subject to precise and clearly defined measures in order to ensure the adequate handling of natural resources, prior to disbursement. The European Community, the IDB, the World Bank promise funds for new settlements, but nobody really knows how to face the environmental issue in these cases.

This critical situation demands greater effort that neither public nor private entities are presently capable of assuming. Taruma is a "postfact" effort that makes the problem's complexity evident, although it is an isolated and partial pilot experiment. For example, legal aspects have not been analysed or included in the proposal for territorial reordering.

Nevertheless, it is actually the most elaborate project and it is necessary that it be completed. In other words, it must be put into practice with the agreement and participation of those involved. It is also true that space reordering will always be more complex and costly than to proceed to territorial ordering as a condition prior to campesino settlement.

A pilot project could become a guideline as long as the short term approach that underlies the activities of public entities in charge of agrarian and agricultural policy is overcome. The electoral agenda (1993 elections) and even the terms of development cooperation agreements (in fact the permanence of the GTZ program is only ensured for two more years) may cause further delay in the decisions, increasing risks and costs and therefore jeopardising, not only the term of this kind of projects, but also their replicability.

Since 1988, Taruma has been the object of many pioneer studies: biological inventory (1988), soil study (1990), green fertilizer techniques (1992), cattle/pasture ground management (1992), surveys and reports. However, cultivated land extends onto the hills and stream borders causing more and more erosion.

These studies are in fact sensitizing technicians, officers and policy-makers. The impact of inappropriate soil use in terms of erosion, lack of fertility and biodiversity is now being acknowledged. In view of the high risk of agricultural activities in this area as well as others, it has been accepted that the land will lose great part of its fertility in a few years time if measures are not taken in the short term.

Several measures -pioneer in the public arena- are being promoted in the framework of the GT/MAG-GTZ Project such as soil conservation, particularly cultivation in contour lines, minimum cultivation techniques and experiments with animal fodder and green fertilizers.

But obviously the issue of soil erosion cannot be dealt with from a strictly agricultural perspective. There are also external factors, perhaps less perceptible in terms of their urgency, but nonetheless important, which must be incorporated into the analysis and related to the macroeconomic context, the bias of sectorial policies against campesinos and market instabilities.

The fact that technical assistance, as well as credits, have focused on certain products, such as cotton, has certainly contributed to greater erosion and the present crisis. Campesino basic needs must not be ignored and the revaluation of their production practices implies the incorporation of soil conservation techniques as well as genetic and animal nutrition improvement, reforestation with native species, so as to improve income and employment levels, life quality and the attachment of campesinos to their communities.

The need to overcome these critical times, which particularly affect campesinos, by directing efforts towards a diversified, intensive and sustainable agriculture, is a great challenge, more so in times of public expenditure reduction, difficulties in the access to external funds and trade imbalances which reinforce the agroexport model due to the lack of immediate alternatives.

Sustainable development requires a global, holistic approach, with specific appraisals and feasible proposals. The case of campesino settlements -from the analysis of the design itself- allows the assessment of the ecological, legal, economic and social problems at stake. While they cannot be faced it is perhaps advisable to slow down the establishment of new settlements, since the present terms offer no future.

Problems are so pressing and mistakes are so obvious that it is necessary to redress public, as well as private, intervention. As part of the government program of the different parties and political movements involved in the electoral struggle, the need for greater interinstitutional coordination is present and even the need for bidding, that is to say, allowing greater private intervention, is under discussion. As previously mentioned new settlements require the adoption of complex -nonetheless feasible- measures as long as land demand can be redressed on the basis of clear rules, with qualified and motivated human resources and the participation of campesino organizations in decisions that affect them.

In the present times NGO's witness powerlessly the emergence of problems in new settlements and, in the best of cases, can only back up legal-administrative transactions or denounce some of the more visible inconsistencies and deficiencies. However, in the next years, this issue opens a potential field for commitment to campesino organizations that are becoming increasingly alert and sensitive to the proposals regarding building a suitable vital space with future.

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