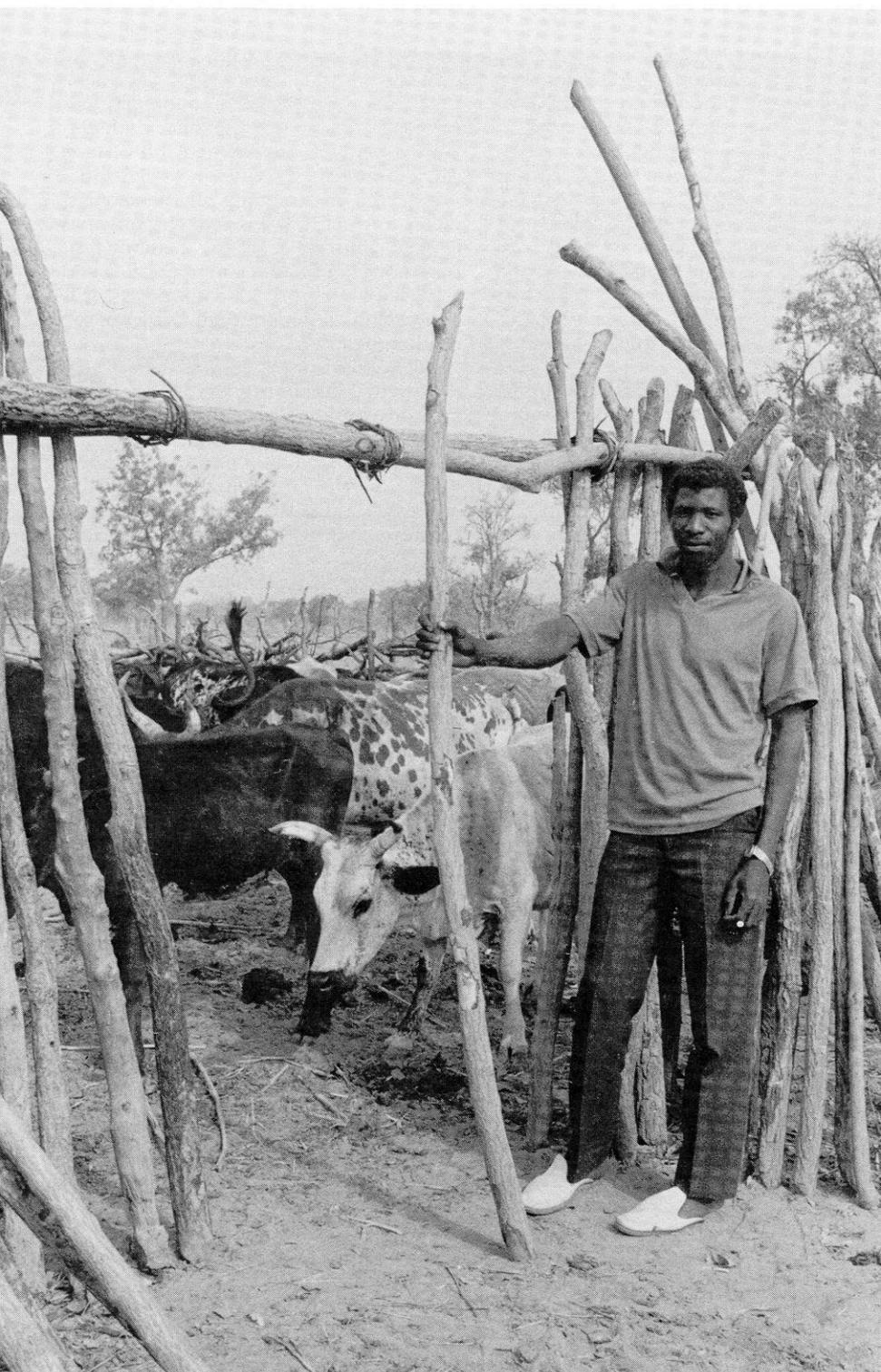


'UNDERSTAND THE FARMERS BEFORE INTERVENING'

MALIAN RESEARCHERS ON INNOVATION

Photos: Denis Marchand



Makam Diara in front of his animal enclosure.

DENIS MARCHAND

“It’s hard to imagine, but two years ago I left my cattle out in the bush for the whole dry season with a herdsman to watch over them for me,” recalls Mr. Makam Diara, the first farmer in the Malian village of Sakoro to corral his cattle.

“They went looking for food and water and then came back when the rains came. But sometimes they were too weak or too late to do the farm work on time.

“Now I keep them on my land. They stay in the enclosure during the night and for part of the day. I feed them on what’s left over from the harvest. They’re healthy and well cared for, and ready to work when the rains come. And they provide fertilizer that my fields really need.”

Every day, Mr Diara takes his 40 milk and draft animals out of the enclosure and cleans it. He saves the manure and food scraps and later spreads the mixture on fallow land or fields under cultivation.

During most of the day, the cattle feed on maize and sorghum stubble in the fields. They drink from the stream and graze nearby, under the watchful eye of Diara’s 10-year-old son.

Like most of his counterparts in southern Mali, Mr Diara used to be a subsistence farmer who practiced shifting agriculture. After clearing a plot of land, he would burn off all remaining vegetation and grow sorghum and cowpeas until the soil was exhausted. When harvests became too small to adequately feed his family, he would abandon the plot and clear another.

Today, the use of organic fertilizer and better soil management allow Mr Diara to grow not only maize and millet for his own use, but cotton which he sells to the Malian Textile Development Company. Anticipating good harvests for the next few years, he has built himself a granary to protect his crops from rain, moisture, and rodents.

Like Mr Diara, several other farmers from Sakoro and the surrounding area have changed their planting and stockraising methods. They are using slash-and-burn less and less, working their fields with a plough, and fertilizing for better harvests. Small farmers are growing millet, sorghum, maize, peanuts, and cotton on land they had previously exhausted. In less than two years, Sakoro’s grain production has gone from half a tonne to 2½ tonnes per hectare. Cattle are kept in collective or private corrals.

This change in farming habits and attitudes is the result of sustained efforts initiated in the early 1980s by the Rural Economics Institute of Mali's Ministry of Agriculture. The purpose of the agricultural development program it set up was to encourage the growth of maize and the use of manure and compost in the Bigouni-Sikasso area, which suffers from frequent dry spells and an alarming shortage of food.

Mr Moulaye Sangaré, a livestock officer with the division of rural production systems research, describes the project: "We weren't trying to implement anything revolutionary. Our main goal was to set up an information exchange between two groups of people — the farmers, who have the practical experience and knowhow, and the researchers, whose strong point is scientific theory. That's why the members of this extensive research project on farming systems, the first of its kind in Africa to be funded by IDRC, began by *listening* to the farmers instead of telling them what to do. They established a dialogue with the farmers right from the outset, and made them equal partners."

For Mr Sangaré, any development strategy that does not take into account the farmers' environment and goals is destined to fail.

Thus, in Sakoro and three other similar villages, the farmers have become part of the process, from program planning to evaluation. The research team members — an agronomist, an economist, a sociologist and a livestock officer — meet with the farmers on a regular basis (under the only tree in the area), taking note of their impressions and comments, and their suggestions as to the cause of poor yields.

The team also works with the farmers in order to identify their needs and aspirations, and the social, economic, and cultural constraints they face.

According to Mr Sangaré, this multidisciplinary approach has shown that the rural populace is not homogeneous, but very diverse. Large roadside villages do not have the same problems as the small isolated villages surrounded by countryside. And wealthy farmers don't have the same concerns as poor ones.

Project economist Hamadis Doucoure underlines the importance of economics in technology adoption: "It is important to know whether the proposed techniques are feasible and in keeping with the finan-

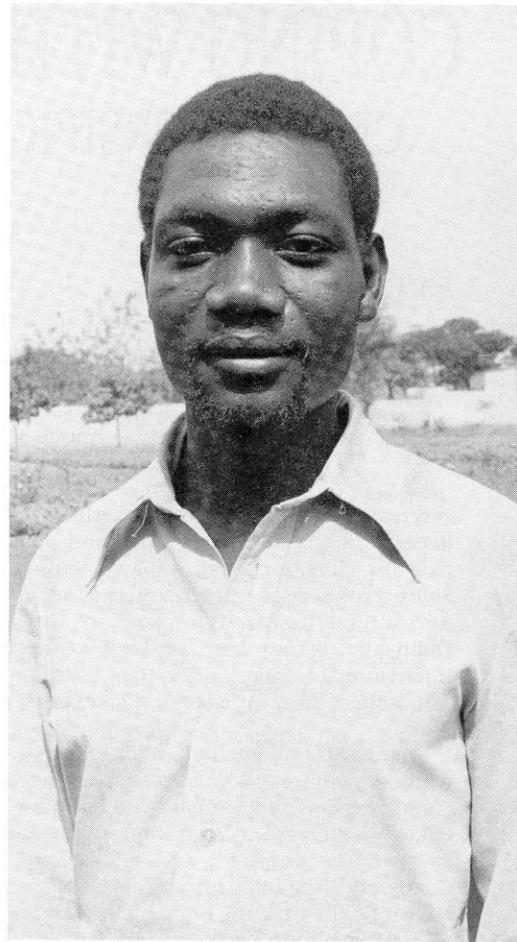
cial constraints on the region. Transport costs, for example, can paralyze a project completely. Why should a farmer grow vegetables if he can't take his crop to market because of poor roads? And why consider dairy farming if you don't have the financial resources to buy and feed cattle, let alone care for them properly?"

Mr Doucoure stresses that innovation generally involves financial risk. It must be recognized that in a situation of permanent hardship, the farmer's investment is based on the resources available at a given moment, not on hypothetical profit. His or her goal is not to maximize output but to ensure a livelihood for the family, regardless of production conditions.

When the research team arrived in Sakoro, even those farmers who had ploughs were not using them. The reason for this, explains agronomist Mamadou Abdul Kadai, was that no one had shown them how! "With no technical advice or training, the farmers were taking too long to plough the fields, and missing the first rains which are so important to crops. Or they would plough too deep and the seeds would rot with the result that, for all intents and purposes, the crops were lost. So the ploughs, which had been donated by expatriates or international organizations, were simply put aside. No one wanted to risk losing a crop just to try out a new technology."

Progress might seem slow to some experts, but it is definitely occurring — at a pace that suits the farmers, who, after all, are the ones taking the risks. New techniques being tested in Sakoro, Gladié, Flaboula, and Monzondougou are the talk of the region. People from neighboring villages watch the changes taking place and try to find out more about the new methods from friends and relatives. Some are getting very interesting results — which goes to show that farmers are not always resistant to change.

For Mr Kadai, the agronomist, new technologies are rejected because they fail to take into account the physical and economic environment in question, and because of a complete lack of understanding of the social dynamics of the target populations. "These villagers live in a different environment. They have their own methods for raising crops and animals. Their logic and way of life are based on personal experience and oral traditions handed down from generation to



Moulaye Sangaré, agronomist and livestock officer: "Listening to farmers is essential."

generation. It's important to realize how these cultures function, and the deep-seated reasons behind their actions."

Although it isn't unusual for new farming methods to be rejected by the farmers, neither is it unusual for the research team to modify its approach in order to collect the information it needs for its work — information that cannot be found on a research station. The knowledge and test results obtained right on the farm make it possible to identify new thrusts, and, if necessary revamp original plans.

"Farming systems research is a kind of bridge between basic research and development," says Mr Sangaré, for whom the systems approach is vital to enlightened decision-making. "It provides input for the conduct of basic research and encourages development. In addition, the multidisciplinary approach eliminates the prejudices of some local and foreign experts, who think that things are so bad that anything they do will improve the situation."

"Even if solutions are valid for one case, they must be adapted to the realities of each region, which are often very different." ■

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