

Dryland Networks Programme

ISSUES PAPER

**Getting it Right:
Linking Concepts and Action
for Improving the Use of
Natural Resources in
Sahelian West Africa**

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This Issue Paper summarises an analysis of the *aménagement/gestion des terroirs villageois* approach to improving community-level management of natural resources carried out in Burkina Faso, Mali, and Niger during late 1990. This study was published as "Approaches to Improving Natural Resource Use for Agriculture in Sahelian West Africa," CARE Agriculture in Sahelian West Africa, CARE Agriculture and Natural Resources Report Series No. 3, CARE, New York, USA, 1991. The study was sponsored by the Agricultural and Natural Resource Unit of CARE and financed by the Agricultural Development Office of the United States Agency for International Development, Niamey, Niger.

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LIST OF ACRONYMS

AFVP	Association Française des Volontaires de Progrès
AT	Aménagement des Terroirs
AT/GT	Aménagement des Terroirs Villageois / Gestion des Terroirs Villageois
AV	Association Villageoise
CCCE	Caisse Centrale de Coopération Economique (France)
CECI	Centre Canadien d'Etudes et de Coopération Internationale
CILSS	Comité Inter-Etats de Lutte contre la Sécheresse au Sahel
CLUSA	Cooperative League of the USA
CMDT	Compagnie Malienne pour le Développement des Textiles
CVD	Conseil Villageois de Développement
FAC	Fonds d'Aide et de Coopération (France)
FAO	Food and Agriculture Organisation of the United Nations
GAP	Groupement des Aides Privées (Niger)
GO	Governmental Organisation
GRID	Groupe de Recherches et d'Echanges Technologiques (France)
GT	Gestion des Terroirs
IBRD	International Bank for Reconstruction and Development (World Bank)
IDA	International Development Association (World Bank)
IRAM	Institut de Recherche et d'Application des Méthodes de Développement (France)
IRD	Integrated Rural Development
LLDS	Local Level Development Structure
NGO / ONG	Non-governmental Organisation
NORAD	Norwegian Organisation for Research and Development
NRM	Natural Resources Management
NRMS	Natural Resources Management Support Projects
OAPF	Opération Aménagement et Production Forestière (Mali)
ORSTOM	Institut Français de Recherche Scientifique pour le Développement en Coopération
PLAE	Project Lutte Anti-Erosive (Mali)
PNGTV	Programme National de Gestion des Terroirs Villageois (Burkina Faso)
SNV	Association Néerlandaise d'Assistance au Développement
UNDP / PNUD	United Nations Development Programme / Programme des Nations Unies pour le Développement
USAID	United States Agency for International Development
WFP / PAM	World Food Programme

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1. INTRODUCTION

Emergence of a New Paradigm for Natural Resource Management in Sahelian West Africa: the *Aménagement/Gestion des Terroirs Villageois* Approach

Examination of strategy and planning documents for agricultural development and anti-desertification in the francophone countries of Sahelian West Africa reveals that, from the mid-1980s on, the terms *aménagement/gestion des terroirs villageois* (which we will refer to henceforth as "AT/GT") and the *approche aménagement/gestion des terroirs villageois* (which we will refer to henceforth by the shorthand, "AT/GT approach") occupy a prominent place in the language of planners in government organisations (GOs), international donors and non-government organisations (NGOs).

This approach has been widely discussed following the 1984 Regional Seminar on Anti-Desertification in the Sahel, and in Nouakchott, Mauritania. The approach has been debated, promoted, and tried by governments, donors, NGOs and local populations in Sahelian countries, and it has now become a particularly significant factor in development discourse, in three Sahelian countries: Burkina Faso, Mali and Niger.

AT/GT has become "fashionable" in Sahelian rural development. Like governments and donor organisations, non-government organisations have also been affected by the introduction of the AT/GT approach in planning activities in natural resource management. For example, nearly 80% of the estimated 150 NGOs operating in Burkina Faso in 1990 were promoting natural resource management actions, including AT/GT (Traore 1990). A similar pattern is found in Mali and Niger where NGOs are also considering the AT/GT approach.

Despite considerable enthusiasm by governments, donors and NGOs in the Sahelian region for the AT/GT approach, most AT/GT activity is unproven and experimental in nature. The approach offers novel possibilities and raises significant challenges for rural development in the Sahel.

This review has been prompted by the increasing popularity of the approach and the continuing ambiguity concerning the assumptions that underlie it. We are particularly concerned to clarify the implications of this approach for NGOs involved in improving the livelihoods of peasant smallholders and pastoralists in the Sahel.

We aim to address the following questions: What are the origins of the AT/GT approach and its underlying assumptions? How effective has it been in Sahelian countries? What are its implications for NGOs working in this field?

This paper summarizes a more lengthy review, based on information gathered during a seven-week study in late 1990 of AT/GT and related natural resource management initiatives in Burkina Faso, Mali and Niger. A wide range of documentation was consulted and the approach and impact of nineteen projects were assessed in the three countries during the study.

New Terms for Old Realities?

In this paper, *aménagement des terroirs* and *gestion des terroirs* are used interchangeably, as (AT/GT), but we wish to emphasize that these terms refer to two closely related but distinctive actions.

Terroir villageois, or *terroir*, refers to a land area having limits that are recognized by a given agrarian community and which is customarily used by community members for their livelihoods. "Customary" use implies claims on the land area; the *terroir* is the useful environment which has, to a degree, been appropriated by a given agrarian community. *Gestion des terroirs villageois* refers to what agrarian communities and groups do with natural and other productive resources in their *terroirs*. By "appropriated" settings or areas, we simply mean that even if the areas they exploit for their livelihoods are not their private property, they have a sense of a collective claim on the area, and exercise some degree of control over access to these resources both by community members and outsiders.

Gestion des terroirs thus refers to the actual practice of community members as they go about using natural resources of the *terroir* for their livelihoods. For any number of reasons, their manner of managing natural resources may contribute to the sustainability or to the deterioration of the natural resource base and associated production systems.

Aménagement des terroirs, by contrast refers to community-based efforts to protect and improve the natural resource base through improved management. It represents a conscious step toward ensuring that resource use is sustainable. It entails deliberate modifications of local practice in the organisation of labour and capital in the *terroir*. Such modifications are, in principle, oriented toward attaining particular objectives and improved exploitation of resources. *Aménagement* includes both spontaneous and assisted efforts to deal with constraints on agricultural production, which include severe wind and water

erosion; compacting of soil over large areas, rendering them useless for agriculture; encroachment of sand dunes; loss of pasture areas to agriculture, overgrazing of pasture areas, loss of grass, brush and tree cover, etc.

Common examples of AT actions undertaken in Sahelian countries by local communities, very often as part of an externally funded AT/GT project, to address these problems, include: planting windbreaks with trees and shrubs; building rock lines and stone bunds on gently sloping land, and check dams in gully areas; using millet stalks or other plant species to stabilize sand dunes; delimiting pastoral zones; reforestation; and the selective closing off (*mise en defense*) of particularly degraded areas to cultivation or grazing.

Scattered AT/GT-type actions of this kind have been promoted by NGOs and governments to slow erosion and more effectively manage rainfall run-off in parts of the Sahelian region for some time. Examples include anti-erosion measures in the Yatenga province of Burkina Faso, dating from the early 1960s, and in the Tahoua department, Niger, beginning in the 1970s (Bonfils 1988; Thomson et al. 1989:45-46). These actions have not, however, been part of a broader framework of the kind that is currently associated with the AT/GT approach.

Natural resource management practices similar to those listed above, have a long history in Sahelian West Africa. In fact, indigenous knowledge and practices deserve careful attention, and can make a useful contribution to the *design of improved agricultural production in the Sahel*. Among the more noteworthy indigenous techniques that we learned about during our review, were the following:

- * hoe ridging and mounding
- * fallowing of cultivated fields
- * burning crop residues and newly-cleared areas
- * "water harvesting," including terracing, rock, log and earth dikes, and planting of *Andropogon gayanus*
- * associating cereal crops with beneficial tree species, such as (winterthorn, or) gao (*Acacia albida*), sheanut, or karite (*Butyrospermum parkii*), néré (*Parkia biglobosa*), and kalgo (*Bauhinia reticulata*)
- * small-scale dry season irrigation for gardens
- * recession cultivation of crops (rice, tobacco, etc.)
- * cultivation of crops on old kraal sites
- * use of ash and household sweepings as fertiliser for household fields
- * placing dead branches in unproductive field areas to promote soil-improving termite activity

- * intercropping, crop rotation, and use of cultivars that are drought resistant and which have different maturation cycles
- * extensive cultivation
- * agropastoralism and manuring
- * composting.

2. ORIGINS AND FEATURES OF THE AT/GT APPROACH

The *terroir* concept, which has long been used by French geographers for framing the complexity of agrarian relations in Europe, was first applied to Africa in the 1950s (Sautter 1957; 1962). Sautter and Pellisier, among others, were followed by a succession of graduate students from France and from African countries in the 1960s. The results of their studies have often been reported in *Etudes Rurales*, and ORSTOM's *Atlas des Terroirs Africains/Atlas des Structures Agraires au Sud du Sahara*.

The search for a new approach and intervention framework for Sahelian rural development.

Current interest in the AT/GT approach results from efforts by Sahelian governments, from the mid-1980s, to elaborate a regional approach to anti-desertification, environmental protection and agricultural development following the largely disappointing results of development efforts in the 1970s. Among the major shortcomings of the widely-used integrated rural development (IRD) approach that were identified by governments and donors in Nouakchott in late 1984 as they endeavoured to learn lessons from earlier development efforts were the following:

- * local populations were not sufficiently committed to rural development interventions
- * actions were sectorally focused, without integration between them
- * actions were developed within large project frameworks that did not allow for the diversity of ecosystems in which rural populations pursue their livelihoods
- * research, follow-up and training were often oriented toward promoting short-term solutions for pressing problems rather than providing the means for longer-term solutions (Rochette 1985:15).

After identifying these problems, representatives of member states in the *Comité Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS)* called for a new approach to rural development in the Sahelian region. The approach must be, the CILSS governments agreed, global, multisectoral, participatory, and long-term in orientation. By a global approach, the Nouakchott seminar meant it was necessary to both improve agricultural production and combat desertification.

The call for a multisectoral, integrated approach was an attempt to overcome the shortcomings of existing rural development expertise, which is often narrowly defined by "sectors" (e.g., agriculture, livestock, waters and forestry). While convenient for organising research and training, these sectoral distinctions are often not relevant to the practice of Sahelian peasants. The integrated AT/GT approach is an effort to re-integrate what had become disintegrated development expertise.

CILSS governments at Nouakchott also insisted on the importance of local participation for the success of this new approach. Local populations should be actively engaged in all phases of development: identifying problems, conceptualizing intervention strategies and implementing appropriate measures. This requires that:

- * interventions combine actions that both address the immediate problems of local populations and combat desertification in the longer term;
- * interventions be carried out by groups having some degree of social solidarity, based on shared interests relative to the environment, and that use be made of local financial resources where possible;
- * governments should ensure an enabling environment by providing institutional, technical, financial and political support for local actions.

Finally, participants insisted on the importance of a longer-term approach to change, going well beyond the usual five-year project cycles that typified development programming in the 1960s and 1970s.

As planners and researchers in francophone countries of Sahelian West Africa looked for alternatives to the relatively meaningless "project zones" used by IRD projects during the 1970s and early 1980s, the *terroir villageois* concept proved increasingly attractive.

As noted above, the *terroir* concept is rooted historically in European agrarian structures and like any such concept with its origins in a specific socio-

economic and historical setting, it does not automatically fit into a very different situation. Current use of the *terroir* concept contains several biases that should be recognised by NGOs other donors that are interested in promoting more effective local-level resource management in the Sahel.

Features of the AT/GT Approach

The approach is based on a vision of natural resource management as practised by sedentary agricultural communities

The notions of space, boundaries and resource control associated with the AT/GT approach are those of largely sedentary populations. The image of natural resource-use and organisation of production associated with the *terroir villageois* are those of fixed village communities, consisting of a nucleated core, such as we find among the Hausa and Zarma of Niger, or a more dispersed settlement pattern of the kind we find among the Mossi of Burkina Faso.

However, mobility is a key survival strategy used by Sahelian inhabitants as they cope with the impact of seasonality on their access to needed natural resources. For example, the "useful environment" of pastoralists often includes distant areas of pasture used for grazing during the rainy season, and woodland and cultivated areas where animals are taken to browse during the dry season months following the crop harvest. These areas are often part of several distinct village *terroirs* and spread across different agro-ecological zones.

The *terroir villageois* concept does not acknowledge these more mobile modes of resource management. A quip which is occasionally heard among rural development professionals in Burkina Faso, describes Burkina's National Village Land Management Programme (*Programme National de Gestion des Terroirs (PNGTV)*), as having been "developed by the Mossi for the Mossi". As with many jokes, there is considerable truth in this portrayal of the PNGTV. This suggests the extent to which the *terroir villageois* as a model and as a unit of development intervention can be biased in favour of more sedentary modes of resource use, and unresponsive to the realities of pastoral resource management. In fact, this is a more general problem in the Sahelian region where governments have a well-known history of promoting the interests of sedentary agriculturalists at the expense of more mobile pastoral groups when conflicts arise over access to natural resources.

The poor fit between the concept of *terroir* and pastoral/mobile modes of managing natural resources contributes to recurrent uncertainty about "what to

do" with pastoralists. This awkwardness continues to trouble the elaboration of the AT/GT approach in Niger, Mali and Burkina Faso.

A formidable challenge to more effective management of natural resources in the Sahel consists of articulating activities of more sedentary agriculturalists and more mobile pastoral groups in a mutually acceptable manner. Meeting this challenge is particularly important given the effectiveness of pastoralism as a means of exploiting marginal areas of land and the overall significance of pastoral production for all Sahelian economies (Horowitz 1979).

The approach assumes a considerable degree of socio-economic homogeneity in Sahelian agrarian communities

The vision of the village community in AT/GT efforts is that of a homogeneous, largely undifferentiated entity. However, village communities in Africa contain considerable diversity, and this often contributes to social differentiation. Social differentiation, in turn, affects the ability of particular individuals and households to manage resources and pursue their livelihoods.

Planners and local populations must come to grips with this diversity and the consequences for management of natural resources. This means we need to look at how different social groups gain access to, use, and control resources.

A number of socio-economic factors are potentially significant. These include distinctions based on access to land, size and quality of land holdings; gender; seniority; ownership of livestock; participation in off-farm income-generating activities; status as members of the community or outsiders; size and maturity of households; access to domestic and other labour supplies; wealth; political power; linkages to the state; access to credit and inputs; types of production systems; membership in chiefly or noble lineages, or in caste-like categories (such as ex-captives); and the nature and effectiveness of strategies to diversify access to real income generating opportunities and manage risks.

Considerable diversity underlies the uniformity that planners have frequently and mistakenly attributed to socio-economic relations in Sahelian village communities. The inequalities in the access that households and groups have to the means of production in the community and to natural resources in the *terroir villageois* can result in differing levels of local capacity to manage resources and respond to AT/GT and other initiatives, be they spontaneous or induced through development projects, that aim to increase the effectiveness of community-level management of natural resources.

In practice, efforts to tailor AT/GT actions according to significant levels of diversity are not common. Nonetheless, two examples from Niger of efforts to deal with diversity deserve attention.

The first example is the approach being developed by the *Programme Gestion des Terroirs* du Canton de Tondikandia, Niger. This is a multi-ethnic area, characterized by differing degrees of involvement by local populations in rainfed agriculture (Zarma cultivators) and more agropastoral forms of production (principally Fulani and Tuareg). The programme staff looked at three aspects of domestic production units: (1) the nature of their links with the local area - whether they are natives or settlers, and their means of access to land; (2) extent of cattle ownership; and (3) sociological variations (family size, access to labour, etc.). Analysis of these factors resulted in a typology of local production systems, currently being refined by the project.

In the meantime, an action plan incorporating information from the typology has been developed into an *aménagement* plan (*schema*) for exploiting natural woodlands in the Dorobobo areas of the Tondikandia canton. This plan deserves careful attention by NGOs and other organisations that are working in the area of improved natural woodland management (AFVP/IRAM 1990; Equipe de Damana 1990; Madougou and Bonnet 1990).

The second example stems from work of an interdisciplinary research team from the Université de Bordeaux II, that conducted research in the Maradi region of Niger from 1976 to 1980 (Gregoire and Raynaut 1980; Raynaut 1980; de Miranda 1979), and which has been associated with the Maradi department rural development project since 1983 (Raynaut et al. 1988). The researchers were concerned with analyzing the socio-economic and natural aspects of agrarian diversity in order better to understand the specific features of diversity, and implications for rural development (*Ibid.*: 5, 157).

This regional analysis uses agro-ecological zoning to describe geographic variability (climate, soils, vegetation), and also addresses the availability of land for agriculture and pastoral production, the nature of links with marketing and extension networks, ethnic distribution, and so on. Village communities are examined in terms of their potential for agro-pastoral production (as assessed by examining levels of technology and availability of land and rainfall per village) and in terms of their potential for community organisation (with particular attention being given to socially divisive and socially unifying factors). Families are looked at in terms of access to land and off-farm sources of income, among other factors (*Ibid.*: 120, 157-158).

The capacity of local populations for resource management can be clarified by an assessment of attributes and processes at household, community, sub-regional and regional levels. This approach merits attention because it represents another attempt to understand local-level strengths and weaknesses in relation to broader processes. This regional approach also helps clarify the implications of regional-level processes for local responses to AT/GT actions.

NRM plans very often focus exclusively on household and community features while giving little if any attention to wider ranging regional factors. Doing so, however, provides only a partial picture of the local situation.

A third example comes from Mali where the approach used in the Maradi region of Niger has been adapted to areas near Koutiala and San in areas of the country where the *Compagnie Malienne de Développement des Textiles (CMDT)* has been active (Mali-Sud). The objective is to enable the *Projet Lutte Anti-Erosive (PLAE, Koutiala)*, which has been promoting anti-erosion measures in Mali-Sud since 1984, to develop an approach that is more global, and which is more development-oriented while taking account of regional diversity (Blockland 1989; CMDT 1990).

Models versus Realities of Risk Management in the Sahel: Bounded Terroirs and Open-ended Peasant Action Spaces

In our review of the AT/GT approach, we have attempted to clarify its conceptual origins, as well as some of its biases. We believe these biases have significant implications for this approach in areas where "useful environments" involve multiple sites where user populations manage and exploit productive resources. These sites are often discrete, and unrelated except insofar as they are used by the same group for purposes of making ends meet.

To describe the fluid nature of people's actions as they seek to manage risk and exploit diverse opportunities, we propose the term "action space". Use of this term enables us to understand the changing possibilities and constraints both locally and within a larger region, that are exploited by Sahelian peasants as they struggle to survive, cope with risks and plan for their future.

The life chances of Sahelian peasants are affected by changes within their action space. The *terroir villageois* is one very important element in their action space but it is one element among several.

Consumption and sales of agricultural production and livestock, and collected fuelwood and straw, which originate in their *terroirs villageois*, are important

sources of real income to agrarian populations in the Sahel. However, trade in commodities that do not originate in the *terroir* is another source of income as are jobs in a variety of agricultural and non-agricultural activities, ranging from cultivating and herding in rural areas to construction and petty trade in towns.

These alternative sources of income may be located in the next village, town, in another province, in the capital, in a neighbouring country, or in distant locations that appear unrelated to the village and its *terroir*. These links are the cumulative results of relationships that have developed between populations in the Sahel and those in the coastal areas of West Africa and elsewhere.

In the case of the Sahel region, this larger regional economy encompasses parts of Niger, Burkina Faso, and Mali, as well as the coastal countries of Nigeria, Benin, Togo, Ghana and Cote d'Ivoire. The livelihoods of peasant smallholders and pastoralists in places such as Banamba, Mafi; Yako, Burkina Faso; and Inkimia, Niger, are linked in important ways to the dynamics of urban life in countries along the Guinea Coast. These dispersed and occasionally distant locations may also be part of the Sahelian peasant's action space (cf. Painter 1987).

Planners should consider these different levels of activity when they reflect on possible approaches toward more effective use of natural and other productive resources for agricultural development.

Linkages at subregional and regional levels may pose practical problems for administrators who define their programs solely within administrative units such as *arrondissements* or provinces rather than between these major units. In fact, regional dynamics often cross administrative boundaries. This suggests that a regional approach may be more useful than one constrained by administrative boundaries.

How must we rethink our image of present cultivators and village *terroirs* in the Sahel? Certainly we must look at more than agricultural production when we try to understand and influence peasant behaviours. We must widen our perspective of "production" systems to include off-farm as well as on-farm opportunities and income generating strategies. We must also look at factors beyond the village *terroir* when we consider AT/GT actions, or the linkages between locally-focused AT/GT actions and wider-ranging development processes. The "action space" concept is useful for efforts to integrate these factors.

3. ROLE OF PARTICIPATION IN THE AT/GT APPROACH

Emphasis on Voluntary Participation

A basic feature of the AT/GT approach is the high value given to voluntary involvement by community populations. For NGOs, of course, the principle of voluntary involvement of local populations in activities has long occupied a central place in organisational philosophies, so there is little to surprise us here.

In practice, however, NGO actions may stray from this principle. NGOs can be overly driven, for example, by project objectives, and consequently, give insufficient attention to priorities of local populations (Sumberg et al. 1990:34). This imposes possibly undesirable options on local communities, and endangers several other core NGO values: participation, reaching the poor and flexibility (Tendler 1982:2-5).

When project objectives - be they NGO or GO projects - do not fit with local needs and constraints, when local interest flags, and when project staff do not closely monitor and modify their activities, something has to give. The soft spot for government rural development in the past, and occasionally for NGOs, has been participation. Under conditions of declining local interest and involvement, planners are tempted to "mobilize" participation, through appeals to (local) reason, pep-talks, cajoling and threats. In the latter case, threats to terminate funding or food-for-work may be used.

In some instances, as in CARE's Majiya Valley windbreak project in Niger, sufficiently positive results can transform an initially "top-down" project into one that receives considerable spontaneous local support (Thomson et al. 1989:34-43). In other cases, as with the CARE Koro Agroforestry Project in Mali, local conditions (insufficient water for windbreak seedlings) and results (high mortality of seedlings planted by villagers) may have negative implications for realizing project objectives, but project operations continue nonetheless (Sumberg et al. 1990).

The emphasis given by Sahelian governments to voluntary participation of local populations in rural development initiatives is a recent development, and one could argue that since the mid-1980s, the NGO and GO approaches to participation have been converging. Converging tendencies on the part of government-sponsored AT/GT actions are not only recent, however, they are also slow and uncertain. Government organisations, unlike NGOs, have a very weighty *dirigiste* tradition to overcome if they are to forge a new relationship with local populations of the kind needed to make AT/GT work.

Governments are faced with the dilemma of how to change their primary relationship with local populations from one of control to one of voluntarism, a relationship that is more characteristic of the relationship between NGOs and local populations (Fowler 1988:9-10). The prospects for continued convergence on the part of governments are seriously limited without fundamental changes in government ideologies, structures, and practices, and these are not likely to occur in the short-term despite an apparent openness on the part of several Sahelian governments to popular expression of diverging political views.

Relations between governments and local population are complex and often characterised by tension and mutual distrust and lack of mutual understanding. Change in these relations does not resemble a simple linear progression from less to more "participatory" situations. In Burkina Faso, for example, which has been considered by many observers to be among the most progressive governments in the Sahel with relation to empowering local communities for more effective natural resource management, there is strong evidence that decision-making power relative to natural resource management is becoming more, rather than less, concentrated in government hands. Is this an example of "decentralization within centralism"? (*Ibid.*:11).

Whatever the case, the implications for empowering community-level structures to carry out natural resource management relative to a *terroir* or other useful agrarian space are very likely negative. After more than five years of experimenting with approaches to promote greater local-level responsibility for resource management through the PNGTV, community-level structures in Burkina Faso still do not have legal authority (i.e. state backing) to make resource management decisions. The Burkinabe government has been unwilling to transfer decision-making power to local levels.¹

This is also the case in Mali and Niger, where governments continue to hedge when it comes to transferring power to local-level structures. Commissions are formed and meet in Africa and Europe, and studies are undertaken, but very little power is transferred from the centre to local levels. Some of the most interesting movement toward increased local-level control, however, has occurred in Mali. It appears to be highly situation-specific, involving the development of local *de facto* precedents that are not systematically backed by the government.

In some instances (the Kayes region of Mali), community groups have successfully sued recalcitrant government administrators who had not supported their claims concerning access to resources. This show of force has created

¹ Formal ratification has now taken place.

openings, albeit *ad hoc*, for the exercise of local initiatives. In other cases, regional administrators provide *de facto* support for local resource management initiatives that are not currently backed by national rural codes (J. Thomson, personal communication, Nov. 20, 1990).

How can these arrangements help to define the directions for future changes in state policy? We must wait to see.

Typically, government technical services involve strong hierarchical relations and structures of command and information flow that are unidirectional, from the top down. Little attention is paid by upper echelons to the interests, wishes, needs, and initiatives of people at lower levels of the hierarchy, much less at the local, community levels.

These organisational features, which result from a longstanding concern by governments with issues of maintaining control are particularly remarkable in the case of national services that are concerned with the management of public access to forests, water and wildlife. In particular, national forestry services in the Sahelian countries have a long tradition and a widely-held image among agrarian populations as police agents. Their mandate has been to control access by rural populations to woodlands and wildlife, and to sanction their use of these areas via permits, fines, and threats of force and arrest.

These issues are important because AT/GT actions by NGOs and GOs tend to be implemented in partnership with regional offices of national forestry services. The transition of these agencies from a policing role to an extension and outreach role has only begun, and experience in Burkina Faso, Mali and Niger suggests that there are no guarantees of success (Koenig 1990:63-64; Sumberg et al. 1990:34-36).

Similar *dirigiste* tendencies are commonly found in the practices of agricultural and livestock extension agencies, who have been strongly inclined to simply provide technical advice to local populations, who are expected to listen and then follow their advice, regardless of its suitability.

Our aim in making these comments is not to impugn government extension agents. Rather, we wish to point out that government structures do not reward field agents for working with local populations as equal partners, nor for taking seriously indigenous knowledge, ideas, problem-solving, and practice. The result has been a lack of effective communication between extension agents and local populations and a real dilemma for programmes that attempt to integrate state agents of this kind in endeavours that require active input from local communities for their success.

Reasons for Changing Emphasis

Increasing concern on the part of Sahelian governments with participation issues has several possible explanations. Certainly, some government planners, have learned a few lessons from the disappointing results of IRD projects in the 1970s and early 1980s, and are now looking for ways to promote greater local participation.

Typically, in the past, "participation" has consisted of multiple brief encounters where technical service representatives gave instructions to hastily summoned members of rural communities, while giving little time to listening to local views. In some cases, participation amounted to what is most generously described as "induced or constrained voluntarism."

It also has become increasingly clear that apparent agreement by local populations to government or NGO development proposals is not in itself an unambiguous indicator of commitment to new ideas and procedures. Polite silence and inaction on the part of villagers have often been explained by outsiders as the result of "insufficient motivation", "lack of interest," or less generously, as "peasant hard-headedness," and more generically as "ignorance." However, such strategies have proved to be very powerful forms of peasant resistance to ill-judged and inappropriate state intervention in agriculture.

Peasant resistance to development interventions did not begin in the 1970s. It can be traced back well into the Sahelian region's colonial period. This response pattern by local people has had negative consequences for a wide range of agricultural development projects in the Sahel, ranging from large-scale irrigated rice perimeters, and development of lowland (*bas-fonds*) areas and village woodlots, to projects to increase production levels of rainfed agriculture (Arnould 1986; Nicolas 1969; 1971; Reyna 1986; Waldstein 1986; World Bank 1988; cf. Scott 1985).

Aiming to obtain a greater local commitment to AT/GT actions, NGOs and GOs alike now give considerable attention to voluntary participation. To more fully understand possibilities and constraints relative to the kind that NGOs and GOs are seeking, however, we need to examine the alternative livelihood options available to local populations. In the case of the Sahel, we must recognise the extremely limited range of options available to many peasant smallholders and pastoralists which has consequences for their willingness to become involved in AT/GT actions.

Sahelian smallholders and pastoralists were hard-hit by drought in 1969-74 and again in 1983-84. Each crisis resulted in disarray within production systems and livelihoods. Rainfall since 1974 has been better, yet continues to be patchy and appears to be part of a downward trend in the region. Local populations have become more responsive to AT/GT and other anti-desertification initiatives linked to agricultural improvement, because the threat of collapse has become so great.

At the same time, chronic economic stagnation throughout West Africa has reduced access by Sahelian populations to sources of income that have long been considered as complements or alternatives to rainfed agriculture in their home areas. Economic decline in the Guinea Coast countries has resulted in coastal governments constricting access by migrants to jobs and, as we have seen in Nigeria, Ghana and Cote d'Ivoire, several governments have repeatedly expelled foreign workers and pastoralists. As a consequence, migrants from the Sahel are returning to their home countries sometimes after years of residence abroad, and would-be seasonal migrants have fewer alternative options to consider in other areas.

One of the few options remaining for these individuals in their home areas is agriculture. This return to agriculture appears to be occurring especially in the higher rainfall areas in the southern portions of the studied countries where control of Onchocerciasis has opened up large areas having relatively good soils and low population densities (McMillan, Painter and Scudder 1990). Reduced alternative opportunities and the potentially beneficial impact of AT/GT actions even in the lower rainfall areas of the Sahelian countries, may also be contributing to the increased local response to AT/GT actions.

To the prolonged regional stagnation and declining national revenues, we must add the effects of decreasing donor willingness to provide continuing assistance to African governments without significant trade-offs in the form of structural adjustment-decentralization, privatization, elimination of input subsidies, etc. Finally, Sahelian governments have been looking for ways of transferring responsibility, particularly for rural development costs, to local community levels.

"Participation" in this case means that local populations are being invited to contribute directly to covering investment and recurrent costs associated with rural development. Repeated calls from the mid-1980s onwards have been made by governments for rural populations to "take charge of their own development," to encourage local "self-development," etc. The emphasis on voluntary participation may also make good sense: If people realise that by deciding to do something, they must commit their own resources with only

minimal support from government, then local expressions of agreement to participate in the activity (e.g. AT/GT) may be more indicative of a significant degree of interest and commitment.

What Drives Local Involvement in AT/GT? Short and Long-Term Considerations

Representatives of NGO and bilateral projects often discovered very early in the implementation of AT/GT actions that their perceptions and priorities differed from those of the local population. Remarks by project personnel and information from project evaluations provide ample evidence of a gap between local concern about pressing local problems, needs, and interests, and the desire by project planners for community members to think more in terms of longer-range prospects for environmental improvement, sustainable agriculture, etc.

Dealing with this difference often requires compromise solutions, sometimes specified in a contractual form that provides local communities with some satisfaction of immediate needs and which also fosters participation in AT/GT activities with longer-term, less tangible benefits.

The Canadian NGO, CECI, which implements the *Projet Aménagement des Terroirs, Dallol Bosso Nord*, in Niger, began its agricultural development efforts in 1987 with plans for a series of initial studies. But local populations made it clear during initial contacts in the area that they were short of food and needed immediate help. As a result, fertilizer loans replaced studies during the first year. The studies have yet to be done, but pressing local needs were addressed.

Action Sahel is a Burkinabe NGO that has been operating in the pastoral areas of the northern Yatenga province for less than three years. The needs for more effective natural resource management are great, due to increasing pressure on resources since 1983-84 caused by drought-driven settlement in the area and a breakdown of long-standing natural resource management systems implemented by local pastoralists. But the herds of the area's pastoralists were hard-hit by the 1983-84 drought, and their immediate need is for assistance in re-establishing their damaged livelihoods. *Action Sahel* thus concluded that however important the need for a locally-based resource management plan, local populations required assistance first with credit and capital to start a variety of income-generating activities. This priority need is being addressed through the *Projet Banque Villageoise*, organised along lines similar to the Gramene Bank.

These examples illustrate the dilemmas that must be addressed by local communities and NGOs and GOs as they endeavour to sort out priorities concerning shorter- versus longer-term issues and problems.

Project representatives interviewed during the study frequently commented on the apparent unwillingness (or, more frequently, the "incapacity") of local populations to look at local-level environmental problems with a longer-term perspective, and alter their manner of using natural resources accordingly. In fact, local populations in the Sahelian region have been criticized through much of this century for their "short-term planning horizons", and the negative impact of their agricultural and pastoral practices on natural resources. This tendency to "blame the victim" has become a *leitmotif* in planners' and donors' visions of Sahelian peasant smallholders and pastoralists.

If the actions of Sahelian peasants suggest that they do not plan for the longer term, there probably are good reasons for this so-called irrational approach. In fact, their reasons are rational, but understanding this rationality and its context requires an approach to rural development that gives more attention to local-level diversity, relations, and processes than we have seen to date. Recent evidence indicates a strong relation between the so-called short-term time horizon of rural populations and the wide variety of risks and uncertainties they face.

The eventual success of AT/GT-related actions will depend on the degree to which the actions are perceived by local populations as resulting in concrete and reasonably immediate benefits. It will also depend on whether these actions can be incorporated within their strategies for dealing with changing opportunities, constraints and risks and their approaches to diversifying income.

AT/GT actions that endeavour to encourage local awareness and attention to environmental problems may contribute to a locally-shared sense of responsibility for problem-producing processes.

A common strategy used both by NGOs and GOs is food for work, made possible with foodstuffs provided by the World Food Program (WFP). Some look at food-for-work as a straightforward means of encouraging participation in AT/GT programs while providing for the needs of local populations, particularly in areas affected by chronic or acute crop failure. Others argue strongly against food for work on the basis of dependency and declining production, and reject the approach. Anti-welfare sentiments, views that foodstuffs are often inappropriate for local tastes and needs, and that cash is what locals need most, form the basis for other arguments against the use of food for work in AT/GT interventions.

Proponents and opponents alike express concern about the implications of food-for-work for sustained local participation particularly when food distributions are phased out or interrupted. However, local populations often look at the strategy with approval. Villagers in the study countries repeatedly demonstrated their willingness to provide labour for AT/GT actions when WFP commodities were offered.

A related issue which has been raised by CARE in project evaluation and program documents is the potential problem of "shadow" participation. This consists of participation for reasons other than those directly related to project activities. Villagers may, to cite the instance of the Koro agroforestry project in Mali, plant trees in accordance with project plans. But they do so because the project will provide them with a well in the short run, not because of the perceived longer-term value of planting trees (Sunberg et al. 1990).

It is important that NGOs be as attentive as possible in their efforts to ascertain local needs before intervening. Well-intentioned outsiders must pay attention both to needs expressed by community members, and needs as perceived by the interested, analytical observer as she or he seeks to understand a local situation.

4. LOCAL LEVEL DEVELOPMENT STRUCTURES AND AT/GT

Types of Local-Level Development Structures

Our review of AT/GT in Burkina Faso, Mali and Niger suggests that we can distinguish usefully among three major types of local-level development structures (LLDSs). The first two date in many cases from the early post-colonial years, and consist of structures created by the state to carry out specific functions, and structures based on pre-existing community-based forms of organisation. A third type is more recent, dating in many cases from the mid-1980s, and is the result of largely local initiatives based on shared perceptions among community members of particular needs or problems.

The distinction between types of structure is not completely clear and some movement is possible across categories, as for example, when moribund government created local-level development structures are "rejuvenated".

Development Structures introduced by the State

These consist of local-level structures that were created by post-colonial governments to carry out specific tasks, often with considerable oversight and control by the state. The cooperatives we find in all three countries are important examples of state-introduced LLDSs. In Niger we find in addition, the *conseils villageois de développement* (CVDs) of the *Société de Développement*; and in Burkina Faso and Mali, the *Associations Villageoises* (AVs). Governments in Sahelian countries have typically assigned several tasks to these local-level development structures during the post-colonial period, among them:

1. facilitating access by smallholders to credit, initially from government development banks, but increasingly from private banks. Credit was made available until the mid-1980s largely for selected production inputs (chemical fertilizers, animal traction units, pesticides, etc.), but increasingly, credit is being used to finance other local-level activities (grain banks, community stores, village pharmacies, etc.);
2. facilitating state marketing of the agricultural commodities (groundnuts, cotton, cowpeas, and to a lesser extent cereals) produced through easier local access to credit and inputs;
3. facilitating the flow of information, in the form of directives, from central government structures toward rural populations, while only rarely facilitating the flow of information from local community levels upward to regional, much less to national levels.

The performance of these state-sponsored, local-level development structures in the Sahel has been mixed and frequently unsatisfactory. Many have been extremely fragile, and are now non-operational. A combination of factors has contributed to this situation, among them: the ineffectiveness of these local-level structures at representing and promoting local interests; negative government price policies for the commodities marketed by the local structures; and poor local management.

Exceptions in the Sahelian region include the credit and marketing structures introduced by the *Compagnie Malienne de Développement des Textiles* (CMDT) in southern Mali, an important cotton-producing area. Guaranteed prices and marketing have given cotton growers a reasonable source of income over time, but local level development structures have very limited autonomy vis-a-vis CMDT. They function largely as credit and marketing structures, and cash income in the CMDT areas is heavily dependent on cotton sales.

Development Structures based on Pre-existing Organisational Forms

The second type of local development structure also results from interventions by post-colonial states, but reflects an effort by governments to link development-related functions (as defined by the state) with pre-existing social structures (Kerr 1978; Painter 1986; Painter 1990; cf. Fowler 1988). Examples are the village *ton* in Mali, the *naam* in Mossi areas of Burkina Faso, and the *samariya* in Niger (Lewis 1978; Kane and Ouedraogo 1989; Sidikou and Charlick 1985; Thomson et al. 1989:23-24).

The pre-existing organisations that form the basis for these structures have a long history of mobilizing community agricultural labour for the benefit of individuals, community sub-groups, or the community as a whole. Because of this, these "modernized" versions of pre-existing social structures have often been assigned a major role in communal works activities.

The development of viable local-level development structures such as the *ton villageois* in Mali, depends to a great degree on the existence of income-generating activities. The relatively higher rainfall, cotton-growing areas of southern Mali and southwestern Burkina Faso are favourable to the development of local-level decision-making and management structures, because there are valuable resources to manage. These areas contrast sharply with the situations we find in the Sahelian areas of Mali and Niger where rural populations have fewer productive resources and where, as a consequence, LLDSs are less numerous and less successful.

Local-level Development Structures that Express Greater Degrees of Local Initiative

A third type of local-level development structure has been involved in an increasing range of development-related management tasks in the Sahelian region. Their activities include managing village pharmacies, grain banks or stores; maintaining village water points, or managing access to woodlands and grazing.

Initiatives in Mali, and similar community-level activities in Niger have been carried out by the offshoots of government-created cooperatives, assisted by the Cooperative League of the USA (CLUSA), which helps with local organisation and with contacting potential sources of loans. Some LLDSs gain significant returns from sale of fuelwood from forest and brushland areas which they manage, and these represent another example of local initiative and government assistance, that have given rise to local-level development structures. Guesse-

bodi and Dorobobo in western Niger, and Banamba, Mali are noteworthy instances of locally managed fuelwood-cutting and marketing cooperatives, that benefit from government and bilateral response to local initiatives.

Effectiveness of Local-Level Development Structures at Representing Community Diversity

The idea of working in concert with a village community on development-related issues has a powerful appeal, but doing so is not as straightforward as we might wish. Communities often contain social categories and groups of individuals that differ considerably in terms of their capacity and willingness to engage in new activities.

Typically, the village community is linked to the outside by traditional authorities who, while appearing to speak for the community, often do not represent the diversity of community interests. As experience has repeatedly shown, agreement by these community spokespersons may not constitute a commitment by the community as a whole to the activity being proposed. Insofar as we can speak of a general village assembly, it usually consists of elders, notables, quarter chiefs and (male) household heads. But only a small fraction of this body speaks out in practice, with the result that representation is partial or non-existent among other categories in the community, especially dependents, juniors, women, members of ex-captive castes, etc.

The approach used by post-colonial governments in the Sahel region to deal with "traditional" authorities has ranged from accommodation and incorporation (Niger and Mali) to confrontation and marginalization (e.g., the "breaking" of traditional chieftaincies in Burkina Faso). However, marginalizing long-standing customary authorities from community-level decision-making processes does not guarantee that a broader range of community interests will be represented by new structures.

At present, there is no sure approach to ensuring that all or even a broad base of community interests are represented by local level development structures, whatever their origins. In the meantime, a range of problems exists that is related to more effective natural resource management and improved prospects for agricultural production, and which can be addressed by actions undertaken by individuals and subgroups in the community.

How broad-based can or should participation be? How representative can we expect local-level development structures to be? The realities of social differentiation within rural communities guarantee that participation in efforts

to promote more effective management of natural resources will be partial. Something less than broad-based, inclusive approaches to promoting local participation may therefore be required.

One more narrowly-based participation strategy would entail working solely through key community "decision-makers", by identifying individuals who have some perception of the stakes at risk.

Needless to say, an enabling environment is critically important. Local capacities to respond to NRM initiatives are conditioned in part by supportive government policies. Local communities and groups will not commit themselves to risky decisions concerning control over natural resources without some form of government sanction to empower community-based structures.

Factors Related to Effectiveness of Local-Level Structures for Natural Resource Management

The AT/GT approach emphasizes the role of LLDSs in promoting more effective natural resource management, and the official discourse on decentralization implies both greater local-level responsibility and authority to handle increased responsibilities. However, local communities must have backing and authority if they are to assume greater responsibility for managing natural resources.

Security of Land Tenure and Local Authority to deal with Tenure Issues

Security of tenure is an important issue which, under present conditions in the Sahel, is not conducive to better local-level management and investment of labour and capital. Two clarifying remarks are necessary relative to our view. First, our use of "present conditions" does not refer to so-called "traditional" tenure practice. We believe that the current situation, and the often problematic nature of so-called "traditional" tenure is the result of repeated government interventions relative to tenure issues.

Second, we do not use tenure security here as being equivalent to private property. We believe that customary land tenure offers the greatest potential as a point of departure in providing tenure security for local communities. The principles of customary tenure are easily understood by community members and outsiders, and are subject to a considerable degree of consensus. But looking at customary tenure systems is only an initial step toward providing

tenure security and a firmer basis for local initiatives in natural resource management (McMillan, Painter and Scudder 1990: 53-59).

Several factors have contributed to a weakening of customary tenure systems throughout Sub-Saharan Africa in ways that planners rarely appreciate, and which require clarification. These factors include uneven commoditisation of land whereby it develops "market values;" large-scale land appropriation by Sahelian states for special or restricted use; accumulation by individuals and groups that have greater resources, including access to state-controlled mechanisms for allocating credit and land rights; migration and resettlement; demographic growth; and changing patterns of land-use. The result is that the day-to-day practice of tenure may differ considerably from the formal descriptions of customary tenure that abound in the documentation on development for the Sahelian region (*ibid.*).

There is a need for a better understanding of practice and changes to customary tenure systems under the impact of:

- * demographic growth
- * environmental degradation
- * state and state-facilitated interventions (e.g., transfers of rural land to urban residents of Bamako, Mali through the government policy of *concessions rurales*; large-scale land accumulation in the onchocerciasis-free areas of southwestern Niger by government civil servants, (Roth and Painter 1990; Buursink and Painter 1990: 20-25).
- * rapid colonization of Onchocerciasis-free areas of western Burkina Faso and Niger (Buursink and Painter 1990; McMillan, Nana and Savadogo 1990).
- * increased competition between agricultural and pastoral populations (e.g., in the northern Yatenga province of Burkina Faso, and in the Sahelian zones of the Tillabery, Tahoua and Zinder departments of Niger)
- * development of land markets in areas that are linked to rapidly growing Sahelian capitals and secondary cities.

Government backing for community-level efforts to resolve tenure issues is extremely important. Local-level bodies should be constituted and given clear-cut authority to deal with tenure matters. Currently, local-level bodies in

Burkina Faso, Mali and Niger can do little more than refer disputes and conflicts to higher levels of authority. They lack the authority to make many decisions and they are unable to adjudicate disputes over issues of access.

Despite long-term plans by governments in the study countries to clarify these issues through rural codes and land tenure reforms, none of the governments has systematically enabled local bodies to play an active role in resource management decisions.

Need for Local-Level Financial Management Capacity and for Resources to Manage

The Sahel is littered with non-operational LLDSs that were created to carry out community-based management functions, but which had nothing to manage. The result is a large number of LLDSs that are little more than formal or shell structures. In many cases, community members know very little about the existence of these local-level structures, much less about their functions.

As we have seen above, some of these structures date from the earlier part of the post-colonial period. Many more were created by Sahelian governments during the early 1980s as a response to the constraints of prolonged regional economic crisis and to the pressures of structural adjustment policies introduced by international donors. The result has been a proliferation of local-level structures: committees and subcommittees, associations and councils - many of which are lifeless.

There are however, several bases for exceptions to this pattern, such as where a combination of a more favourable natural resource base, supportive government development policies (e.g. extension, credit), and access to markets has brought real increases in income. Examples in the study countries of endeavours to organise local-level cooperatives include: Guesselbodi, Niger, where local cooperative organisation is supported by USAID and CLUSA; Banamba, Mali, where assistance is provided by FAO and Dutch Aid (SNV); the Monts Mandingues, Faya, and Soumsa areas in Mali (the *Opération Aménagement et Production Forestière*, or OAPF), with financial assistance from CCCE, IBRD, FAC and NORAD; and Nazinon, Burkina Faso, which is assisted by FAO and UNDP (McKay et al 1990:14-16).

The distribution of these opportunities for real income generation is very uneven in the Sahelian countries, and clearly favours the higher rainfall areas in the southern portions of Burkina Faso, Mali and Niger. NGO actions to promote

more effective natural resource management must look very carefully at several factors. Principal among them are:

- * the local potential for engaging in viable agricultural production
- * the degree of regional integration and the strength of transportation and marketing linkages that enable producers to obtain satisfactory returns on their production (be it cereals, tomatoes or fuelwood)
- * the relation between agriculture and a range of off-farm strategies used by households to broaden access to income while spreading risks.

The second exception consists of areas where NGOs, governments, and some private initiatives are assisting community groups with their efforts to obtain loans for starting up income generating activities, despite conditions of drought, environmental degradation and economic stagnation which pose formidable obstacles to local accumulation. Typically these interventions consist of furnishing revolving funds used in preparing foods for sale; animal fattening; grain banks; stores; transportation enterprises; fuelwood sales, etc.

Importance of a Supportive Policy Environment

We have argued earlier that supportive government policies are critical to viable local-level initiatives in natural resource management. But success also requires a more broadly supportive economic environment. Many local initiatives to generate income, for example, are hindered by a lack of access to marketing opportunities. Locals can produce more but they may not be able to sell their product, or if they can, they may have to sell at low prices. This combination of factors goes a long way toward explaining failure among many externally induced efforts to promote local-level "income generating" activities. The problems range from a lack of roads to unfavourable rural-urban terms of trade, policies on access to credit and production inputs that provide no incentive to invest, the power of merchants; poor storage capacity, etc. (McMillan, Painter and Scudder 1990:44-48).

5. OVERVIEW OF AT/GT EXPERIENCES IN THE SAHEL

On the basis of our review of experiences with AT/GT in three Sahelian countries, we believe that it is important to look once again at those features of the approach which are widely considered by its promoters as being essential in promoting more effective local-level management of natural resources. The AT/GT approach is widely described as a global, multisectoral and integrated approach. Let's consider each of these features in turn.

How Global is the Approach?

Part of the appeal of the AT/GT approach resides in the promise it offers to governments, donors and NGOs of a way of avoiding the unsuccessful, piecemeal approaches to improving agriculture that were typical of development strategies during the 1970s and early 1980s. The AT/GT approach aims to address the variety of productive and resource management activities that community members undertake within their useful environment - their *terroir* - during the different phases of the agricultural cycle.

It examines the variety of factors that smallholders must address as they go about the task of organizing production, which include dealing with the impact of wind and water erosion, loss of soil fertility, siltng and falling water tables. AT/GT can help reassemble the pieces of the puzzle of agrarian production systems which have too long been isolated due to sectorally focused agricultural development.

As we have argued above, however, the AT/GT approach has its limits, and these are the *terroir's* limits. In effect, the "global" nature of AT/GT is limited by the concept of village *terroir* or useful environment. By contrast, the action space of many and increasing numbers of Sahelian smallholders goes beyond - occasionally very far beyond - the limits of the village *terroir*.

There is a dynamic relationship between the use of natural resources within a *terroir* by community members and the constraints and opportunities they encounter in their action spaces beyond the village *terroir*. Each affects the other. Thus a truly "global" approach to understanding Sahelian production systems requires that we examine intra-community dynamics, actions by community members in relation to their *terroir* and extra-community and regional linkages, and their implications for local-level management of productive resources.

From this perspective, the current AT/GT approach is hardly global. It is based on a partial view, albeit a more comprehensive view than that proposed, in the past, of the action spaces critical for the survival of agrarian populations in the Sahel.

How Multisectoral and Integrated is the Approach?

The multisectoral feature of the AT/GT approach requires that all relevant intervention sectors be associated with efforts to improve natural resource management and agriculture. Here the AT/GT approach both resembles and differs from earlier IRD approaches. The resemblance results from the fact that a range of sectors was also present during earlier agricultural programmes in the Sahel. However, this range of activities or "components" was juxtaposed rather than genuinely integrated and components often competed with each other, frequently encumbering local populations, particularly women, in the process.

The AT/GT approach differs due to the importance it gives to integrating, as opposed to juxtaposing, a variety of sectoral actions. This is a very positive step, in theory, but the results to date suggest only limited success in practice, and the juxtaposition of several sectoral approaches seems still to be the rule among projects that use or intend to use the AT/GT approach.

The AT/GT approach must help coordinate the joint efforts by technical service representatives and members of local communities to define problems and possible solution-oriented-actions in an integrated, multisectoral fashion. This work depends crucially on incorporating community knowledge, perceptions and definitions of problems and potential solutions.

The Challenge of Obtaining Useful Knowledge for the AT/GT Approach

The AT/GT approach stresses the need for sociological, socio-economic and environmental studies before or during the initial stages of project activity. But this new requirement for field studies introduces some tension in rural development, for it can slow planning and implementation of projects. This seems to be particularly significant for NGOs, which often have limited financial resources, are mainly concerned with rapid action, and which often look at studies and research with some scepticism.

More is required, however, than descriptive overviews of local social customs and settings if they are to be useful for promoting improved community-level

management of natural resources. To be useful, studies should focus on those aspects of peoples' lives that are most concerned with how they organise access to and use productive resources, including natural resources. They should focus on particular natural resource management/production issues as a point of departure, but the focus should not be narrowly technical in nature.

For social analysis to be effective, it must carefully listen to what people say about what they do (e.g., accounts of "how our way of land tenure works," or about "how we go about fallowing our fields"), and it must also look at what, in practice, they do, and why. Finally, social analysis must look at changes in how smallholders go about using and managing productive resources.

Social analysis must draw from several sources to be effective:

- * the indigenous knowledge and natural resource management practices of local populations
- * a research strategy based on a review of existing research material and careful observation during a limited time frame
- * local feedback to the analysis, by submitting the results of the study to the local population for their comment and discussion.

Social analysis should be an interdisciplinary undertaking in which individuals or teams having training in relevant areas are integrated and participate with managers and planners and with local populations in defining, studying and analyzing problems and issues, and in assessing the results and devising potentially appropriate interventions.

While interdisciplinary methods are highly valued by the AT/GT approach, interdisciplinary teams are not common enough among GT projects. The result has been a mixed record for socio-economic studies linked to AT/GT. The results of studies that were done for projects reviewed by the author were occasionally considered with reserve by project staff, or were not used because they were unresponsive to project needs. In other cases, studies were called for, but were delayed because suitable researchers were not available, or simply were not done because project administrators gave higher priority to "action."

In practice, interdisciplinary expertise is not readily accessible to many NGOs and government projects. Few projects have the financial resources to incorporate these teams as permanent staff, and locating, assembling, and fielding interdisciplinary teams is time-consuming and often risky.

If social analysis and diagnosis is to be properly linked to community and project-levels, it must be derived from a community perspective on sets of issues and problems, developed with the assistance, if needed, of external partners. The findings, in turn, should be fed back to the community and their reactions solicited to facilitate further reflection and analysis. In this manner, the focus of studies can be sharpened and their usefulness increased.

Studies of various kinds should be part of the initial diagnosis, problem-formulation process and part of a continuing follow-up and feedback process that provides useful information and the basis for assessment and analysis of project activities.

6. IMPLICATIONS FOR NGO EFFORTS TO IMPROVE NATURAL RESOURCE MANAGEMENT AND AGRICULTURE

The AT/GT approach has implications for NGOs strategies in several areas. Two areas of particular significance are examined here: extension strategies and efforts to promote the involvement of local populations.

Extension Strategies

The AT/GT approach implies that extension efforts should not focus narrowly on the customary extension tasks of promoting specific production techniques to rural populations, but give more attention to:

- * actual practice among smallholders and the conditions, knowledge and skills that sustain current resource management and production strategies.
- * problems as they are perceived, defined, and dealt with by rural populations.
- * the relationship between specific practices targeted for change by local populations and/or by external partners and other components of the production system and the larger action space of Sahelian peasants.

Extension efforts must therefore attend to local practices and their variation, formulate potential interventions in close collaboration with local populations, and be flexible enough to address both local variations (of a geographic and socio-economic kind) and changes in strategies over time.

Factors that Influence Local Involvement

Response to AT/GT actions is initially most positive in areas where erosion problems are serious, and in areas of greater population pressure on available cultivable land. In less affected zones effort will be necessary to help develop awareness among local populations of potential problems in their area and possible measures to undertake in order to avoid the environmental damage faced by others.

Positive responses to AT/GT projects are mainly associated with short-term, tangible results from various interventions. While AT/GT also has a longer-term goal of more sustainable use of natural resources, a balance is needed between actions having less tangible, longer-term payoffs for local populations, and those that yield more immediate returns.

The existence of a broader enabling environment is crucially important, to guarantee local control over decision-making processes concerning the management and use of natural resources, and related financial decision-making. NGOs should encourage governments to back local initiatives for locally-controlled natural resource management, whether through *ad hoc*, support from regional government representatives, or through more institutionalised NGO linkages with central government and donors.

Land tenure and tenure conflicts are areas where local institutions can play an important role in resource management, but this requires unambiguous government backing. One precondition for responsible, effective management is legal divestment by the state of claims to land ownership, with investment of full control over land in local communities, using customary tenure as a point of departure, strengthened and modified where necessary.

7. CONCLUSIONS

AT/GT: A Summary Appraisal

The AT/GT approach has considerable promise for NGO efforts to promote involvement by Sahelian populations in improving agricultural production through increased concern for the physical environment, and more effective management of the resources that are the basis for agro-pastoral production systems.

NGOs should carefully consider the potential as well as the challenges of this recent and increasingly popular strategy for Sahelian rural development. In this paper, we have addressed some of the features and assumptions of the approach to assist NGOs, GOs, and donors clarify, improve upon, and exploit the potential of the AT/GT approach.

Based on lessons learned from rural development efforts since the late 1960s, the AT/GT approach has been conceived as a global, multisectoral, integrated, participatory and long term approach to improving agrarian livelihoods in the risk-prone Sahelian region. The AT/GT approach promotes the *terroir villageois* as a unit of analysis and as a unit for assisting local intervention.

A focus on the *terroir* represents an effort by planners to frame rural development interventions within the locally-defined "useful environment" exploited by rural communities for their livelihoods. This is a welcome effort to improve upon the practice of the last thirty years.

We must not, however, think that AT/GT's objectives of improving natural resource use and agriculture in the Sahelian region will be easy to attain. Certainly, there is considerable local interest in AT/GT-related actions, and this is encouraging. This increased openness is probably the result of a combination of continuing degradation of rural life in much of the Sahel, and a decline in alternatives to agriculture in a much broader economic region that encompasses much of the Sudano-Sahelian and Guinean zones of West Africa.

A Challenge of the AT/GT Approach: Linking Discourse with Action

Each promising feature of the AT/GT approach involves a number of formidable challenges for NGOs and GOs and for members of local communities. AT/GT offers the tantalizing possibility of re-linking the natural resource base and socially-organized production systems in a manner which is at once conceptually helpful, practically useful, and locally acceptable.

The formidable challenge of the AT/GT approach consists in part of developing new ways of perceiving and defining "problems" and "solutions", and of obtaining and utilizing knowledge that is at once useful for rural development planners and for Sahelian peasants.

Overall, we view the AT/GT approach with a tempered optimism. This is based on the belief that many GOs and NGOs are rushing ahead with AT/GT projects with insufficient understanding of what it involves. When listening to

government planners, project staff, donors and other experts, it is clear that some believe that "talking AT/GT" or using AT/GT terminology somehow transforms old practices into the new realities. Clearly this is not the case. For example, juxtaposing multiple sectoral interventions within a project that describes itself as "AT/GT-oriented" with a *terroir* focus, and referring to the resulting mix of activities as the work of an "interdisciplinary team," provides no guarantee of an "integrated" approach. Similarly, efforts by NGOs and GOs to provide something for everyone in a given project area, just as the IRD projects did, provide no guarantee of a "global" approach.

The cynical observer might view AT/GT as a further example of a "rural development ideology," following many other ideologies which have been associated with rural development during the post-colonial period in Africa. There is the danger, particularly given the need to do something about the difficulties that face Sahelian peasant populations, that discourse about AT/GT action and impact will become confused with the facts of AT/GT action and results. This confusion has contributed in the past to a marked gap between development discourse and ideology on the one hand, and rural development realities on the other.

Examples of this problem can be cited in association with, among others, "integrating women in development," "integrated rural development," "functional literacy," "grassroots development," and "development society." The list could go on. In practice, a gap always occurs between the idea and the concrete realities of action, but it appears that in rural development, the size of the gap increases as the problems become more complex and intractable.

The "language" of rural development in francophone Africa is particularly rich in terms used to describe processes, and solutions, but which are often very difficult to implement. Examples include, in addition to the terms we have seen above, *responsabilisation*, *animation*, *participation*, etc. Of course, each of these terms has a place in conceptualizing and describing rural development, particularly when novel ideas and approaches are being elaborated. In practice, however, such discourse may mask a clearer understanding of practical issues.

Problems with the AT/GT Approach

Getting It Right: Need for a More Dynamic and Representative Model of Resource Use for Sahelian West Africa

We have argued that the *terroir* concept is biased toward patterns of resource use that are typical of more sedentary agrarian communities. We contrasted these patterns with more mobile patterns of resource use that are typical of pastoral communities.

NGOs should be aware of the anti-pastoralist bias of the AT/GT approach as it is currently promoted. There is a need for either alternative models of production, or a broader model which includes both production systems that rely primarily on the use of localised and dispersed resources, as well as the interface areas where conflicts over the terms of access to and use of resources are common.

Getting it Right: The Terroir Villageois is Only One Part of Peasant Action Space

A second weakness of the AT/GT approach is its focus on the use of natural resources within the *terroir villageois* at the expense of resources used by Sahelian peasants at other locations within a broader and changing arena which we describe as "action space". While the village community and *terroir* are significant units for organizing and managing resources, they do not exhaust the possibilities.

Getting it Right: Diversity and Differentiation Matter for Natural Resource Management

The AT/GT approach recognises the agro-ecological diversity found in the Sahelian region, using a variety of techniques, including zoning, mapping, aerial photography, etc. Furthermore, some expositions of the AT/GT approach show a concern for socio-economic diversity, and we have described several efforts in the study countries to address aspects of socio-economic as well as agro-ecological diversity. In practice, however, GOs and NGOs tend to approach rural communities as if they were homogeneous socio-economic units.

Socio-economic differentiation is a fact of life in the Sahelian countryside, even if concepts such as social class do not always neatly fit the varying degrees of wealth, power, and control over key resources that we find within and between village communities. More importantly, social differentiation can and often does result in differing capacity to manage resources in a sustainable manner.

Patterns of resource management among impoverished households often differ from those in wealthier households: poverty and sustainable natural resource management often do not go together. Of course, wealth is only one factor that can influence control over and use of resources. Other social categories within the community include those based on gender, seniority, insider/outsider status, household size, ascribed status as ex-freeman, noble, or captive, etc. Socio-economic inequality in turn, can have a significant impact on local capacity for managing resources and interest in natural resource management actions.

The Defining Features of the AT/GT Approach: Requirements or Guidelines?

The AT/GT approach is an emerging and experimental approach. Despite an impressive body of literature and discourse on the AT/GT approach in the Sahel, it offers no unambiguous model; instead it tends to be much more pragmatic, endeavouring to incorporate lessons learned from past efforts while orienting current actions with a view toward some uniformity in the region.

Given the diverse agro-ecologies and rural communities of the Sahel, considerable flexibility will be needed to improve the viability of agrarian livelihoods. NGOs can benefit from lessons learned from current efforts to improve approaches. At the same time, the emerging nature of the approach should encourage NGOs to experiment, in the context of a fuller partnership with rural communities, to develop locally appropriate systems for managing the natural resources upon which their future will depend.

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