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Contents

1. Introduction: understanding the current process of agricultural restructuring

Agriculture in West Africa is facing a double challenge. It needs to become more productive to meet the growing need for food and, in particular, to supply the towns; and it has to provide income and employment for the rural population, so as to reduce migration and combat the inequalities and poverty by which the countryside is particularly badly affected.[1] Like most of the world's farming businesses, and with the exception of agro-industrial firms of the capitalist type, West Africa's farms are primarily family run. Policy debate in many West African countries shows a growing tendency to contrast commercially-orientated forms of agriculture, characterised by large inputs of capital and market integration, with more "traditional" family-based farms assumed to correspond to a common model. The latter are reckoned, almost by definition, to be less efficient, and less able to cope with the constraints, and take advantage of the opportunities, that derive from the new economic and institutional circumstances resulting from globalisation.

The rural sector covers a wide range of farming enterprises, characterised by big and often growing differences, particularly in terms of the land areas under cultivation and the technical means used, in some cases with a high level of investment and agricultural work being performed largely, if not exclusively, by paid labour. The issue of land tenure security, like questions of access to other factors of production, differs widely from one situation to another. This is why we need to examine the process of restructuring that is currently affecting African farming systems.

The central issue faced by agricultural policy-makers is how to manage the differentiation within West African farming systems now taking place. There is a widening gulf between, on the one hand, a minority of concerns, well-endowed with factors of production and capital, which are being run on business lines and are producing exclusively for the market and, on the other hand, a more "traditional" form of agriculture which straddles the line between subsistence and market-orientated farming, with poorer and more uncertain access to factors of production.

1. According to the World Bank (2000), 70% of poor people still live in rural areas.

The pressure exerted by neo-liberal pro-market policies may reinforce and crystallise this dualism, the first category being encouraged by the whole arsenal of incentives associated with promoting the private sector, the second by measures introduced to combat poverty. But is the development of "modern and efficient" farming enterprises a real solution to existing needs? Is the priority in Africa today simply one of increasing agricultural production? Does not agriculture also have an important role to play in the management of natural resources and the preservation of employment? For what will become of more marginal farms and the people who make a living from them in the absence of alternative occupations, given that in 2000 sixty per cent of Africa's active population – 195 million people (Losch, 2002) – were still engaged in agriculture?

Here, then, is a major challenge: public policy and new support structures need to be able to take into account these "rural masses", along with the reality of the new international environment and its consequences for agriculture in many countries. Seen from this angle, family-based forms of agriculture are probably the best equipped to cope with globalisation, thanks to their flexibility and ability to adapt.

1.1 Re-stating a few definitions

First we need to clarify a number of notions and concepts. Mendras (1976) contrasts the traditional "peasant" farmer (*paysan*) with the modern "commercial" farmer (*agriculteur*), using a number of criteria to establish opposing stereotypes. Some of these may be helpful for our present purpose: the relative autonomy of peasant communities in relation to the dominant society around them; the high degree of subsistence/self-sufficiency among peasant farmers, which is not true of commercial farmers; the involvement of family members in the way work is organised, with a low degree of specialisation in the case of peasant farmers and greater specialisation among "commercial" producers, reinforced by the preponderant influence of technology and the market. These differences are summed up in the following table.

It is not easy to characterise African farming systems uniquely in terms of these two stereotypes. The fact is that a large majority of farms depend on the domestic group for their labour supply, with some recourse to paid labour. The latter is very variable but, except in commercial forms of agriculture, is supplementary to the labour contributed by the family itself. The degree of specialisation depends on the particular production

Table 1. Comparative characteristics of two stereotypes		
	"Peasant" farmer	**"Commercial" farmer**
Autonomy of the local community	Partial	Nil
Subsistence/ self-sufficiency	Combined with production for the market	Nil
Degree of specialisation	Low	High
Allocation of tasks	Domestic group	Technology and market

system but, generally speaking, it is rare to find a form of specialisation which excludes other sources of non-agricultural income. Where the relationship with the market is concerned, the days of local village economies with little or no involvement in marketing are long gone. Indeed it is doubtful that they ever really existed. Everyone to different degrees – and often very closely – is linked with trade and markets. Whether they be herdsmen from the Sahel selling their livestock in the countries of the Gulf of Guinea, or Côte d'Ivoire cocoa producers directly engaging with multinational agri-business, few escape the laws of the market economy as they sell their products or labour as a way of supplementing family income. Agricultural production is increasingly developing into a complex business, giving rise to a range of incomes based on both farm and non-farm activities and, above all, reliance on remittances deriving from the growing, and often very important, role played by migration.

In terms of the Mendras stereotypes, the vast majority of African agricultural enterprises are therefore in an "in-between" position, to which neither the term "peasant" farmer nor the term "commercial" farmer really applies, in the sense intended by Mendras. These observations have led us to define what we mean by family-based farming (Lamarche, 1991 and 1994), a concept which we regard as valuable in examining current developments in West African agriculture. Family-based farming is a form of production characterised by a particular kind of link between economic activity and family structure. This relationship influences the choice of activities, organisation of family labour, management of the factors of production and transfer of property (Cirad-Tera, 1998). This type of farming, which accounts for the greater part of

world agricultural production, holds a central position in the life of "Southern" countries, in that it plays an essential role in providing employment. To do justice to the diversity of forms of social organisation and local situations in Africa, it is necessary to use the plural; we will therefore refer here to "family-based farming systems" or family farming.

By comparison, the notion of "rural producer" refers to a far more diverse reality, which includes many forms of production. The essential aspect of a "producer" is that he produces something – implicitly for the market – regardless of the way production is organised. One can be a "producer" by virtue of owning the means of production and the resulting products, without being directly involved in the production process itself, nor necessarily living in the countryside or having one's family involved in farming (e.g. by resorting to share-cropping arrangements or employing paid labour). Similarly, it is possible to be a "producer" without owning land, by renting a plot on which to farm. Use of the term "rural producers" can therefore lead to confusion and cause us to lump together economic agents who are very unequally endowed with productive resources or who adopt very different strategies.[2] The term fails to take into account the distinction between the head of a family farm who is directly engaged with his household in crop production and the head of a company who may absent himself from the scene of production and who is concerned mainly (possibly having delegated management responsibility) with the return on his assets and invested capital.

1.2 Economic liberalisation is accelerating differentiation

The process of liberalisation which began in Sub-Saharan Africa in the late 1980s has resulted in profound structural changes in the make-up of African

2. This debate about what terms to use is not neutral, as evidenced by the position currently taken by some French farmers' unions. They insist on the use of the term "peasant farming" (agriculture paysanne) in contrast to the more intensive and more production-orientated farms which have characterised the last forty years in Western Europe. In West Africa, the ROPPA (Réseau des organisations paysannes et des producteurs agricoles de l'Afrique de l'Ouest / West African network of farmers' organisations and agricultural producers) is insisting on the term "family-based farming systems" or "agricultures familiales", little used in Africa in the past. It signifies support for a certain agricultural model to counter the danger of integration and concentration associated with liberalisation.

farming systems.[3] These changes are increasing inequalities between different kinds of farmers as well as between farmers themselves.[4]

The increasing divergence between different kinds of farmer stems from the withdrawal of national governments from playing a role in the agricultural sector, and the international movement of mergers and takeovers among industrial and trading companies. This has resulted in the emergence of large-scale private companies active in certain sectors of African agriculture and a balance of power which is less and less favourable to local operators.

Where production is concerned, the emergence of a small number of agri-foodstuff businesses, often specialising in exports (e.g. fruit, market-garden produce), or in supplying towns with certain products (poultry, pig and sheep farming), is explained by fiercer competition for access to factors of production (capital and land), the disappearance of State support to farmers, the growing dominance of international firms, and the way in which aid is allocated by donor agencies. Such businesses generally have a rural base, but in most cases benefit from conditions which have enabled them to build up rapidly in the early stages (particularly in terms of land holdings): membership of financial and political networks, privileged access to strategic information (frequent contacts with firms, donor agencies and banks), or the fact that they have accumulated capital in non-farm sectors before reinvesting in agriculture.

The emergence of this "big-business agriculture" as a result of economic restructuring is sufficiently tangible for it to be seen as a challenge by the farmer organisations currently establishing themselves at national and sub-regional level. This is because it suggests a growing split in African agriculture, as happened in Latin America in earlier decades, between a small number of "modern and market-orientated" farms, and the large mass of rural dwellers, who are economically marginalised (*cf*. Losch, 2002).

3. The post-colonial, development model maintained continuity with the mode of organisation that prevailed after World War II, combining State regulation with a large mass of farmers/planters/producers, without any real representative structures. This mode of organisation has been profoundly challenged by the structural adjustment reforms initiated in the 1980s.
4. Liberalisation increases the financial risks for farmers, as the end of protective measures and international agreements, subsidies and other forms of agricultural support has led to fiercer competition and greater price instability.

This tendency is reinforced by international donor agencies and the new principles applying to development aid. Aid mechanisms now, by and large, involve different measures for different kinds of economic agent, according to their perceived competitiveness. Thus, on the one hand donors want to promote private enterprise through support to the private sector; while on the other, efforts are focused on ways to combat poverty, through various mitigation programmes. Nevertheless, some donors do not seem to have given up the possibility of combining the two, through modernising family farming systems.

There is, however, one notable change compared with earlier decades. Whereas the colonial and post-colonial periods were characterised by an ideology of modernisation which promoted new production structures which were seen as the future engines of economic and cultural change in agriculture,[5] some programmes are now concerned with improving the overall structure and broader environment of the farming industry.[6]

1.3 Recent studies of current developments

How do family-based farming systems compare in their ability to adapt to market conditions with enterprises habitually referred to as "modern", simply because they can draw on larger inputs of capital and paid labour? What can we learn about the innovative capacity of family farms as compared with these commercial farms, which are often presented as the real engines of change? More generally, what are the consequences of these new actors (businessman farmers) for the overall functioning of the sectors in which they have established themselves? If we are interested in promoting "security of land tenure", for whom should tenure be made more secure, and who suffers as a result? What have local studies contributed to our understanding in this area?

In this paper, we shall not be considering the relationship between land ownership and intensification, which has already been dealt with elsewhere (Lavigne Delville, 1998). Instead, we present a number of case studies conducted over the last few years by Cirad teams. Drawing on a

5. This need to change structures is a myth which recurs in all newly-independent countries as attested by past interventions. Take, for example, the various experiments with "young pioneers" in Côte d'Ivoire, Senegal (Operation Gopec) or Congo-Brazzaville (Agricongo). For many years, the French overseas development administration promoted this vision of modernisation (Sarraut-Woods, 1998).

6. See, for example, the "professionalisation of agriculture" projects run by the French ministry of foreign affairs, or the reform of agricultural services supported by the World Bank, which seeks to involve farmer organisations in the negotiation and implementation of research and extension services (Bosc *et al*. 2002(a)).

diversity of methods and tools, these studies enable us to assess the capacities of family-based farming systems in a variety of settings to make the most of their factors of production and engage effectively in processes of innovation.

In the West African context, we have taken two cases relating to irrigated areas in Senegal and Mali. Investment in irrigated agriculture by governments and aid agencies has been very substantial in recent decades, and has been seen as an essential element in the "modernisation" of agriculture. These irrigation schemes have relied mainly on family-based farms (except in the Senegal River delta, where various commercial farms have emerged, see below). To shed further light, we will then consider two other cases: one in the cotton-growing area of Burkina Faso, and the other in palm oil production in southern Benin.

These situations are, of course, not fully representative of the diversity of agricultural systems in West Africa. But they do permit a preliminary analysis and provide material for discussion. They also show the need for further work to improve our knowledge and the way we interpret current changes in the region.

1.4 Methods of analysis

It is difficult to put forward a simple, well-defined framework of analysis for the different types of farm found in Sub-Saharan Africa. How can we be sure of adopting a broad enough approach to understanding the dynamics of family farms and the way they are organised, so that our analysis is not limited to a few technical and economic parameters? What elements need to be drawn out if we are to make valid proposals for public policy? And, above all, how can we evaluate the effects on farms of the policies that have already been implemented – in particular land tenure policies? The case studies presented here illustrate some of the methods used to grasp the dynamics of family farming systems. However, measuring the effects of agricultural policy remains a tricky matter, and constitutes a field of research in its own right.

Difficulties in evaluating the impacts of agricultural policy

The first obstacle to evaluating policy is conceptual: how to move from a theoretical understanding of economic problems to design of effective measures to address them? The second is no less serious, having to do

with the scale on which the evaluation is conducted. It raises the classic controversy between "macro" and "micro" levels of analysis (often seen as an unbridgeable divide). Finally, the significance of the questions asked and their scope in terms of the application of economic policy measures often bear no relation to the resources and tools employed to obtain credible, coherent information. The analyst's desire to obtain rapid results, the concern to be understood and the strong need for legitimacy quite often lead to use of extremely simplified – almost skeletal – models to represent a set of economic relationships, the complexity of which is now widely accepted.

The approaches adopted to evaluate socio-economic situations, plan investment and development operations, and assess the effects of policies and projects, are often oversimplified. For a number of easily understandable reasons (lack of reliable statistics, lack of resources, the complexity of production systems in which social and economic factors interact, etc.), the full range of activities carried out by family-based farms is rarely taken into account. Very often, analysis covers only a small part of a farm's activities – those directly affected by the project. As a result, the productive capacity and broader adaptability of family farms in a given area is underestimated.

Generally, only the most specialised family farms, such as those in areas where export crops predominate and those which have benefited from public development projects, like large-scale irrigation, derive a large proportion of their income directly from agricultural production.[7]

Moreover, there is often substantial slippage between the estimates assumed for planning purposes – often optimistic, forecasting high rates of internal profitability – and the actual technical and economic results achieved by family farms which benefit from the investment. This slippage may arise from several factors: yields and average sale prices overestimated in the case of the "principal" crop or activity or, conversely, yields and average prices underestimated in the case of the "secondary" crops or activities. Such factors may lead to recommendations in favour of increased crop specialisation, to the detriment of the traditional diversification of family farms in Sub-Saharan Africa.

7. Even here, however, there are some obvious exceptions. For example, in the middle Senegal River valley, despite decades of project work, income from agriculture still amounts to only around 15% of total income. The bulk of local household income is in fact contributed by migrants (Bélières et Yung, 1998)

Conventional sectoral analyses do not do justice to the real economic efficiency of family farming in a given area (Hugon, 1994). Such analysis is difficult to conduct because of the diversity and resulting complexity of the situations under study which limit the production of easy-to-use results (Benoit-Cattin, 1994). We need to improve our methods of analysis to assess productivity in complex and varied systems and activities, and the inter-relationships between these activities and the pattern of income earned from them. Progress can undoubtedly be made by taking into account local or regional economies (Bélières and Touré, 1999) and the new forms of co-operation brought about by liberalisation. Development is no longer regarded as essentially a process of capital accumulation, but as one of organisational change (Hoff and Stiglitz, 2000).

The methodologies adopted for the case studies

The methodologies adopted in the different case studies were all based on regular monitoring and detailed surveys which made it possible to assess the performance of the units under consideration (households, farms and/or farmers' organisations) and analyse the way they operated (micro-economic analysis). The data-collection methods differed, variously involving researchers, a member of the farming enterprise who had been specially trained for the purpose (as in the case of the Office du Niger in Mali), or advisors providing support to farm management. The resulting data were of varying accuracy, and included, for example, monitoring of the budgets of household members based on statements of expenditure and income (particularly in the cases of Burkina Faso and Mali). An inventory of the assets of each unit under study, and the way they changed over time, was another helpful element in understanding farmer strategies, as well as more conventional information relating to the factors of production, technical methods and farm budgets. The surveys were generally complemented by supplementary analyses which helped validate some of the results and gauge to what extent the different types of farm under study were representative.

The analysis depended on formulating a typology, which varied from situation to situation. In some cases it might be based on "classic" criteria such as the factors of production (in the case of Senegal, for example), on technical choices (e.g. Burkina Faso and Benin), or on the strategies adopted by farmers (e.g. Mali and Benin). The formulation of typologies was an important aspect of the methodology and analysis, and it strongly influenced the presentation of the final results.

2. Recent transformations in irrigated areas

Below, we examine recent transformations in family farming systems in two West African areas where irrigated agriculture is practised: the delta of the Senegal River and the inland delta of the River Niger in Mali.

2.1 The case of the Senegal River delta

The development of the Senegal River delta is a good example of failed attempts to create a "modern" agricultural sector in the Sahel based on commercial farm enterprises producing surpluses for the market. The way the agricultural economy of this region has developed suggests that availability of land and access to capital are not sufficient to ensure the emergence and consolidation of such forms of farming.

The measures introduced as part of the structural adjustment programme, such as the liberalisation of access to factors of production, encouraged for a brief moment the establishment of a number of commercial farms (large areas of land, major inputs of capital, a trader or civil servant as entrepreneur, employment of a paid labour force, etc.). But most of them soon collapsed when access to credit was restricted and the CFA franc devalued. It was smaller family farms[8] which then became predominant by increasing irrigated output through improved productivity. They thereby proved that agricultural productivity depends not so much on the structure of farming – since "it is likely that economies of scale play only a negligible role in agriculture" (Boussard, 1987) – as on the economic and institutional environment (particularly in terms of access to capital and markets, and of price ratios).

The quest for a modern form of agriculture to meet the country's food needs

The colonial powers organised the economic specialisation of their colonial territories according to what they regarded as their comparative advantage. This enabled them to produce and export agricultural produce cheaply and, in return, to sell within the colony the consumer

8. Three types of farm were chosen for analysis, in terms of average irrigated land area: 1.8 hectares in the case of small farms; 9.7 hectares for medium-sized farms; 53 hectares for large farms.

goods they manufactured back home. The large-scale irrigation projects like the Senegal River valley development date from this period. In a very thinly populated area, with considerable productive potential due to the abundant water supply, the colonial power sought to establish a productive, modern form of agriculture. This development policy was taken up by successive post-independence governments (Sarraut-Woods, 1998) and for many years the Senegal River valley project constituted the cornerstone of the country's agricultural development policy, particularly following the collapse of the groundnut sector.

This resulted in the creation of an increasingly artificial environment, with the construction of canals and dams, the creation of large irrigated areas and the dissemination of "modern" production techniques and seeds deriving from research in tropical agronomy and European agricultural experience. This model of agricultural development, based on a capital-intensive approach, might have been expected to lead to an Asian-style Green Revolution. However, it was also very bureaucratically managed, because rice-growing was entirely administered by the State (Bélières, 1995).

The results achieved were well below forecast estimates, in terms of the land area under development, return on investment, and contribution made to meeting the country's need for rice (Bailhache *et al*., 1982 ; Seck, 1991; Randolph, 1997). From the early 1980s, this model was no longer regarded as viable, even though commercial rice-growing was becoming the main component of the production systems operative in the area (Le Gal, 1992). Despite the commissioning of large dams and the concentration of agricultural investment in this region (Duruflé, 1996), the delta and valley did not become "the California of Senegal". This moved Engelhard to write (1991) that "*the development of the Senegal River valley is driven by mythology (the old "dream of Eden") and the ideology of "self-sufficiency"(to escape from food dependency and the blackmail practised by the rich, one needs to produce what one consumes)*".

Economic structural adjustment and liberalisation, introduced as part of the New Agricultural Policy (NPA) in 1984, heralded a gradual withdrawal of the State from the rice-growing sector. This slow withdrawal resulted in a changed approach, without being radically challenged. After the devaluation of the CFA franc in 1994, the disengagement was "brutal", bringing about painful upheavals in the sector and the structure of the regional economy.

These changes affected many productive and commercial activities: agricultural credit, the supply of inputs, management of water resources and land under development, etc. It also affected land tenure management. The initial effects were spectacular, with indicators such as area under cultivation, yields and gross production, showing very strong progress in the early 1990s.

The liberalisation of the economy fostered rapid private-sector growth both upstream and downstream of agricultural production, with new entrepreneurs forming co-operative groups (*groupements d'intérêt économique/GIEs*). Many of them had been civil servants, traders, professionals. Two of the key measures leading to this growth in agriculture was the transfer of responsibility for land tenure management from the State to local government structures, and a generous credit policy. These measures provided easy access to the two factors of production normally hardest to come by in the Sahel region of Africa: land close to a water supply, and capital to invest.

The development of a modern form of agriculture based on large farms seemed to have been achieved at last, and encouraged the idea that most of the produce needed to feed the country's urban population could be obtained from a modern agricultural sector, as opposed to a "traditional" sector consisting of small family-based farms still wedded to the idea of self-sufficiency. However, this "agricultural revolution" generated by making land and capital widely available proved to have been poorly conceived and lasted only as long as the loans that sustained it.

Agricultural growth linked to a "land grab"

From 1988 onwards, "big farmers" and people of importance in the rural world wanting to increase their land holdings, together with newcomers and city-based investors seeking to engage in what was thought to be the "profitable" activity of rice-growing, took part in a major land grab. Rural councils (*conseils ruraux*)[9] did nothing to prevent this phenomenon and granted large areas of land to the applicants, in some cases over and above what was really available. In the area of Ross-Béthio, for example, more than 50,000 hectares are said to have been granted for development between 1987 and 1991.

9. In Senegal, the *Conseil Rural* is the decentralised local authority responsible for land management.

But the granting of land by rural councils was only a first stage: the beneficiary was then required to develop the land in order to have the grant confirmed, then farm it if he was to be allowed to keep it. The rural council could withdraw the land if the grantee failed to use it for three successive years. He therefore had to finance the development, obtain a motor-driven pump and bear the costs of actual rice-growing, with pre-harvest expenses likely to amount to 150,000 to 175,000 CFA francs per hectare (pre-devaluation figure). The race for land could therefore not result in the rapid development of newly farmed areas without large inputs of capital and the use of machinery to increase the cultivated area per worker.

The credit crisis of 1993 led to the calling in of outstanding debts and tougher borrowing conditions, bringing to an end this period of growth, which had been artificially sustained and superficial. The complete liberalisation of the sector after the 1994 devaluation, which brought an end to guaranteed prices and led to direct competition with internationally traded rice, steered irrigated production in a new direction. It resulted in an intensification of labour, whereas the emphasis had previously been on capital and land. In the end, it was small family farms which led to higher productivity rice production in the post-devaluation period.

Adjusting to the world market

The devaluation of the CFA franc (January 1994) occurred just as rice-growing in the Delta was entering a period of recession. It aggravated the crisis by causing an increase in the price of farm inputs. However, by enabling the State to complete the deregulation of the sector, it also brought about a profound change in farming practice, characterised by intensification. At the same time, it led to a radical restructuring of processing methods and credit systems, and obliged producers to address questions of product quality.

On the other hand, the liberalisation of imports, and particularly the marketing of low-priced broken rice from South East Asia, highlighted the difficulties involved in moving to a de-regulated system, as the greatest beneficiaries of the liberalisation of imports turned out not to be consumers – who should have benefited from lower prices as a result of the weakness of foreign exchange rates, the removal of State levies and the emergence of competition among operators – but importers and middle-men.

Family farms adapt well to new circumstances

Faced with the double shock of external adjustment (devaluation and the opening up to world markets) and internal adjustment (market liberalisation and restrictions on credit), many producers proved able to reduce their costs, improve productivity and adjust the area under cultivation, while maintaining a minimal level of profitability. They then began to make progress.

These changes were to the detriment of the least efficient farms, many of which were large holdings owned by entrepreneurs. The earlier market liberalisation, following State withdrawal, had allowed these entrepreneurs to behave in uneconomic ways, since the race for land and access to cheap loans had become the driving force in the development of irrigated agriculture. The phase which followed, characterised by the liberalisation of all market and supply chains, devaluation and tighter credit, forced producers into greater competitiveness.

A large percentage of commercial farms went out of business, because of large losses. The agricultural bank (CNCAS) and other government structures also suffered great losses. In parallel with these developments, farmers responded to the economic and institutional changes by:

- improving the productivity of farm inputs; for example, there was a substantial reduction in the quantity of urea employed (more than 60 kg of urea was used to produce 100 kg of paddy in 1993, as against 45 kg in 1997) ;
- managing technical factors more efficiently, particularly stricter compliance with cropping schedules;
- using labour more intensively.

These responses led to:

- an increase in yields per hectare;
- an increase in farm income and a reduction in the proportion of income spent on servicing loans and paying water-use charges;
- different outcomes depending on farm size: an improvement in the income of small farms; maintenance of the status quo in the case of medium-sized farms; and a significant drop in income in the case of the largest holdings (those which had benefited most from a range of indirect subsidies such as non-repayment of loans and of water rates).

The role of family farms in relaunching the regional economy

The micro-economic analysis was supplemented by a meso-level approach, to give a picture of the local economy. The results clearly demonstrate the secondary position occupied by irrigated agriculture in the local rural economy in terms of its contribution to overall income, of which it represents only 10% of all revenues. Other related activities provide the lion's share of local production. In other words, agricultural production is closely integrated with the markets in upstream factors and downstream products.

Analysis of the changes confirms the predominance of rice-growing in the creation of agricultural added value and gross output. Its contribution to the latter increased from 86% in 1990 (5.7 billion CFA francs at present-day rates) to 93% in 1997 (7.2 billion CFA francs). Despite the decline in land area under cultivation, there was an improvement (at present-day rates) in the added value of agricultural activities. This is having positive knock-on effects on rice-growing. The distribution of economic surpluses is more favourable to farming enterprises, more especially the smaller ones.

A more prominent role for producers' organisations

So, despite growing constraints on access to land and capital, and the new risks associated with opening up the local economy to national and international forces, family farming has managed to respond positively. Large commercial farms, by contrast, have proved ephemeral, even though they had benefited most from direct and indirect subsidies.

To counter various failings of the market, farmer organisations have taken over seed production and the processing of paddy, thereby reaping a larger share of profits and reducing the scope for opportunist behaviour on the part of their customers and suppliers. Leaders of farmer organisations have been able to re-organise themselves to meet the challenges of the market, whereas earlier they had been mainly concerned with seeking the advantages that stemmed from running an association.

2.2 The Office du Niger in Mali: family farms respond positively to improved incentives

Between the World Wars, the French colonial authorities created a large irrigated area in the inland delta of the River Niger (in present-day Mali),

to produce cotton to meet the needs of the French market. The area was intended to become a centre of economic and social development thanks to the promotion of a modern, intensive form of agriculture based on European models. However, from its establishment in 1932 until the late 1980s, agricultural production lagged far behind expectations. Several approaches to making best use of this irrigated potential were tested as governments came and went, with the settlers (or *colons*) suffering the consequences of each change of direction. However, after five decades of poor performance, rapid growth in agricultural and livestock production is now underway and more than keeping pace with the high demographic growth resulting from migration in the area.

Success is due to family farming

The Office du Niger is nowadays often cited as an example of agricultural and economic success, though for many observers this success remains fragile. It produces surplus rice and market-garden produce; livestock rearing is well developed; the market for imports and harvests are well structured; the "farmers" are organised; etc. This success must be credited to many causes, including the liberalisation of the economy, withdrawal of the State from certain functions and devaluation of the CFA franc. Equally, technical considerations have been very important, such as the rehabilitation of old canals and sluices, new cropping techniques, and the introduction of more suitable varieties. But this success is above all based on family farming which has responded strongly to improvements in institutional and economic circumstances, adopting intensive and competitive ways of exploiting irrigated land based on rice in association with fruit and vegetables and widespread use of animal traction.

From a situation of under-use of the irrigated area and disaffection on the part of the *colons* in the early 1980s, intensification is increasing, as is demand for irrigated land. As Sourisseau and Yung (2002) have shown, this is the result of a change in strategy on the part of many farmers: abandoning an approach focussed on self-sufficiency, many producers have gone onto the offensive, taking more risks, and in particular spending more on productive capital. The need today is to extend the irrigated area, to generate continued growth in agriculture to meet the objectives of food security and have a surplus for export. Such an expansion of the Office du Niger is also essential to prevent family farms from losing their viability as available land becomes scarcer under the

double effect of demographic growth and rigid land tenure arrangements, which could eventually threaten the substantial gains achieved in recent years.

Unlike the situation in the Senegal River delta, the government of Mali has not withdrawn from involvement in land tenure matters. Market liberalisation has not relied on cheap credit, though heavy losses were suffered in the early 1990s (the combined farm debt owed by farmer organisations amounted to some 3 billion CFA francs in 1994, involving approximately 12,000 families with irrigated land holdings). Measures were taken to improve tenure security for *colon* farmers[10] at the time of the restructuring of the Office in 1996, and efforts have been made to give farmers greater responsibility in land tenure management, particularly by setting up land-management committees with equal representation (*comités paritaires*).

Options for the development of this strategically vital area are currently under discussion, with the choices reflecting broader debate about which farming structures should be encouraged and the nature of tenure arrangements best suited to maintaining and stimulating growth in agriculture.

Family farms: constraints and adaptation strategies

The Office du Niger provides a good example of how it is possible to achieve agricultural intensification without full tenure security. Rice yields have risen 2.5 times over 15 years, despite the fact that farmers have only limited guarantees where land tenure is concerned, because the land is still managed by a public agency (the Office du Niger), whose powers of eviction were, and still are, considerable.

The long-term future of family farms now depends on their ability to extend their paddy-fields. However, due to rapid demographic growth and relative stagnation in the development of new irrigated land, the per-capita area under rice has decreased considerably: the average area devoted to wet-season rice was 0.38 hectares per person in 1987, compared with 0.22 hectares in 1999. This trend is threatening farmers' capacity to generate sufficient income and capital, and is provoking

10. This has been a recurrent demand on the part of farmers working under the management of the Office du Niger. Since the colonial period, the administration has held out the tempting prospect of handing over land into family ownership, but has yet to do so.

opposition from the younger generation. The concentration of farm income in the hands of the household head, and the way it is distributed among the family workforce, is giving rise to more and more conflict. Moves to farm land outside the irrigated zone (*surfaces hors casiers*) – reflecting the pressure on land – are one way in which younger farmers have sought to respond to the problem.

In contrast to findings elsewhere, agricultural productivity per person in the Office du Niger is higher in the case of large family farms than for smaller ones.[11] This can be explained by a combination of factors. Economies of scale are undoubtedly significant,[12] but nonetheless secondary to: (i) unequal access to capital, since large family farms are in a stronger position to accumulate funds for production purposes; and (ii) the diversification to which small farms are obliged to resort (and the fact that their intensification practices are restricted to providing their own food needs).

The reduction in farm size is leading to more individualistic management methods. Where land is abundant, the amount of available land per person tends to remain constant in the transition from one generation to the next but in this situation, where land is scarce, the establishment of a new household as a result of family splits inevitably leads to plots being divided up. This phenomenon is accelerated by the household head's difficulties in balancing the system of rights and obligations of family members. Younger sons who feel they have been unfairly treated in the allocation of family land may ask instead for their share of farm equipment and go and work on their own account.

When rice growing is no longer sufficient to generate the income needed to satisfy family members, heads of household diversify their activities, mainly in the direction of performing services (threshing, hulling, weighing, etc.), in which there is already a high level of competition. Risk-taking is becoming more common, in contrast to the earlier dominant concern of ensuring food security, and this further exacerbates tensions within families. Market-gardening activities are one means of relieving such tensions, by giving family members freedom to earn money for themselves and significantly supplement household

11.See the results of research carried out by Mariko *et al.* (1999), Mendes del Vilar *et al.* (1995), Sourisseau (2000), and Bélières and Bomans (2001).
12. For example, the reduction in unit costs for indivisible investments, such as the cost of an oxen plough team.

income. However, these options are proving to be inadequate, given the magnitude of the problem.

To preserve the viability of family farms and the gains which have been made, the problem of land availability must now be tackled. The main problem is not tenure security as such, but access to new irrigated plots. If this constraint is not removed and if, at the same time, access to land is made subject to market forces alone, it is probable that large numbers of people will be marginalised as they are forced to farm smaller and smaller plots. Since agriculture alone will not be able to ensure the continued survival of these families, a broader range of income diversification activities is likely to emerge. In this situation, it may be possible to maintain the same level of rice production, but socio-economic development is likely to be far less even, with increasing numbers of people facing impoverishment.

Attempts to promote farming enterprises

Some participants in the agricultural modernisation debate argue that the main constraint on growth is the difficulty experienced by family farms in producing surpluses able to meet national food-security needs and provide crops for export. In the case of irrigated agriculture, the obstacles are compounded by constraints on the funding of irrigation works and their maintenance, and the difficulties associated with collective management of irrigated schemes, which are often a source of disappointment for the donor agencies supporting the implementation of such projects.

To mitigate these perceived deficiencies in family farming and, more importantly, to attract private capital into agricultural production, the promotion and installation of "entrepreneurs" or "private investors" has been seen as an obvious solution. But it has also brought the land tenure issue back into sharp focus, as titles of ownership are generally the main guarantee offered to the bank by the entrepreneur when it comes to borrowing.

Experiments in promoting agricultural entrepreneurship have been tried several times in Mali, particularly as part of the national rural infrastructure programme (*programme national d'infrastructures rurales*) funded by the World Bank. One may nevertheless question why these entrepreneurs want to invest in an activity – the production of cereals for

local and regional consumption – for which the return on investment is generally long term. Only major incentives (preferential interest rates, subsidies, exoneration from income and other taxes, etc.) and State funding of infrastructure are likely to attract such people. What really motivates these new farming entrepreneurs? Is it an interest in agricultural production, or rather the opportunist prospect of being able to access land and public funding?

This type of commercial farming also raises other questions. Family farming, as currently practised, is competitive due to the intensification of labour, but big businesses entering this arena must rely on mechanisation – making up for their lack of a family-based labour force with investment in technology. What would be the economic advantages for Mali of pursuing such an approach and how competitive would their products be on the world market?

The experience of agricultural entrepreneurship gained by the Office du Niger as a result of the Koumouna project[13] illustrates the principles and decision-making mechanisms at work in an operation of this kind. An initial economic feasibility study was carried out which demonstrated the profitability of mechanised agricultural production on "modern" farms of 30 hectares and over. A high return on capital was forecast. However, a fresh analysis of the technical and economic data, conducted as part of the master development plan for the Office du Niger area, points out the weakness of the proposed model.

> "*The type of modern farms presented in the study would seem to be relatively fragile financially, with very high fixed costs and profits reliant on a few key cash crops (potatoes, onions, bananas, okra), while related services (processing, quality standards, external sales outlets) will take time to develop. There are very real risks in such a context. Similarly, this kind of commercial farm will require first-class managerial skills and technical assistance and, above all, considerable experience in the growing and marketing of these products. However, an evaluation of those people who have applied to participate in the Koumana project has shown that many of them fulfil neither the financial nor the technical criteria. Some of them are also undoubtedly pursuing objectives at odds with those anticipated by the project, e.g. they intend to use share-croppers or*

13. Installation of agricultural entrepreneurs on 1,800 hectares of land, funded by the World Bank.

rent out newly irrigated land. A comparison of the proportion of land allocated to each cash crop, with the anticipated profit on each crop, clearly demonstrates the great dependence on getting high prices for a few key cash crops, other than maize and rice, despite these being strategic crops for Mali, occupying the largest part of the cropping plan" (Sogreah-Bceom-Betico, 2000).

This example typifies the debate about achieving modernisation by changing farm size. It is always easier to plan projects and formulate policies based on general hypotheses – with carefully selected technical and economic data, and assuming competent, rational entrepreneurs and "perfect" markets – than it is to tackle the challenge of changing an agrarian situation, consisting of diverse family farms and complex activities.

Unresolved issues of land tenure

Whatever is decided about the optimum form of farm structure, land tenure remains an issue. The institutional measures taken in the 1990s, and confirmed by the management decree of 1996, strengthen the rights of those occupying the land, including family farmers. However, the ban on any land transaction between farmers has been maintained, and the allocation of written "permits to farm" (*permis d'exploitation agricole*, the arrangement ensuring the highest level of security) is still not the general rule. Because of pressures on land, many land transactions are developing outside the legal framework laid down by the Office du Niger. Though tolerated to a greater or lesser extent by the authorities, they remain illegal and can lead to the eviction of those involved.

The most widespread practice, affecting a significant percentage of the land area,[14] is the granting of an annual lease, made "official" by an informal contract signed in the presence of a witness or simply by oral agreement. Since the late 1990s, a "transfer market" has grown up, whereby plots are effectively sold under the guise of a family division, the name of the new assignee being registered with the Office du Niger. As a result, in 2000, a one-hectare plot could be purchased for up to 1 million CFA francs in the best maintained irrigated zones.

14. According to a survey of more than 3,000 farms throughout the Office du Niger area conducted in 2000, 9% of the land area and 15% of plots are exploited on an indirect basis (source URDOC 2001).

Large sums are therefore at stake. For many of the parties concerned, the enlargement of their farms can only be achieved through increasing participation in investment arrangements, ranging from a straightforward "enhanced" contribution to a complete takeover in the case of "large private operators". At the same time, methods of organisation have changed and new actors have appeared on the scene (new local government structures, farmers' unions); and the older organisations have become more professional. But the situation remains one in which there is a large disparity between the official rules and actual practice, the development of a parallel market in land, and the failure of land management committees (*comités paritaires*) to function properly because the users are not organised.

The way ahead is unclear and experience suggests that there is no simple solution (Lavigne Delville, 1998). A prudent approach is called for, which builds on existing social structures. Preliminary studies are required to compare the consequences of different options in terms of their impact on efficiency and social equity. The information obtained by such studies could then contribute to the much-needed public debate on access to and management of land, this key element in agricultural development and valuable asset which lies at the heart of social relations.

3. Complementary examples

The example of irrigated rice-growing in the Sahel region sheds useful light on the development and restructuring of family farms. Current changes also need further illustration from other situations which exemplify differing local circumstances.

The first case examines cotton-growing areas, since cotton production is one of the main resources of a fair number of West African countries. In some countries, such as Burkina Faso, family farms involved in cotton production have demonstrated considerable ability to make the most of local resources. We then examine the situation in coastal regions and the dynamics associated with perennial tree crops, which may occupy the soil for between 10 and 40 years. These sectors are of considerable economic importance, having at one time or another been the "mainstay" of many coastal countries of West Africa. Rapid change is currently taking place, along with falling world market prices and, in some countries, a recovery in local consumption. We examine the case of palm oil production in Benin, where a programme to encourage new plantations is affecting the organisation of the sector as a whole.

3.1 Cotton-growing areas of Burkina Faso: adaptive capacity amongst family farms

In the western part of Burkina Faso, in the 1970s and 1980s, the development of cotton-growing led to a process of economic differentiation between farm households, determined by their capacity to integrate this activity into broader production systems (Bigot et Raymond, 1991). This differentiation was further accentuated (Faure, 1994) by the favourable conditions granted to those who had adopted the new crop (i.e. access to credit for buying equipment and inputs). As a result, in 1989, approximately 35% of farms owned draught animals (Schwartz, 1991), while roughly 500 (i.e. fewer than 1% of farms) had a tractor. Recent studies show that this pattern of development has endured, even though the latest crisis in the cotton-growing sector is raising new questions (Pigé, 2000 ; Rebuffel, 2002).

Development initiatives have always pinned their hopes on the largest and best-equipped farms as the key to agricultural development. However, many household level studies (monitoring of agricultural activities, analysis of income and expenditure, rates of return, etc.) show (*cf*. Table 2) that the most efficient farms are generally those able to make the best use of local resources, such as family labour and animal traction.

Table 2. Structure and farm performance in relation to levels of mechanisation

	One tractor	At least two pairs of oxen	One pair of oxen	Manual labour
No. of cases studied	25	15	15	17
No. of persons/farm	31.2	15.3	9.9	7.9
Total land area (ha)	34.8	15.9	9.2	3.8
Land area/ person (are)	112	104	93	48
Total labour days/person	88	89	77	40
Total labour days/ha	79	86	83	84
Monetary income from agriculture in FCFA	1.018.000	436.000	312.000	71.000
Mon. inc. from agriculture: FCFA/ha	29.000	27.000	34.000	19.000
Mon. inc. from agriculture: FCFA/person	33.000	29.000	32.000	9.000
Mon. inc. from ag.: FCFA/day's labour	372	320	407	223

Data: 1990/91 and 1991/92 crop years, 12 farms per village (Faure, 1994)

The total income from agriculture increases significantly with the level of mechanisation, justifying the enthusiasm for animal traction or tractor use. However, though monetary income per person rises as soon as a farmer has a pair of oxen to assist him, there is little further improvement if he owns several teams of oxen (no economies of scale) or is equipped with a tractor (difficulty in making such costly equipment pay for itself). These findings are reinforced if we take the number of days worked into account.

Finally, farms reliant on manual labour or animal traction are better able than tractor owners to cope with unfavourable changes in the economic environment by accepting a smaller return on their labour. Farmers relying on tractors are more vulnerable to adverse circumstances, since their fixed overheads are high (repayment of loans, maintenance of equipment), as are their variable costs (fuel, hired labour). The ups and downs in cotton production over the last twenty years demonstrate the capacity of small and medium-sized farms to pursue alternative strategies when the price of cotton does not make it worth growing, whereas many mechanised farms have been obliged to sell their tractors to pay off their debts.

3.2 The palm oil sector in Benin: technical change, new actors and agricultural differentiation

Historically, the palm oil sector has been very important in Benin, having provided almost all the country's export income for almost a century. In the 1950s, growing international competition, difficulties in managing an entirely State-sponsored industry and declining rainfall began to undermine its position. The resulting reduction in supply, aggravated by rapid demographic growth (and therefore increasing demand from consumers), resulted in a dramatic decline in exports.

When the State stopped investing in the sector in 1974, Benin dropped off the list of significant African exporters. However, palm oil is still a staple of the Beninois diet and the industry continues to be of prime importance, given the number of people involved in the sector. Of these, women processing the palm oil on a small scale are the most numerous. Using entirely manual techniques and family labour, they account for 4/5 of the local market (Fournier *et al.*, 2001).

Given the heavy pressure on land throughout the area in the south of the country where oil-palm can be successfully grown, women's access to land ownership is strictly limited and, traditionally, these female processors have obtained almost all their raw material from small family farmers who have integrated naturally-occurring oil palms into their cropping system, unlike the monoculture oil-palm plantations encouraged by "modern" projects.

In the early 1990s, the government of Benin decided to get involved in the sector once again, but following a quite different approach. Industrial-scale processing facilities, the public management of which had been very

inefficient, were privatised and small private enterprises encouraged. Government support consisted of distributing selected oil-palm plants, at subsidised prices, by State-approved private nurseries, and in the design and promotion of small-scale processing equipment.

The programme to distribute selected oil-palm plants was started in 1993. It soon proved successful. The share of national production accounted for by selected plant material will have increased from just 3% in 1995 to almost 20% in 2005, equalling the share accounted for by industrial plantations (*op. cit.*). Planters of selected oil-palms are almost all men. They are mostly family-based farmers who have decided to specialise (30%), but some are retired civil servants (16%) and traders wanting to diversify their sources of income (19%).[15] They generally adopt a strategy very different from that of "traditional" family farmers who own naturally occurring trees. Whereas "traditional" farmers stick to a diversified pattern of crop production, they tend to specialise and seek to extend their plantations as much as possible. Thanks to the development of a market in land, these new planters are managing to buy plots, which they devote entirely to oil-palm growing. As a result, the area planted with palms, though still relatively small (50% of planters have less than 5 hectares) is growing rapidly.

These planters are newcomers to the sector. Initially, their arrival brought benefits to the female processors, as the quantities of raw material available increased. But, increasingly, the newcomers have themselves become involved in processing the crop. For the last ten years, development agencies have been supporting the dissemination of processing equipment (presses and mixers), aimed at improving efficiency. By increasing hourly production threefold, mechanisation has made it possible to increase the profits from processing. These may be substantial, especially if the processor also has storage facilities, allowing him to sell the resulting product when prices are higher.

In several countries in the sub-region (Ghana, Cameroon, Nigeria, ...), the development of semi-mechanised oil-palm processing units is already well under way. In Benin, this trend has so far affected only the biggest planters, but it is likely to expand considerably, as the new equipment

15. Survey conducted in the sous-préfectures of Pobé and Adja-Ouéré (May 1999).

can be profitably employed on relatively modest-sized farms[16] and it is becoming less expensive to buy. Moreover, the "new planters" are emerging as a well-structured body, with organisations ensuring the dissemination of know-how and information, quite unlike the women who formerly processed much of the crop. For them, the new equipment is irrelevant, since the volume of raw material processed by each woman has remained small.[17] If this trend continues, women processors could find themselves excluded from the oil-palm sector as the planters increasingly process their crops themselves. This shows how a development programme which encourages the emergence of a new category of actors can damage the livelihoods of other people within the supply chain.

But it is not only the processing sector of the industry that is affected by restructuring. It is also having an effect on land tenure strategies, as the new planters adopt more aggressive strategies in accessing land. The current changes are therefore leading to a gradual polarisation of palm oil growers; a form of commercial farming is emerging in opposition to traditional family farms, with the risk that new opportunities in this sector will be monopolised by the former.

16. The purchase of a press/mixer is fully justified, according to Fournier, when the annual quantity to be processed is in excess of 70 tons. This amount can be harvested from 7 hectares of selected oil palms. If the trend towards a concentration of land and palms continues, it could become a profitable investment for many planters.
17. As the female processors mostly work individually (albeit with family help), none handles a volume which would make it feasible to invest in equipment.

4. Food for thought

4.1 The responsiveness of family farms in Africa

The examples we have studied, taken from very different situations, show the competitive advantages of family farming systems in making best use of local factor availability, responding to market signals and adapting to rapid economic and institutional change. In the Senegal Delta, in a situation of constraint and adjustment, it is small family farms which have achieved the best financial results, whereas large commercial farms, whose development depended on loans which have not been repaid, are in difficulty. In the cotton-growing area of Burkina Faso, it is medium-sized farms owning a single oxen plough-team which are the most efficient. Conversely, the example from Benin illustrates the dangers of economic polarisation in the agricultural sector, when modernisation projects are conceived and implemented without reference to the way the sector actually works; the result in this case has been the massive exclusion of women from an activity in which they had formerly played a key role.

These examples of the adaptive capacity and economic effectiveness of family farms – even though, given the great diversity of situations in West Africa, the cases taken into account are not necessarily representative of all contexts – is confirmed by similar analyses from other parts of the world.

4.2 The need to document what is happening within the agricultural sector

However, to progress beyond these initial findings, we need information on changes to family farming systems in Africa in areas other than those already documented. The detailed West African studies we have become rapidly out of date because of the continuous changes which have occurred in the economic environment. There has also been a decline in the effort invested in research of this kind.

Yet, there is a great need for information on these issues. Requests are being made by farmer organisations wanting to make a strong case for promoting family-based agriculture. This kind of documentation is also

vital for aid agencies involved in poverty reduction strategies. Development aid seems to be deserting the rural sector (Fida, 2001) for lack of proposals adequately supported by reliable analysis of their contribution to the incomes and livelihoods of the rural poor. Researchers need to re-launch in-depth work to understand family-based farming today, the ways in which they are accessing markets and, more generally, new patterns of rural life. These fields of research require renewed co-operation between aid agencies, NGOs, governments, research institutes and universities.

There is recent evidence that, in some places, agriculture now accounts for a falling share of rural income, e.g. the Matam area in the Senegal River Valley (*cf.* Bélières et Yung, 1998). Often, therefore, it is the place of rural activities in family life that needs to be re-examined, taking into account family strategies, which often extend beyond the confines of Senegal, with substantial revenues deriving from long-distance migration. These changes are leading to the emergence of a highly dispersed family economy which is entirely new and very little explored. In areas where agricultural incomes are still significant, there is also a need to update our picture of what is happening, as saturation of the available land is pushing people to adopt strategies outside agriculture. The rural environment then retains a vital function as a place of sanctuary and "safety net" in family strategies.

It is essential to obtain regular, up-to-date information on such changes, which are affecting all types of agricultural structures. For example, recent social and anthropological studies have demonstrated the role of "newcomers" as mediators in the development process, but little work has been devoted to agricultural entrepreneurs from an economic point of view. Yet it is vital to shed light on this type of actor, to enable us to make economic comparisons between the different forms of agriculture. These agricultural entrepreneurs tend to form associations to promote their interest in influencing the formulation of public policy and generate collective goods and services which will benefit the development of their farms (e.g. palm oil producers who belong to the APPHO, or the farmers belonging to the *Groupement des Exploitants Agricoles* in Benin).

The risk of polarisation in the agricultural sector is very real, as the example from Benin demonstrates, although this trend is not as pronounced as in

Latin America. It is not too late to raise the issue for public debate: is it desirable that Africa should countenance situations similar to those of certain countries in Latin America, where family-based farming and business agriculture are managed by two separate ministries? This is effectively what has happened in Brazil, where there is a ministry of agriculture devoted to large commercial farms, often producing for export, and a ministry of agrarian development concerned with family farms. As a result, agricultural policy-measures, such as assistance with irrigation, technical services, agricultural credit and training for farmers, are the subject of political clashes, often resulting in paralysis. This polarisation also presents obstacles to integrated management of resources at the local level.

4.3 Ensuring security of land tenure

Security of tenure is essential to ensure stability for investment, including investment in the annual production cycle, but land tenure security should not be equated with private ownership of land, in the Western sense of the term. The cases presented here show that, even in instances of imperfect tenure security (the relatively precarious tenure of Office du Niger settlers; the absence of private land ownership in Burkina Faso), intensification can occur. To go further by formalising and effectively creating a market in land – which is more than a straightforward factor of production, and constitutes an asset with powerful social and cultural connotations – would result in the development of non-egalitarian patterns of land ownership. Promoting market mechanisms to ensure security for some producers will inevitably create insecurity for others, who will then be forced to sell their plots and abandon agriculture. Does this make sense, given the limited employment opportunities in Africa today?

Providing secure tenure can be combined with modernisation. In the history and evolution of rural societies, these processes have often gone hand in hand. The central issue is to decide what types of farming should be promoted – and, conversely, what forms of activity society is willing to see disappear. Such debates cannot take place without the active participation of family farmers and their organisations. When dealing with these issues, and all issues of public policy in the agricultural sector, it is more than ever necessary that organisations representing the agricultural and rural world be involved in the process. However, to ensure that dialogue is not mere "window-dressing", managed and controlled by government or the aid agencies, it is essential to strengthen farmer organisations, to analyse situations and to propose policy options.

4.4 How can farmer organisations influence public policy?

In most African countries, farmer organisations gathered strength in the 1990s. Building on diverse experience, they made the most of the room for manoeuvre created by the withdrawal of the State from agricultural support and the partial democratisation of public life. Moves towards establishing a federation of farmer organisations intensified and resulted in national and sub-regional co-ordination of activities (e.g. ROPPA (Bosc *et al*., 2002 (b))). Whatever they may call themselves, farmer and rural organisations are mainly concerned with two issues: the creation and management of services to agriculture; and the representation and defence of farmers' interests.

In West Africa, farmer organisations are more and more clearly affirming their belief in the need to promote family farming. They are increasingly speaking out and taking initiatives to influence agricultural policy. It is worth noting that, just in the last two or three years, agricultural debate, as carried forward by farmer organisations, has taken on board the concept of family-based farming as a means of crystallising and representing a type of agriculture in opposition to the agri-business model. This vision has been inspired by a global perception of the role of agriculture in society, not only producing food and fibre but also performing many other economic, social and environmental functions: food security, employment, management of natural resources, regional development, etc. This perspective has something in common with current debate in Europe on "multi-functionality"and agriculture's broader contribution to rural development (see, for example, the broadening of activities supported by the EU's Common Agricultural Policy).

Awareness of current changes in family farming is a matter of vital importance for the leaders of farmer organisations, at a time when they are being asked more and more frequently by governments and donor agencies to give their opinion on appropriate forms of public intervention in the agricultural sector. This information is of strategic importance, but it pre-supposes that the organisations concerned are able to define their position as to the forms of family-based farming they advocate. This kind of thinking is not yet widespread among the leadership. It has however been the subject of research activities and initiatives in Africa, Latin America and China (Mercoiret *et al*., 2000). In Africa, it is guiding the training programme, "*Université paysanne*

africaine" (African farmers' university), launched in 2001, intended to train farmers' leaders in thinking and strategic analysis (APM, 2000). There is a great need for training, and only a strong commitment on the part of donor agencies and Northern countries will be able to mobilise the resources needed to take up this challenge, which is central to the future of African farming systems.

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