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Employment and environmental rehabilitation in the Sahel

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Since warning bells rang out in 1972-73 and 1983-84, the problems surrounding drought and desertification in the Sahel have given rise to a wealth of literature analysing the causes, suggesting solutions and outlining scenarios.[1] In terms of results, however, few fields of study and activity are so shrouded in uncertainty, at the centre of so many conflicting judgements about the arguments put forward or regarded with so much scepticism as to the efficiency of the many measures taken to relieve a situation marked by instability of employment and income affecting individuals and groups alike, by long-term poverty, and by the mass displacement of populations.

In order to address these problems, the protection, rehabilitation and development of land and water resources are in fact prerequisites for a viable economy and, in a situation of generalized scarcity, they should lead to very active policies for using and developing locally available resources.

The first part of this article will summarize the main lessons to be learned from experience and recent work in this field. The second part will look at the prospects for the "infrastructure-employment-production" equation and the conditions needed for a social control of the assets created.

Changes in approach

1. Better targeted techniques for water and soil conservation

Sufficient experience has now built up for each country, public or private actor to find out which approach not to follow or which is no longer viable and to compare the results of the various approaches taken or work

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[1] According to the United Nations subregional division, the countries of the Sahel include: Burkina Faso, Cape Verde, Chad, the Gambia, Guinea-Bissau, Mali, Mauritania, the Niger and Senegal.

carried out. Whether local action, regional or national development programmes, small- or large-scale schemes – over time, almost all avenues have been explored and assessed.

Obviously, there is no universal technical solution. In reality, time and the natural elements take their toll on most approaches. In the majority of cases, this does not invalidate one or another technique but calls for a reappraisal of certain aspects of a project, for an effort to adapt its implementation to the characteristics of different areas and to the expectations of the inhabitants, and for a thorough investigation of the project's consequences and possible drawbacks. In particular, the superficiality of preliminary studies and the failure to foresee a project's consequences have frequently been criticized.

On a different level, from a technical point of view the need to accord proper attention to maintenance and to assume the recurrent costs of a project imposes certain constraints: in effect, the demands of the natural and the human environment together orient projects towards a scale commensurate with local skills and resources. Technocratic solutions based on massive external finance and heavy technology will not be feasible for a long time. Only by combining small- and medium-scale action is there any prospect of creating the critical mass of "rehabilitated" areas required to accommodate the populations who wish to live there in conditions allowing them to resist the variations in climate and to engage in productive activity on an ongoing basis. This is the central point to emerge from the investigations carried out by Rochette (1989).

Furthermore, much uncertainty still surrounds various points of technical, agronomic and economic concerns. Examples of techniques providing immediate obvious returns do not spring readily to mind, and not enough is yet known about how to optimize the effects of conservation work in terms of productivity, sustainability and costing. National structures and activities in the research area are still sadly lacking in these fields. The question marks hanging over such activity have a certain impact on technical choices and explain why two strategic approaches have emerged, one based on assets, the other on the participation of beneficiaries:

- the first strategy has the (apparent) advantage of being technically consistent but as its effects are scattered geographically and deferred in time, it must rely on incentives of compensation in cash or in kind (usually food) for work on such projects;
- the second strategy, which is intended to mobilize peasant farmers by virtue of the impact of the project's increased productivity on their plots of land, often proves insufficiently profitable for the time and energy required.

In both cases, the projects' effect on agricultural yields is rarely explained in a persuasive way (that is, in isolation from other factors) and the advantage of new farming techniques is not clearly highlighted.

Finally, mention should be made of efforts in different countries to integrate activities related to land, water and the forest cover. In general, the emphasis has gradually shifted from trying to combat erosion to protecting and rehabilitating the land, and then to water and soil conservation. Although not easily achieved, a balance is beginning to emerge between the aims of soil conservation and farmers' priorities in terms of making maximum use of water. Collecting water for domestic or agricultural use is at the forefront of decision-makers' concerns and this conforms with the priority needs expressed by the people (especially women) whose daily work is organized largely around tasks necessitating access to water and wood.

2. Tipping the balance towards social concerns

Just as explanations based on so-called natural factors are beginning to lose favour, social factors have come to the forefront of the problems development specialists are trying to solve. Few aspects of the behaviour and customs of rural populations are considered conducive to sound and responsible management of the equilibrium of the natural environment, from their system of communal tenure, to their "short-sighted" management of resources, system of inheritance biased against women and younger children, control over the ownership of the land and widespread mobility. When peasant farmers fail to understand, or actively resist, development, it is all too easy to lay the blame on alleged social constraints associated with ethnic groupings and clans, religious beliefs or magic, or even characteristics supposedly determined by climate and race.

The greater emphasis analysts are placing on social concerns arises from the work of social scientists – notably geographers and sociologists – who have successfully demonstrated the very relative nature of African farmers' so-called natural handicaps, the rationale behind the near-universal choice of extensive farming and the primacy of social cohesiveness over any technical factors. However, this general outline is not intended to isolate the social aspect, rather to emphasize the way in which technical, economic and social factors need to interact.

The reasons and interests underlying this recent promotion of social concerns in development or technical cooperation circles and among the national élites responsible for so-called "difficult" populations are in fact quite different: for by pointing the accusing finger at those in charge (usually the peasant farmer, whom the élites tend to criticize for being lacking in conviction, understanding or ability), they also point the finger at those, village chiefs or heads of local communities, who should be "doing" and "paying". This analysis can then be used to justify governments' disengagement from the problems and widespread rural and agricultural underinvestment (in spite of some progress here and there), which in turn

help to perpetuate or even strengthen inequalities in social benefits and in agricultural workers' remuneration for the fruits of their labour.

We are not calling into question the need to "mobilize the beneficiaries", but we are stressing the need to oppose the uneven way in which this mobilization affects urban and rural dwellers, business élites and working people. This unequal distribution of the burden counts on the presumed resignation of country dwellers and on their traditional ability to rely on their own efforts to survive.

In our opinion, the debate on the causes of environmental degradation and on who is responsible for it is worth conducting only if it allows all the actors involved to give account of themselves, so that ways can be found to break with the practices and reasoning behind the current situation. Chief amongst these actors are governments, technical bodies and cooperation agencies which, for decades, have been supervising, giving advice and absorbing the majority of the collective resources allocated to "development".

3. Access to land: No progress on rights

From a liberal economist's point of view, it is the done thing to expose the limitations entailed by community structures and to advocate broader individual rights over what is produced. From this angle, communal tenure and the rigidities it involves in the Sahelian region can be accused of every possible evil, to such an extent that some countries are openly described as "beyond help" with regard to natural resource management, so long as traditional land management systems persist. It is even argued that by imposing dissuasive obligations and social restrictions far removed from basic economic logic such systems actually dispossess those peasant farmers trying to implement change.

Of course, it is difficult to generalize when regional situations and the behaviour of those who control access to land are so diverse and complex, but one can at least point out that the decline observed in farming techniques in recent decades is closely linked to the break-up of communities and to a growth in individual decision-making as regards the exploitation of collective land. Up to the 1950s, land clearing and land use increased until all land was occupied, from highlands to lowlands, a process which developed much faster than was actually needed by population growth. This private appropriation of common land, the scattering of settlements, splitting up of units of production and breaking up of land resources into a multitude of individual plots occurred at the same time as the force of collective constraints was fading away both in villages and within families: a fall in the size of extended families, a lesser priority given to work in the fields and collective tasks, greater individual mobility, etc.

Under largely unchanged technical conditions and with traditional tools still in use, it is paradoxical that extensive farming practices then developed,

particularly among the least equipped groups and the least enterprising. Phenomena such as rapid soil depletion, increased erosion or a gradual fall in agricultural yields cannot be explained as "natural developments", still less the increase in land disputes, emigration or the manipulation of collective values for private ends. It seems, contrary to the flimsy argument put forward by international experts and large numbers of urban élites, that land rigidities are the result not of ancestral traditions surviving to the present day and lacking any links with modern technical and economic requirements, but rather of the increasingly restrictive, exclusive nature of farmers' individualism and of practices which extract everything possible from soil, water and human resources; this individualism can be observed at village level as well as in the extended and the immediate family. The various signs of increased social tension and inequality are the natural outcome of a crisis situation and of extreme pressure on so-called natural resources.

So, it is not fair to pile blame for the difficulties on communal tenure alone. Excessive conservatism, the determination of those with land rights to cling on to their prerogatives can only really be understood if one takes into account a depressed situation where there is little incentive to innovate and no obvious advantage in changing the distribution of profits and losses from the exploitation of land. Conversely, in a social system where inter-personal relations are paramount, an awareness of the definite advantages to be gained from land conservation, and of the benefit of viable innovations in farming may lead to very different results. If there is social consensus on this, the community's tacit support then tends to benefit the innovators.

A realistic middle course needs to be found between the rights of the modern State, with its codes and standards, and the traditional practices which involve the "ancestors" in settling day-to-day problems. There are no rapid solutions to the rigidities of the land ownership systems and the arbitrary forms of submission which govern relationships within families and lineages. On the one hand, falling back on ancient, hallowed custom cannot sustain an order which has already broken down and, on the other, the otherwise ever-present authority of the State is seen to vanish at local group level and thus discredits the official institutions which are supposed to decree and apply the law. In this potentially long-drawn-out situation, it is understandable that most individuals continue to refer back to authorities and rules applicable in their immediate sphere of reference, whose strength and legitimacy are based on their ability to defuse everyday tensions and conflicts at village level.

4. The "demographic drift" – those who go, and the consequences of their departure

In many spheres, the behaviour of rural populations suggests they have indeed absorbed all they have been told about poor prospects for the future. Tired of breaking their backs to earn a living, surrounded by the uncertainty

of mixed food production, lacking local, economically viable and socially acceptable models of success in farming, and yearning for lucrative activity elsewhere, remunerated employment in towns becomes their ultimate goal, with the medium-term result that an entire generation settles in more clement regions or countries. In the most fragile regions, this demographic drift thus becomes an exodus, with largely irreversible consequences which in one fell swoop turns attempts to rebuild a viable agricultural economy into an uncertain, even fruitless activity.

Since women have been left in charge of maintaining the family property in home villages, the future depends on them. A variety of surveys and studies have analysed the role of women in environmental protection projects in the Sahel and they show:

- the high level of women's participation in environmental conservation;
- women's ability to organize themselves both in teams at site level and for any follow-up action, including maintenance and protection;
- women's ability, when given the chance, to carry out all manner of tasks, ranging from the most basic and traditional, such as supplying workers with water, to the most physically demanding, such as digging ditches, to the least rewarding, such as carrying loads, or the most intricate, including supervising work and marking contour lines. The diversity of national and regional situations, the growth of specialized skills over years of involvement in these projects show that, other than cultural tradition in different societies, there are no hard and fast reasons justifying the division of tasks according to sex.

One cannot help thinking, however, that this argument is not quite satisfactory and may even sidestep the issue in so far as most of the analyses advanced conclude more or less explicitly that there is a correlation between progressive attitudes in this sphere and pressure applied by foreign or national project participants. Just as the idea of involving local populations is seen to have been moulded into an instrument for action by all kinds of project participants, so the interest they show in women workers is also somewhat ambiguous. This is particularly true when women's performance is compared with that of men in terms of job stability, endurance, alleged capacity for getting the most out of extension services or training, in other words, everything associated with what are traditionally believed to be women's strong points.

Reading certain project evaluations which analyse the degree of receptivity of target groups, one might almost believe that the presence of mulish husbands or their return home after working away are actually damaging! Guilty of perpetuating social injustices and of preying on the environment, they take over the recovered land, monopolize the skilled and stable posts on land rehabilitation or water conservation projects, appropriate the most sophisticated tools and equipment, refuse to learn the new farming practices required, or even squander what has already been earned.

Ultimately, in this area as in others, the most important achievements are the long-term application of what has been learned and individuals' deep-seated motivation, not short-term physical performance or visible social changes. The active if somewhat disenchanted participation of women in soil and water conservation and land rehabilitation, even when they are not paid, reveals some complicated behavioural patterns. Convinced by men's own attitudes that manual labour is of little value, since the men who do it are unable to find paid employment locally, the women offer their labour free of charge, along with their crude implements, in an effort to "conserve" or "rehabilitate" their natural or social environment. They hope thus to dissuade men and young people (in other words, their husbands and oldest children, both boys and girls) from leaving for towns or other regions, abandoning, at least temporarily, their various family and social commitments (sometimes to the benefit of "emancipated" women in the host regions).

Denouncing traditional forms of dependence or praising unanimously (but equivocally) the progressive attitudes shown by Sahelian women towards conservation are both inadequate ways of explaining the restrictions which prevent certain categories of the population from gaining access to the paths leading to the most desirable social positions. Recognized social aspirations should also include access for young rural girls to full education and specialized training, recruitment for all into worthwhile employment or the right to mobility.

This is the context in which to examine the dual question of selecting zones in which to set up soil and water conservation infrastructures and of mobilizing young people, i.e. the future population. How can one really justify labour-intensive schemes, whether they rely on subsidies or on free labour, in cases where the work is done by old people, women and children, and when the basic motivation driving on the elderly and the women is to provide immediate financial security and sufficient food – tasks which fall to them in the absence of the young men – and whilst young girls and boys hope to copy their fathers and brothers and travel to what are (reputedly) the rich parts of the country or the subregion?

Prospects

The debates surrounding the relationship between water and soil conservation works, the effects they have on productivity and the new balance of power to emerge locally help one to appreciate the uncertainties and the potential influencing how best to stimulate Sahelian agriculture.

1. The infrastructure-employment-production equation

The causes underlying the growth of extensive farming are also to be found when attempts are made to set up anti-erosion projects. It is not easy

to find between 50 and 300 workdays per hectare when men and young people are leaving the areas concerned and women are overloaded with work both at peak times in the agricultural calendar and in the dry season, a time dedicated to processing and marketing, handicrafts or certain domestic tasks. It is essential to end the paradoxical situation in which a relative over-exploitation of the land and a shortage of manpower simultaneously occur. Action is needed on two fronts:

- an increased labour supply, which presupposes keeping greater numbers of workers on the spot;
- adequate financial contributions to rural areas from outside to provide stabilizing investments, to sustain activities outside agriculture which reduce pressure on the land and to provide the cash income which, at the moment, is being sought elsewhere.

Combining as it does the systematic promotion of local resources, investment in paid employment, the stimulation of productive activity, and the knock-on effect on employment creation, this step is probably the only positive, feasible approach at present, since external assistance is becoming increasingly scarce.

In general, a positive interaction between the work done to fight desertification and furthering overall development presupposes that the right decisions have been made as to balancing the immediate aims of building up the area and creating temporary jobs, and the sustainable revitalization of a production base through infrastructures capable of providing long-term employment. In this context, the flaws which typified the "Alta Intensidade de Mão de Obra" programme in Cape Verde are most informative: the priority given to "occupational" aims (massive over-investment and the excessive scale of the work, the multiplying of useless repetitive tasks), a rigid technical approach (uniform tree planting, standardizing the forest density and anti-erosion bunds), insufficient follow-up on sites and poor quality work, low labour productivity and absenteeism, poor and inadequate equipment and finally, on a more global level, the lack of effect these works have had on production generally (Payen and Poschen, 1989).

All of these factors show clearly the need to stress the link between what we will call the infrastructure approach and the production approach. The former is only justified in terms of potential earnings and the additional outlets it provides for producers, artisans, traders, groups or enterprises, since there are still relatively few permanent jobs directly created as a result (forest maintenance on plots of land, for example, remains the responsibility of farms and family labour). From a purely agricultural point of view, the production approach offers the rural community only the prospect of improving their crops and remaining crowded together in their home areas, which is a delicate balance to find and one which can be drastically upset by unusually unfavourable climatic conditions. The few communities that have managed to overcome the limitations of such a harsh environment, and have

even prospered, owe it to their ability to create new profit-making activities less dependent on working the land and to diversify their sources of income in the countryside.

In the present circumstances, the main advantage of the infrastructure approach lies in the fact that it provides the opportunity to modify outside contributions by setting, for each level of action, in each region and for each kind of project, the volume of the work to be subsidized fully, partially or not at all. Such contractual relationships with the beneficiary communities, which predetermine the nature and conditions of intervention, may help to allay any reservations felt about labour-intensive schemes. Such schemes, both with regard to the social categories involved and the expected effects, do not focus only on groups experiencing increasing difficulties or dominated by others, or on the most needy sectors of the population. By adapting external contributions, targeting collective or individual action and clearly distinguishing redistributive aims from those assisting production, programmes seeking to promote employment and to develop local resources must mobilize the poor sectors of society and other categories which have particular skills and resources.

From this angle, the current concern of many labour-intensive schemes to promote the creation of small and medium-sized enterprises to set up and run such sites could eventually enhance their reputation and have an effect on interests at national and local level. Questions must indeed be asked about why, despite its proven performance, the local-resource-intensive approach plays only a small part in central economic policies and therefore in the economic fabric of rural areas. Many infrastructure-based programmes have shown how good they are at developing local resources using an approach based on workers' remuneration and productivity. Very satisfactory technical standards have been reached, which are geared to clearly identified users and goals, and have shown their superiority over traditional techniques as to appropriation by the beneficiaries and the continuation of the activity on a local basis; they have finally proved that they are, to use financial jargon, "bankable". Under these conditions, one wonders whether certain national leaders' wish to limit these programmes to social activities financed mostly by aid and outside donations is not attributable to a tacit preference for economic policies designed mainly to perpetuate the status quo with regard to the production, circulation and distribution of wealth.

The explicitly macro-economic function of local-resource-based rural infrastructure programmes is to improve the proportion of funds actually reaching beneficiaries by reducing the deductions made by the administrative and technical bureaucracy, inside and outside the country, which includes the richest sector of the nation; in the capital cities, these circles have made the management and transit of foreign aid one of their exclusive prerogatives. This overtly political aspect of the question warrants a wider debate on the issue of the degree of control that people working on

the land have over their produce, their environment and the administrative, technical and political élites in their countries.

2. Choice of projects and allocation of funds: What control do peasant farmers have?

Surprisingly, this is the area shrouded in the greatest uncertainty, particularly among specialists in the regeneration of rural areas, participation or extension services and training, so it is not easy either to estimate or define future prospects.

First of all (and this has a bearing on the current state of flux), we should stress that, though lessened, the influence of the "traditional order" is still predominant in the outcome of many projects. So, "classic engineering projects" with plenty of sturdy technical support are still based on fairly simplistic relationships and logic. Provided there is a guaranteed balance between the objectives to be achieved and the compensation expected, the target population has no great objection to falling in with the ordered, if authoritarian, technical and organisational structure proposed to them.

The debate is run on quite different lines in the humdrum, somewhat depressed atmosphere in which most soil and water conservation projects operate. The relative openness and enthusiasm for participation which can be seen in relations between, on the one hand, political, financial and technical partners and, on the other, the structures through which populations can express themselves or which are familiar to them are in proportion to the operational impotence of state departments. For example, abandoning the traditions of authoritarian protectionism and police intervention in managing protected forests in favour of a system involving local populations in their maintenance [2] merely sanctions the negligence of the responsible departments and, in the current political situation, the intolerable extent of their discretionary powers. Thus, the rules participation requires and which determine the line progress will take are actually being established through the redirection of aid and in reaction to the impotence of national administrations.

In this respect, the area-based development approach, which in recent years has become the preferred operational method, provides an interesting example of a new slant on old concepts and problems. Today there is the same need to understand the dynamics of community lands, to identify clearly development areas located as close as possible to existing settlements, the same benefit to be gained from linking up different zones suited to this or that activity or resource (always a source of tension) and the same will to

[2] For example, when drawing up leases with villages for holdings in exchange for the maintenance of fire-breaks, providing security to stop the illegal felling of trees and to prevent animals from roaming, as practised in a forest development programme in Mali. These new approaches have been comprehensively examined by Cernea (1989).

bring the land back to life in the hearts and minds of the individuals who work it.

However, this approach still bears the hallmarks of the spatial realism beloved of technicians and their wish to bind land to an administrative system involving pre-existing structures. Spatial proximity and social distance – these two concepts are not incompatible when local support is being sought from people who favour institutionalized or functional representational structures (administrative leaders, young people's groups, women's associations, cooperatives) and who meet the wish of outside actors for greater control over evolving local initiatives.

The main advantage in giving a new lease of life to the land-based approach lies in its potential for expanding opportunities at local level; more fundamentally, it also poses the problem of organizing producers, of how they can control their social and physical environment. Thus, any measure or method which brings the people responsible for solving problems closer to the level at which these problems are discussed can only be beneficial. So the focus of analysis then shifts to the institutional machinery best suited to various forms of local responsibility over activities (at the level of one or several villages), decentralized control of projects (village mutual benefit groups, or the joint irrigation tax management committee of the Office du Niger in Mali, or self-managed land project contracts in Burkina Faso, for example). Central authorities must then negotiate locally the terms governing institutional organization, flexible programme planning standards, and budgetary and technical control, and draw the practical conclusions that apply.

A good illustration is provided by the various ways different countries choose to deal with the perennially difficult problem of the local management of amounts saved by the community or made available to it to allocate funds, create jobs, and finance local development plans. The division of responsibilities between project representatives, local communities and various village groups is the ultimate test of whether practices have been updated. Savings and credit are a key sector thanks to the creation or (re)organization of bank or credit institutions, through which the subsidies and foreign loans will pass.

The new support structures must be shown to be capable of mobilizing local resources, of getting foreign contributions through (for example, of ridding funds provided through technical cooperation of their label of "white man's money", always borrowed and used by proxy), and of providing the basis for new local authorities, which would combine technical know-how with economic intervention skills.

The recent catchwords – local or decentralized development, land management, the transfer to peasant organizations – are all signs of greater realism on the part of political decision-makers who are rediscovering the fact that cubic metres of dams or walls, linear metres of bunds, World Food Programme rations distributed, seedlings planted, and the number of

workers trained are merely ephemeral achievements so long as the work thus begun is not carried forward by local beneficiaries.

Of course, there is no absolute guarantee that these moves will not also end in producers subtly trying to gain the upper hand once again or in the direct management of local affairs through new élites installed from outside or out of touch with their own origins. With time and experience, however, "beneficiaries" who in the past often had the wool pulled over their eyes have become more vigilant. The spontaneous action uniting members of most of the grass-roots groups which have sprung up arises more from caution, resistance even, than from active participation: they believe they need to be on the spot to watch events and to forestall anything which may affect the position they have attained.

The stakes are real enough but there is no doubt that, as usual, local actors will take on and adapt to their immediate concerns and interests the approaches suggested to them by development projects and by the local supporting and supervisory framework.

Conclusion

Awareness of the effects of desertification on all sectors depending on or earning their living from the land has heightened considerably at all levels of national or international authorities involved in land rehabilitation and soil and water conservation programmes in the Sahel. After a difficult period during which the extent and urgency of the problem have become ever more apparent, the most clear-headed persons involved are now counting on an educational process which seeks to achieve maturity gradually. This process would attempt, on the one hand, to eradicate or at least reduce practices which are blatantly harmful to ecology (particularly the misuse of land) and, on the other, to provide irrefutable proof of the wisdom of rehabilitation and investment activity through the efficient use of existing resources and the tangible results obtained. In view of the seriousness of the situation and the enormity of the task, it is not difficult to imagine how much energy contributors will need to expend to win over the persons directly involved.

In fact, three categories of actor whose involvement and contribution are vital have so far displayed only lukewarm enthusiasm: funding agencies, urban élites and rural youth. The first category lacks guarantees that the contributions from outside would be put to good and productive use; the people in the second category are largely caught up in their own activities and problems and face major difficulties finding persons willing to bury themselves "in the bush"; and finally, young people in the country are casting about for an objective reason to feel hopeful about their future and, pending some actual proof thereof, as well as better times, carry on surviving wherever the prospects seem most favourable.

None of them believes that the potential costs have been adequately assessed, that the possible advantages involved in the various stages of

national blueprints have been sufficiently investigated, or that there have been enough comparative studies to help gauge the effects of action already taken or under way. They lack information on local managerial capacity, on how far the suggested innovations can be implemented and on the flexibility of local structures. These various questions deserve well-argued replies. The problem lies less with the funds available since, by and large, the environmental programmes are not subject to budgetary restrictions from donors and international aid programmes, than with the practical application of policies in rural areas. Following a familiar pattern, national programmes to combat desertification in the Sahel have often resulted in the restoration of horizontal administrative services which help primarily to open up career opportunities within them and to tap into international aid.

In all likelihood, this period of disenchantment in the rural history of Sahelian countries will draw to a close only when the mobilization and organization of producers and land-users result in the creation of properly representative structures and in the emergence of new spokespersons whose influence and legitimacy will become forces the local authorities have to reckon with. Action needs to be taken, tailored to each national situation and developing at a pace and in the manner best suited to the persons involved and the advances made by the political forces at work among rural populations.

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