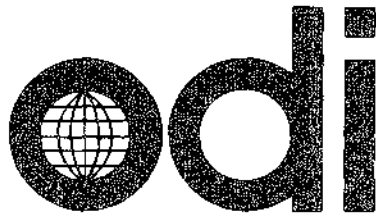


2-23-91
WORKSHOP IN POLITICAL THEORY
AND POLICY ANALYSIS
513 NORTH PARK
INDIANA UNIVERSITY
BLOOMINGTON, IN 47405-8550 U.S.A.



Reprint files

**IRRIGATION MANAGEMENT NETWORK
(Africa Edition)**

Network Paper 16

**IRRIGATION AND THE SONINKE PEOPLE:
ORGANISATIONAL AND MANAGEMENT PROBLEMS:
CURRENT SITUATION AND PROSPECTS**

Georges Diawara



The Africa edition of the
Irrigation Management Network
is supported by the Technical
Centre for Agricultural and
Rural Co-operation (CTA)

July 1992

Papers in this set:

- 14 *Planning for Housing in Irrigation Settlement Schemes in Kenya: Ahero and West Kano Schemes* by Dr Joyce Malombe.
- 15 *Contract Farming and Rice Growers in The Gambia* by Dr Judith Carney.
- 16 *Irrigation and the Soninke People: Organisational and Management Problems: Current Situation and Prospects* by M Georges Diawara.
- 17 *Integrating Small Scale Irrigation Development with the Existing Agricultural System: A Case Study of Small Holder Swamp Rice Schemes in Sierra Leone* by Dr Karlheinz Knickel.

Please send comments on this paper to the author or to:

Linden Vincent, Irrigation Management Network (African Edition), Overseas Development Institute, Regent's College, Inner Circle, Regent's Park, London NW1 4NS

Comments received by the Editor may be used in future Newsletters or Network Papers

The opinions represented are those of the author and do not necessarily reflect the policies of the Overseas Development Institute, or any organisation with which the Institute or author is connected.

ISSN: 0951 189X

**IRRIGATION AND THE SONINKE PEOPLE:
ORGANISATIONAL AND MANAGEMENT PROBLEMS:
CURRENT SITUATION AND PROSPECTS**

Georges Diawara¹

<i>Contents</i>	<i>Page</i>
1. Background Information	3
2. Organisational Problems	5
2.1 Factors relating to infrastructure, equipment, finance and human resources	5
2.2 Relationships between participants and organisational structures	7
2.3 Supply of inputs, marketing, transport and training	9
2.4 The production factor	10
2.5 Achievements and perspectives	11
2.6 Suggested solutions to organisational problems	12
3. Management Problems	13
3.1 Lack of confidence between members: causes and consequences for the agricultural scheme	14
3.2 The problem of non-reimbursement of loans: its causes and consequences for agricultural schemes	16
3.3 Recommended solutions	18
4. Conclusion	19
References	22
Annex 1	24
Annex 2	25

¹ Executive Secretary, URCAK, Kayes, Mali. URCAK is Kayes Regional Union of Agricultural Cooperatives.

**IRRIGATION AND THE SONINKE PEOPLE:
ORGANISATIONAL AND MANAGEMENT PROBLEMS:
CURRENT SITUATION AND PROSPECTS**

Georges Diawara¹

1. BACKGROUND INFORMATION

Like that of any other society, the history of the Soninke people is closely connected with the availability of water. In our study, we consider the case of the Soninke in the Sahelian region of present day Mali and more particularly along the Senegal river and its tributary, the Faleme.

Three phenomena are presently producing fundamental transformations in Soninke farming practices: drought which affects the whole population; development schemes in the Senegal river basin affecting the valley dwellers; and immigration. The second aspect took our interest and led us to base the study on experience with irrigation schemes, taking as our examples the Somankidi-coura, Moussala, Gakoura, Sobokou, and Lani-modi schemes on the Senegal river and Fegui, Sangalou and Gouthioubé on the Faleme.

Our study considers a series of questions within the context of the Soninke culture, which is not a simple task. Soninke society, although it has become more open to the outside world since the decline of the empire of Ghana, nonetheless retains a traditional culture and its own sets of values, shrewdly absorbing external inputs in an unhurried, measured, discerning and tactful manner.

It is a dynamic society which has used its experience to bring about profound social transformations without brutality, on its own terms, giving pride of place to spiritual and economic matters. Mosques, health centres, water supply systems, wells and boreholes followed by schools, provide the physical evidence. Investment in transport and trade, animal husbandry and agriculture bear witness to the economic concerns which have created the image of the Soninke as peerless traders and tireless workers proud to display their assets. Naturally conservative, but great innovators with powers of observation and experimentation, the Soninke have a sense of moderation

and caution which may make them appear outwardly naive, but fundamentally calculating.

The pride and sometimes arrogance they display is a clear sign of a minority people safeguarding its identity. To analyse the issue of irrigation and the Soninke people from an institutional and functional perspective thus requires a participatory approach, failing which a wall of silence will be encountered and only superficial interpretation will be possible.

1977 saw the first introduction of irrigated agriculture in the Soninke area, with the Somankidi-coura, Moussala and Gakoura schemes, followed by Sobokou and Sangalou in 1980, Lany-modi in 1981, Gouthioubé in 1982 and Fegui in 1986. Eight schemes were set up over almost 10 years. The idea is presently fashionable in Soninke country for a number of reasons.

Several objectives lay behind the establishment of these schemes:

- The struggle to achieve food self sufficiency, income security and increased income for small farmers;
- The attempt to provide an alternative solution to rural exodus by setting up agricultural schemes to generate jobs for former or potential migrants;
- The introduction and extension of irrigated agriculture with a view to developing the Senegal river valley;
- The development of a region affected by drought and its socio-economic consequences.

The study does not attempt to verify whether all or some of these objectives have been achieved. What we have done is to obtain from Soninke people participating in such schemes (Guidimankan and mainly in Gadiaga) some views on the advantages based on difficulties they have encountered and the new problems to be dealt with.

The study thus operates at two levels: a description of past experience and dynamic research with a view to improving and ensuring the future success of irrigation schemes.

2. ORGANISATIONAL PROBLEMS

Any observer can see that the experience of setting up and managing irrigation schemes in Soninke country has been fraught with constraints. These constraints can only be tackled through organisation by the participants themselves: such organisation must necessarily be strong, multi-faceted and versatile.

Our study of the organisational problems encountered by selected schemes is based around results of a 10 day meeting in 1988 with all the officials involved in the field. We concentrate on the experience gained by participant farmers between 1977 and 1988: this enables us to identify the principal difficulties in irrigation in Soninke country up to the present day. We place these problems in four main categories to present a broad view of a novel and quite complex situation.

Setting up an irrigation scheme and acquiring the means to operate and manage it present a considerable challenge. What may seem obvious or commonplace to the layman will not be so in a real field situation. We should point out that Soninke country is not virgin territory, let alone neutral terrain.

2.1 Factors relating to infrastructure, equipment, finance and human resources

Infrastructure

Existing infrastructure is inadequate, inappropriate and in all cases unreliable when it comes to sustaining farming developments capable of expanding a new type of agriculture to achieve any one of the above mentioned objectives. The area to be developed (clearance, levelling, drainage, irrigation basins, channels, dams and dykes; field lay out, etc) rarely exceeds half or one third of the available land: guaranteeing water flow is a problem from the start.

The cost of such developments, estimated to be 2 million FCFA per hectare, far exceeds the financial capacity of farmers unless assistance can be obtained from the Malian government, bilateral or multilateral cooperation or NGO partners. In most cases, plans for development of the Senegal river basin are presented with no timetable for carrying out the work or indication of the funding available.

In addition, any observer can easily see that there is no adequate road infrastructure, proper health centres or village markets in the areas where these schemes are located. Genuine development in such areas is therefore not a very viable proposition. Present participants also point to the absence of warehouses to store produce and small plants to process vegetables or hull rice, which loses much of its commercial value if marketed as paddy.

The coexistence of agriculture and livestock husbandry around villages raises the issue of protecting cultivated areas with solid, durable fencing. Such investment is always beyond the reach of farmers. Solutions advocated by national as well as foreign technicians are either inappropriate or unrealistic in the absence of any partner prepared to provide funding. Some of them suggest environmental protection as if there were no cost attached.

Equipment

The oldest form of tool is still the *daba* (mattock), of various types according to the kind of work to be carried out. For irrigation, the indispensable tool or 'heart of the scheme', is the pumping station. The most common type is the English model Lister HR2 or HR3. Problems related to the pumping system are frequent breakdowns due to wear and tear and dilapidation of the equipment.

To begin with maintenance by many of the pump attendants was poor and repairs were often make-shift, undertaken by casual mechanics found in Mali, Senegal or Mauritania depending on the location of the scheme and existing skills.

It was also pointed out that some pumping stations were underpowered in relation to the size of the area to be irrigated. Furthermore, as the slope of the bank made access to the river difficult, it was essential to adopt pumps installed on moveable bases.

All participants stressed that farms were under equipped. Ox driven ploughs are still a luxury while the purchase of tractors by two migrant cooperatives, Sobokou and Lani-Mody, raises the issue of depreciation. Transport is also inadequate: bush taxis, where available, and canoes during the rainy season, do not offer a total solution. The high cost of transport will continue to be an obstacle to the expansion of irrigation schemes for some time. It is difficult to envisage the use of rail transport in view of the distance from stations and the frequency of passenger trains stopping at Ambididi and

Diboly: once a week for express trains in both directions between Bamako and Dakar and the passenger train plying between Dakar and Kayes.

Finance and human resources

Investment in irrigation schemes requires considerable personal effort by participants, in many aspects in the absence of revolving funds.

In view of the scale of problems encountered schemes have little chance of achieving self financing status. Participants often mentioned the low level of income per farmer. We shall come back to this point. The need for adequate and appropriate funding is felt at all stages. An agricultural enterprise, such as an irrigation scheme, cannot depend exclusively on the good will of participants, personal effort and voluntary provision of the various services required.

2-2 Relationships between participants and organisational structures

Problems identified fall into three categories:

- Relationships within villages and on farm;
- Relationships between schemes;
- Relationships between schemes, technical services and the administration.

Our study cannot go into all of these in depth. It will confine itself to describing and explaining them on the basis of work and meetings with participants in the field.

At village and farm level emphasis is always placed on access to land, land rights and problems with land owners under customary law. It should be noted that to date no scheme has title to the land on which it operates which, in legal terms, places schemes in a position of dependence. Changes in the balance of power can at any time lead to renegotiation of the tacit contract established when the scheme was set up.

Scheme officials point out frequent failure of their members to respect the statutes and internal regulations of small farm groups whether they be of a community or cooperative type. Leadership conflicts or frustrations

encountered by members of lower social standing frequently occur, often attenuated by group consensus which tends to settle such conflicts within a society which is quite hierarchical and extremely traditional.

Such factors influence the effectiveness of the organisation, rendering it more fragile and vulnerable in the face of any social transformation following the introduction of a new type of land use. Structuring the group to achieve genuine union remains a task for all farmer leaders in the area. Social pressures are often exerted through different channels.

Migrants have little preparation for the management of such conflicts except by resorting to the organisational statutes or administration. Participants who have never left the village are even less well prepared to innovate in the face of social inertia. The alternative is to implement training, study days or calling in appropriate resource persons.

The reduction in the number of farmers participating is not just the result of internal conflicts. The introduction of irrigated agriculture with new equipment, especially in the context of drought, exodus or emigration, led small farmers to believe that their income would grow rapidly. The complexity of the work and low yields achieved quickly disappointed some members. The argument of a lack of motivation is often put forward, but the phenomenon is more complex.

Relationships between schemes operate on two levels: within the Kayes Regional Union of Agricultural Cooperatives (URCAK) and between neighbouring schemes. Exchange is felt to be inadequate, especially as it only occurs in the event of serious conflicts, pumping station breakdowns or in obtaining agricultural equipment, seeds or other inputs. URCAK's contribution to the schemes is substantial when viewed against the extent of needs expressed by farmers, the disengagement of the state, the modest financial support provided by NGO partners and the lack of consistent commitment by banks and donors with greater capacity.

Relationships of schemes with the technical services and the administration are a source of tension rather than frank cooperation. Amongst the complaints are the mediocre quality of the extension services, long drawn out administrative procedures to obtain official status as an agricultural cooperative, the slowness of other administrative formalities, the cupidity of some officials, and the pettiness of police and customs services on the road or at the border with Senegal. With regard to landholding, the

administration is accused of laxity or indeed complicity in inter-village conflicts, as in the case of Soborou and Dikocori which led to deaths and imprisonments. The bank and in particular the BNDA (National Agricultural Development Bank) is the subject of more substantial grievances. Interest rates are high, while the terms for obtaining loans and the method of repayment are considered suspect and draconian. Some farmers have been charged by the police in the middle of the agricultural season. Distrust reached such a level as to harm relationships with the URCAK which had guaranteed the loans in 1984.

We cannot end without mentioning relationships with NGOs, mostly French (ACCIR/CCFD/CIMADE), who support the schemes through the URCAK. While support is considered to be substantial and appropriate to participants' needs, its negotiation, management and the evaluation of its impact, sometimes lead to sharp words. Experience of working together over several years leads to greater confidence and solidarity with French NGO partners.

As far as official French cooperation is concerned (FAC, Central Economic Cooperation Fund) distrust is mutual, even when financial packages are large. Management, and especially the conditions imposed, are always problematical and change according to the political whim of each French government and officials in Bamako. The impact of immigration will influence the attitude of one or other party for a long time to come.

2.3 Supply of inputs, marketing, transport and training

Input supply, marketing, transportation and training are also essential to agricultural schemes. Yet many initiatives in this respect encounter bottlenecks. The isolation of the region exacerbates this.

Fuel, spare parts and agricultural inputs are high in cost, while farm income is low. There are practically no local suppliers in Kayes and purchases must be made in Bamako or Dakar. Customs duty raises the cost price still higher, not to mention handling and transport charges.

Marketing usually takes place in Kayes, the only market town. Weekly village markets as found elsewhere in Mali do not exist here, with the former exception of Gouthioubé: even this closed down some years ago as a result of excessive customs charges levied on neighbouring sellers from Mauritania and Senegal. Kayes market is sometimes over stocked. Produce

from the different schemes arrives at the same time because cropping is not staggered and the purchasing power of the urban population is poor. This affects both rice and garden produce. There is also competition from rice imported from Asia.

The need for training is strongly expressed considering the illiteracy of the majority of participants. General training and more specifically technical training - mechanics, mechanisation, agriculture, animal husbandry, crafts, health - is in great demand in view of constraints encountered in irrigation organisation and operation. Management training is amongst the most sought after. This is discussed later in greater detail.

Very few farmers are informed about developments in the Senegal river basin. According to participants, no one is prepared for the aftermath of the Manantali dam, although rumours are coming through from Senegal and Mauritania. Farmers merely notice changes in the level of the river even in the midst of the dry season. Participants in these irrigation schemes do not know what their position will be in the future of water control in the sub region, nor what repercussions they must expect.

2.4 The production factor

The objective of all these efforts is to improve agro-pastoral production. Examination of their own situation by farmers highlights several constraints:

- Inappropriately located schemes: land near human settlements is often steep slopes. The soil is sometimes quite poor, and it is often difficult to level uneven terrain or drain marshland or pools. All schemes are affected by one or other of these handicaps. The proximity of the village also raises the problem of coexistence between irrigated agriculture and animal husbandry as the schemes tend to be the only green areas locally;
- Erosion and rapid soil exhaustion are resulting from mono-cropping;
- Access to water is not equal for everyone. Schemes along the Faleme suffer from inadequate water flow, especially in the dry season when the crops have the most need of water;

- Poor yields seem to be the corollary of all the constraints mentioned. With only two tons per hectare for cereals, many farmers are asking themselves when food self sufficiency could possibly be achieved.

The operation of irrigation schemes tends to become trapped in a vicious circle. The investment made and the scale of food and financial requirements compel the farmer to pull out all the stops to make the project succeed. The nature and size of the constraints lead to makeshift solutions or resignation. A climate of insecurity surrounds participants whose final hopes rest in the uncertain return of normal rainfall in order to be able, with the benefit of the experience they have gained, to ensure their basic subsistence by growing mostly cereals.

2.5 Achievements and perspectives

The participants, at least those who have remained as farmers, are still determined despite everything. For them, the major and inestimable benefit is the experience they have acquired through many years of practising irrigated agriculture. Amongst these advantages we shall single out:

- The ability to establish a farm organisation and manage it themselves;
- The development of certain traditional and new production and marketing techniques, for example:
 - agricultural techniques: market gardening, cereal growing, tree cultivation, cash crops (bananas)
 - market development, price setting, negotiation with retailers, recovery of debt, etc.
- Awareness of responsibilities and risks as a participant in irrigation schemes;
- A greater openness within the culture and with external partners;
- The establishment of information and communications networks between small farmers involved in such schemes.

2.6 Suggested solutions to organisational problems

The solutions advocated to achieve better organisation of the schemes to ensure that they operate to a high standard may be found within the following recommendations:

- (a) Strengthening the coordination between agricultural and animal husbandry activities, and establishing hedges to protect the farms.

Funding

- (a) Establishing a revolving fund in the form of a rural savings scheme;
- (b) Widening the network of funding partners in development;
- (c) Seeking funding for equipment, activities and development work;
- (d) Obtaining bank guarantees.

Training

- (a) Guaranteeing officials undergo training in ability to monitor and evaluate training;
- (b) Providing training to consolidate and replicate achievements;
- (c) Organising training sessions in the areas mentioned;
- (d) Setting up a permanent training centre;
- (e) Developing exchanges and study visits.

Institutional

- (a) Participation in decision-making on development issues at the regional level;
- (b) Ensuring that commitments are respected;
- (c) Provision for regular meetings;
- (d) Following the administrative procedures to obtain recognition of cooperative status.

3. MANAGEMENT PROBLEMS

Difficulties related to the management of hydro-agricultural schemes are numerous and diverse. They illustrate the complexity of the process for which few farmers have been prepared. Migrant farmers have had the advantage of training courses in France, but these have been inadequate in view of the scale of constraints in the field.

The study collected the views of the farmer participants:

- The main points mentioned in connection with agriculture are poor quality seeds, delays in input supply, attack by insects and toads, lack of experience of farmers leading to delays in planting out from the garden nurseries, poor maintenance of nurseries and wandering animals;
- At harvest time, constraints relate to the geographical isolation of the schemes, the poor state of the roads and farm tracks where these exist. All these factors raise the cost of transportation which is most often provided by private hauliers. The absence of village markets and the saturation of the only market in Kayes lead farmers to rely on full-time sellers in the market who are always indebted to the farmers. Temporary over-production leads to a crash in the price of produce marketed by all at the same time;
- Animal husbandry is centred on the production of manure and milk, and the fattening of sheep and cattle for the Tabaski and other festivals. The main difficulty is the lack of pasture as a result of inadequate rainfall;
- In mechanical terms, the scheme depends on irrigation pump equipment. The principal handicap is the frequent breakdown of pumping stations, the supply of spare parts and the dilapidation of the pumping equipment whose replacement is often out of the question as there is no funding available.

This list is incomplete, but illustrates the basic problems which face any manager or farmer.

More detailed examination of the two main constraints in the long list of problems highlights all the issues relating to management, whether schemes be of a village or cooperative nature, or started by migrants or by villagers.

3.1 Lack of confidence between members: causes and consequences for the agricultural scheme

Any experiment of this type will meet difficulties which must be overcome if the scheme is not to come to a total halt. The establishment of schemes brings together people of different social origins, sexes, ages and experience. The working conditions stipulated by the statutes and internal regulations are inspired by western values. Conflicts are minimised until they can no longer be contained and have to be settled by group consensus. Management is therefore a key issue and its importance must be stressed.

The effects and consequences of poor management identified by participants manifest themselves in:

- Non-payment of dues, i.e refusal to respect group agreements;
- Lack of motivation in work leading to a drop in production;
- The emergence of latent internal conflicts, which greatly exacerbate the climate of misunderstanding between the members;
- Scandal-mongering;
- Deterioration of the means of production (pumping stations and irrigation channels) results from the lack of self discipline and authority;
- Tasks going undone;
- Members resigning, thereby reducing the number of participants;
- Deliberate lateness at agreed rendezvous;
- Holding back effort (energy) in carrying out communal tasks;
- Individuality and the rise of egotism and jockeying for position;

- The emergence of factions, clans and closed circles;
- The impoverishment of farmers bringing forward the lean season (lack of food security);
- The temptation to renewed exodus and seasonal or permanent emigration;
- Indifference of members;
- Lack of initiative.

Any scheme affected by so many difficulties is heading for collapse. Managers put forward several reasons for these difficulties, based on their experience, of which the most obvious are listed hereunder:

- The lack of clarity in financial operations: very often only the president and the treasurer are aware of what is happening in financial terms, whether or not they have been trained to carry out these administrative and management functions;
- The lack of consultation between members about problems on the schemes;
- The lack or infrequency of meetings, although these are provided for in the statutes;
- The undemocratic selection of officials, with pressures operating in favour of a privileged circle when committees are established or due for renewal;
- Conflicts of objectives between farmers;
- Member's lack of knowledge of the objectives of the scheme;
- Absence or flouting of regulations;
- Lack of sanctions for offences;
- The social pressures relating to the social environment and areas in which these agricultural schemes are located;

- Non-voluntary membership;
- Failure to perceive the utility of community action;
- Inappropriate criteria for distributing income between farmers.

It is clear that the same difficulties do not arise together within any one scheme. However, they are characteristic of the constraints which may be expected in the development of any scheme. Hiding such difficulties can only prejudice the success of the pilot schemes.

3.2 The problem of non-reimbursement of loans: its causes and consequences for agricultural schemes.

Based on the experiences of managers in operating irrigation schemes in Soninke country, the study has identified a second problem which has a crucial influence on the success of any scheme, viz non reimbursement of loans. Loans contracted are of two types:

- Loans of equipment and agricultural inputs granted by the URCAK to schemes against subsidies from NGO partners and bilateral cooperation.
- Loans granted by the BNDA to some schemes including Gouthioubé, Sangalou, Moussala and Gakoura, in the form of seasonal credits of fuel and inputs.

Discussion will concentrate on the first type. It is important first of all to point out the consequences of this loan defaulting:

- Financial crisis for the scheme;
- Fall in production and income;
- Hindrance of activities;
- Reduction in confidence amongst members;
- Failure to maintain the means of production;
- Legal action which is sometimes undertaken to recover debts;

- Exclusion or suspension of members, and thus a reduction in their numbers;
- Anarchy as everyone starts to imitate the non-payers;
- Damage to the cooperative's credibility.

These are general outcomes and the causes of default throw even greater light on the complexity of the problem. Participants consider defaulting of loan repayment to be the result of:

- Lack of motivation and absence of community spirit;
- Insufficient income and inadequate production;
- Farmers' lack of experience;
- Poor use of credit in the absence of a monitoring and control system;
- Non-existence of criteria for granting credit;
- Social constraints affecting officials and farmers;
- Absence of criteria to direct credit towards low risk activities;
- Natural disasters (drought, predators, etc);
- The acquisition of bad habits in relation to reimbursement of loans;
- Shortcomings in the production, marketing and supply structures;
- Dependency syndrome;
- The lack of incentive or encouragement to reimburse loans.

Participants did not see a need to differentiate the situation of one irrigation scheme from another. This study also avoids basing examination of problems on a particular case, and aims to achieve a general understanding of a complex phenomenon which is inherent to establishment and operation of an irrigation scheme.

The study goes beyond observation and analysis. Participants particularly stressed the need to find practical solutions to help to resolve the two problems: lack of confidence between members and non reimbursement of loans.

3.3 Recommended solutions

The quality of a scheme's management may be assessed according to the degree of resolution of social problems and management of economic and financial problems. We have stressed that these were quite complex in each case. The community or co-operative nature of groups participating in the irrigation schemes allows for a specific and more democratic form of management. It was in this spirit that the managers put forward their proposed solutions:

To build confidence between members: proposed action

- (a) Prepare a timetable for meetings;
- (b) Raise the awareness of cooperative members; slide projection followed by debate; make the activities of animators more dynamic; find particular topics to be debated by the rural radio station; organise guided exchange visits;
- (c) Restructure the cooperative by defining functions and indicating the nature of the different responsibilities;
- (d) Consider membership procedures which will enable a candidate's motivation to be assessed before acceptance;
- (e) Set up a technical commission to discuss criteria for income distribution;
- (f) Submit the work of the technical commission to the General Assembly for adoption;
- (g) Insist that anyone conducting a mission for the group present a report to the General Assembly;
- (h) Present the results of activities;

- (i) Reflect on the duties which require much effort and time for the cooperatives activities;
- (j) Select or elect someone to be responsible for controlling and monitoring the implementation of sanctions.

To ensure reimbursement of loans: proposed action

- (a) Conduct awareness raising sessions to enable co-operative members to understand the need to reimburse credit;
- (b) Define terms for granting credit;
- (c) Formulate rules in respect of credit, providing sanctions for non-payers but also means of encouraging good payers;
- (d) Set up units to monitor and follow up the proper use of the loans and ensure proper organisation of production and sale of produce;
- (e) Describe the necessary tasks and make them known to those responsible for production, marketing and procurement;
- (f) Consider the appropriateness or need to provide tools to ensure that the duties are performed properly.

4. CONCLUSION

As we conclude our brief overview of irrigation and the Soninke people, we cannot claim to have exhausted a topical subject which is constantly developing. We have merely elucidated considerations which inhibit the expansion of irrigation schemes in Soninke country and elsewhere in Mali. Some observations and suggestions follow by way of conclusion.

Controlling water supply with a view to promoting productive agricultural activity is quite a complex matter, especially in the zone studied. To launch into the establishment of irrigation schemes should not be the consequence of voluntarist action, improvisation or the belief that this is a simple solution to increase production. It is an initiative which must be prepared meticulously and conducted with dexterity.

An irrigation scheme is a precious asset in the Sahelian region. To invest in a scheme requires sufficient resources appropriate to all the activities to be conducted. Philanthropy merely provides a back-up: it is in most cases an expression of charity towards the poorest of the poor. For instance, if NGO support is not supplemented by additional financial, material or human resources, it is not sufficient to promote the genuine development to which the schemes in the region aspire.

An irrigation scheme must be one component in a genuine integrated development strategy. It cannot be an island of prosperity in a sea of poverty. Planning must incorporate ways and means to follow such a strategy, so that irrigation schemes can be a tool accessible to the people to transform living conditions in Sahelian villages. To this end, current pilot schemes must be viable for the initial participants in order to be attractive to others and avoid the common fate of fashions: abandonment after people become tired of them or when new models come on the market.

The question, therefore, is how to extend and replicate such schemes without encountering the constraints of the initial experiments; the question participants sought to address.

The lessons and recommendations from the first farmers participating in the schemes seem to be the need for preparation, training and a guarantee of sufficient and appropriate support. Any farmer or group wishing to take part in an irrigation scheme should:

- Undergo preparatory training in rural organisation. This will deal with all procedures necessary to access the resources and support required: access to land (good site, soil quality, suitability of land for development, land title, etc); sufficient infrastructure; good quality equipment suited to environmental and working conditions; consistent and easily available funding; multi-disciplinary and efficient human skills; available, credible and adequately operational services;
- Be trained in the management of agricultural schemes as profitable businesses. It was impossible for the initial schemes to achieve profitability in face of all the problems that we have examined. In future, a change in attitude must be encouraged: an agricultural cooperative is not a charity. It must create a spirit of solidarity between its members to promote the economic activities it undertakes to ensure the welfare of its members. Economic concerns must

remain at the heart of any initiative, whatever its social nature; managing all aspects together by achieving a proper balance;

- Be confident that they have the support of an institutionalised organisation to defend their socio-economic rights. The development of a society is dependent upon the existence of law, otherwise all forms of abuse are possible. One of the fundamental rights of workers is precisely the ability to meet, to work together, to secure and develop the fruits of their labour. Very few states in Africa tolerate, let alone take part in the promotion of farmer unions. Yet it is up to unions to ensure the establishment of and respect for the rights of its members. This third element is as important as the other two recommendations.

The Soninke people will have to become increasingly involved in irrigation activities. Some villages are beginning to take control: others are observing current attempts. There are many signs that the Soninke people in the river valley are seeking to develop their region of origin or settlement: the hope inspired by the construction of major dams on the Senegal river; the recent decrease in the isolation of Gadiaga due to the construction of the Kayes-Kidira road, and the establishment of Kayes rural radio station; the beginnings of democratisation of civil life in Mali. The Soninke people are spurred on by the increasing fragility of the environment which is causing desertification and the ever growing difficulties experienced by emigrants. The culture of the Soninke people calls upon them to safeguard this region as it is their living space and the frame of their lives. We can only hope that they hold the winning cards

REFERENCES

1. Author's experience of working with URCAK and irrigation scheme officials:

1986-1990: resource person (volunteer)
1990-1991: executive secretary (salaried)

2. Study topic at Social Studies Institute in Lyon (IESL). Lyon, 1985
Georges Diawara:

Irrigation and development in the Sahel: the issue of farmer training (case study: the Sapou-Kakoulou irrigation scheme 1973-1983).

3. Evaluation Mission on the URCAK experiment. Georges Diawara, 1987:

The 14 Schemes belonging to the URCAK organisation in Mali;
Partner NGOs in France: ACCIR/CCFD/CIMADE.

4. URCAK study days on the position of URCAK and the schemes, Somankidi-Coura, June 1988:

Soninke participants:

Somankidi-Coura Scheme: Siré Soumaré (President of URCAK); Ladjji Niangané (Training Officer); Bakari Bathily; Madi Kouta Niakaté

Moussala Scheme: Waly Bathily (Social Affairs Officer)

Gokoura Scheme: Dioncounda Diabira; Mamadou Diabira

Sobokou Scheme: Oumar Dia (Vice-President); Moussa Sellou

Lani-Mody Scheme: Modiba Konaté (Procurement Officer)

Fegui Scheme: Ibrahim Soumaré (Production Manager); Sékou Soumaré

Sangalou Scheme: Harouna Nambounou; Sekou Nambounou

Gouthioubé Scheme: Sékou Fadé; Dalla Tall

Animation: Mamadou Cissoki (Trainer Fongs/Senegal)

Monitoring: Mathias Bassene (Representative Ford Foundation/Dakar)

Observer: Georges Diawara (Resource Person URCAK)

5. Management Training Session run by URCAK for scheme managers. Kayes, July 1990:

Soninke participants:

Somankidi-Coura Scheme: Madi Kouta Niakaté

Gakoura Scheme: Mamadou Diabira

Sobokou Scheme: Kalifa Sissoko

Lani-Mody Scheme: Dramane Sidibé

Fégui Scheme: Mamadou Touré

URCAK: Abdoulaye Coulibaly

Animation: Elhadj Ndong (OCSAT) (Management/Senegal)

Monitoring - Evaluation: Ladjji Niangané (URCAK Training Officer)

Georges Diawara (URCAK Resource Person)

6. Les Groupes Ethniques au Mali, Editions Imprimeries du Mali (1970). Bocar N' Diaye

ANNEX: 1

SOME INDICATIVE FIGURES

<i>Schemes</i>	<i>Date of Establishment</i>	<i>Distance from Kayes (km)</i>	<i>Land Area (Ha)</i>		<i>Number of Members</i>	<i>Status</i>	
			<i>Total</i>	<i>Usable</i>		<i>Association</i>	<i>Cooperative</i>
Somankidi Coura	1977	20	60	10	14		✓
Moussala	1977	35	45	35	20	✓	
Gakoura	1977	40	27	5	38	✓	
Sobokou	1980	75	36	14	40		✓
Lani-Mody	1981	80	70	22	26		✓
Fegui	1986	110	50	10	17	✓	
Sangalou	1980	110	66	15	43	✓	
Gouthioubé	1982	115	100	42	42	✓	
Total			454	153	240	5	3

Source: URCAK Study Days June 1988
 Report of URCAK President to 1990 General Assembly
 Letter from Monssala scheme forwarded by AIC/PROJJETI to URCAK

ANNEX 2:

INDICATIVE FIGURES

<i>Production</i>	<i>Type of Produce</i>	<i>Yield T/Ha</i>	<i>Average Price (FCFA)</i>
Vegetables	- tomatoes	6,048	50 F
	- onions	2,683	100 F
	- okra	16,965	75 F
	- cabbages	16,891	50 F
	- aubergines	3,709	75 F
	- cow-peas	1,838	75 F
Fruit	- bananas	8,322	125 F
Cereals	- millet - sorghum	1,994	-
	- maize	1,248	-
	- rice	2,715	-

Source: Report by URCAK President to 1990 General Assembly

Agricultural Administration Unit
Overseas Development Institute, London

The Overseas Development Institute (ODI) is an independent, non-profit making research institute. Within it, the Agricultural Administration Unit (AAU) was established in 1975. Its mandate is to widen the state of knowledge and flow of information concerning the administration of agriculture in developing countries. It does this through a programme of policy-orientated research and dissemination. Research findings and the results of practical experience are exchanged through four Networks on Agricultural Research and Extension, Irrigation Management, Pastoral Development, and Rural Development Forestry. Membership is currently free of charge to professional people active in the appropriate area, but members are asked to provide their own publications in exchange, if possible. This creates the library which is central to information exchange.

Technical Centre for Agricultural and Rural Co-operation (CTA)

The Technical Centre for Agricultural and Rural Co-operation (CTA) was established in 1983 under the Lomé Convention and is based in Ede-Wageningen in the Netherlands. Its mandate is to help the African, Caribbean and Pacific countries which comprise the ACP group achieve greater food security by providing them with better access to scientific and technical information on all issues related to agricultural and rural development. Working in close cooperation with ACP and EEC countries and with international, regional and national institutions, CTA fulfils its mandate through a range of activities, including seminars, studies, publications and support to ACP documentation centres.

The ODI Irrigation Management Network is sponsored by The Overseas Development Administration (ODA), 94 Victoria Street, London SW1E 5JL; and The Ford Foundation, 320 E 43rd Street, New York, NY 10017, USA.



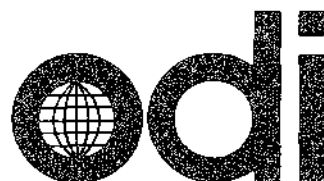
The African Edition of Irrigation Management Network is sponsored by the ACP-EEC Technical Centre for Agricultural and Rural Co-operation (CTA), Postbus 380, 6700 AJ Wageningen, The Netherlands

© Overseas Development Institute, London, 1992.

Photocopies of all or part of this publication may be made providing that due acknowledgement is made. Requests for commercial reproduction of Network material should be directed to ODI as copyright holders. The Network Editor would appreciate receiving details of any use of this material in training, research or programme design, implementation or evaluation.



The Africa Edition of Irrigation Management Network is sponsored by the **Technical Centre for Agricultural and Rural Co-operation (CTA)**, Postbus 380, 6700 AJ Wageningen, The Netherlands



Overseas Development Institute
Regent's College, Inner Circle,
Regent's Park, London NW1 4NS
England.
Telephone: +44 71 487 7413
Telex: 94082191 ODIUK
Fax: +44 71 487 7590