



AGRICULTURAL EXTENSION IN MALI: EXPERIENCE OF “PROGRAMME NATIONAL DE VULGARISATION AGRICOLE”

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Introduction

The evolution of agricultural extension in Mali coincided with the introduction of various agricultural systems at different periods of time in the history of the country. Subsistence economy and tradition were the major systems of agriculture during the pre-colonial period. Oral knowledge transmission, or word of mouth, was used to disseminate information.

Production of food and cash crops for the metropolis were the main objectives of agriculture during the colonial period, 1900-1960. The postcolonial period (1960-1980) was devoted to ensuring self-sufficiency in food production and growing export crops. Two main approaches adopted were mass production and promotion of specific crops in specific geographical areas of Mali. The top-down supervision system was used to infuse huge financial resources into agricultural development. Unfortunately, a decade of drought in the 1970s severely hindered this approach.

Several development programs were implemented in 1972 to respond to the severe and continuing drought of the previous years. The drought had created a huge general food shortage, loss of livestock, drying up of water bodies (rivers, lakes, ponds, streams), and mass destruction of wildlife and flora. Rural development programs such as Operation Riz Mopti (ORM), Opération Mills Mopti (OM-M), Opération Haute Vallée du Niger (OHVN) and the Malian Company for Textile Development (CMDT) were implemented to ensure agricultural development and food security.

Like many other African countries -- such as La Côte d'Ivoire, Senegal, Guinea, Algeria, Chad and Nigeria -- Mali benefited immensely from bilateral and multilateral development assistance in the 1990s. Support from various donor organizations and development banks enabled Mali to implement many projects and programs with extension components. Mali has also experienced the traditional systems of education for young people (training and initiation) and more elaborate systems such as CAR (Rural Training Center), on-farm schools, PASAOP, Rural Family House (Maisons Familiales Rurales, MFR), just to mention a few.

Background and Context

Despite the introduction of many rural and agricultural development programs in Mali, a general assessment in the 1990s showed a poor transfer of technologies made available by research institutions, although agricultural extension components of the rural development programs were believed to be capable of coordinating various educational methods and techniques to bring about desirable changes in behavior of the people, introducing good environmental practices and improving the livelihood of farmers. The training of producers through appropriate extension programs remained the missing link for Malian agricultural development. The formal transfer system (extension) had to undergo changes in objectives, methods, strategies, targets and duration from the pre-colonial period to the present to respond to diverse socio-ethnic groups and geographical areas. The weakness of extension services to bring about development led to the creation of Programme National de Vulgarisation Agricole (PNVA) (Agricultural Extension in Mali) with the support of the World Bank in 1990. The PNVA was implemented countrywide from 1992 to 2000.

The PNVA is based on the “training and visit” system developed by the three well-known agricultural extension specialists Daniel Benor, James Harrison and Michael Baxter. According to Benor et al. (1984), the following criteria are critical for any extension system to achieve desirable changes in the behavior of people. The extension system must develop objectives and goals, content, audience and tools, implementation methods, and a monitoring and evaluation system.

Operation of PNVA

The organizational chart for management of PNVA in Mali is presented below. The PNVA operates at the national, regional, local and village levels. At the national level, the National Committee of Coordination (NCC) and National Coordination (NC) liaise with various national directors (agriculture, fisheries, livestock, functional literacy and farmer organization) and the Institute of Rural Economy to promulgate the activities of PNVA.

The Regional Committee of Coordination (RCC) and the regional director of agriculture (RDA) work with various desk officers of agriculture, fisheries, livestock, functional literacy, farmer organization and research to manage and supervise PNVA activities at the regional level.

At the local level, the agricultural office manager (AOM) and the Local Committee of Coordination (LCC) work with the local officers for livestock, forestry and farmer organization to ensure effective delivery of extension.

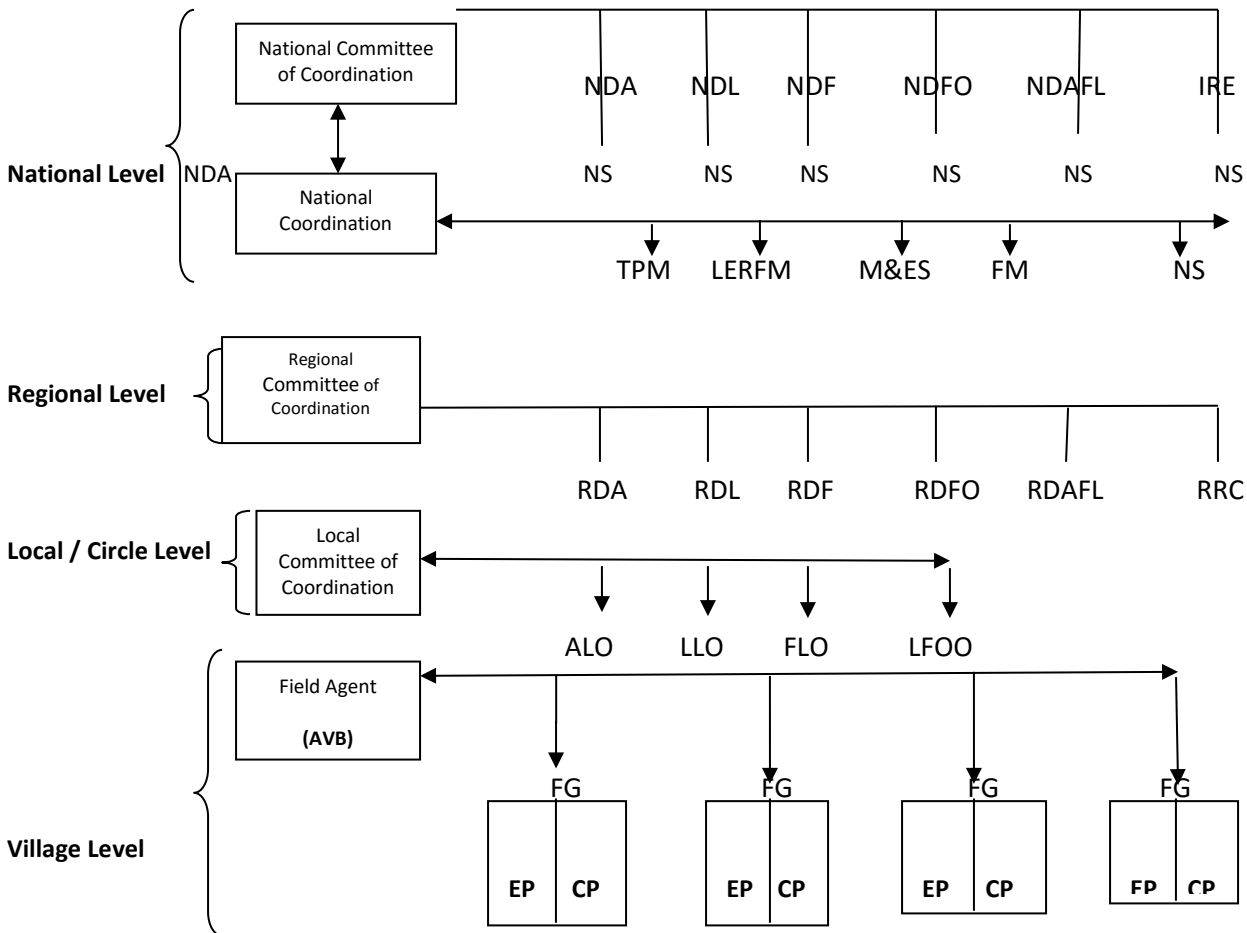
The field agent (AVB) and farmer groups are key elements of the PNVA system at the village level. The AVBs are therefore well-trained in diverse areas of agriculture and constantly assisted by technical specialists according to activities to be

implemented to ensure extension delivery at the village level. The AVBs set up experimental and control plots to demonstrate proven technologies to farmer groups.

The performance of any extension system must be flexible to constantly reflect the socioeconomic and politico-cultural contexts and the environmental practices of producers.

The PNVA, therefore, focused on organizing an extension system, building partnerships, practical technology transfer to field staff members and producers, linkage between extension, research and farmers, program planning, involvement of women in programs, and increasing production and productivity of farmers.

Organizational Chart of the Programme National de Vulgarisation Agricole, PNVA, in Mali



Legend:

NDA: National Directorate of Agriculture
NDL: National Directorate of Livestock
NDF: National Directorate of Fisheries
NDFO: National Directorate of Farmers Organization
NDAFL: National Directorate of Literacy and Functional Languages
IRE: Institute of Rural Economy
NS: National Supervisor
TPM: Training Program Manager
LERFM: Link Extension-Research-Farmer Manager
M&ES: Monitoring and Evaluation Specialist
FM: Financial Manager

RDA: Regional Directorate of Agriculture
RDL: Regional Directorate of Livestock
RDF: Regional Directorate of Forestry
RDFO: Regional Directorate of Farmers Organization
RDAFL: Regional Directorate of Literacy and Functional Languages
RRC: Regional Research Center
ALO: Agricultural Local Office
LLO: Livestock Local Office
FLO: Forestry Local Office
LFOO: Local Farmers Organization Office
FG: Farmer Group
EP: Experimental Plot
CP: Control Plot

Training

Training and knowledge transfer under the PNVA are planned, structured, organized and implemented using the "training and visits" model of extension delivery. There are annual program review workshops, monthly technology review workshops (TDMA), fortnight training (FQ), specific training (FS) and experience exchange visits. These training schemes are implemented after situational analysis with beneficiaries to identify, select and prioritize issues of concern to producers.

The field agent is the essential link in this system because he/she is the implementer of programs who comes in direct contact with farmers. The AVB should be multifaceted to meet diverse demands of producers in areas such as business development, production, storage, processing and marketing. AVBs are therefore trained in many areas and supervised to transfer knowledge in diverse areas of agriculture to producers.

Training and capacity-building of actors in the PNVA system vary according to projects and programs. A number of factors considered during training are:

- Objectives
- Targeted audience (producers, supervisors)
- Teaching tools
- Teaching methods
- Training duration
- Training place
- Funding
- Monitoring and evaluation

Challenges and How they are Addressed

The PNVA is a nationwide extension system that attempts to merge technical structures, farmer organizations, fieldwork and training. The single chain of command and integration of activities to avoid duplication ensure achievement of economies of scale in the implementation of the programs.

An initial challenge of PNVA was availability of well-qualified AVBs. AVBs were not versatile in all areas of agriculture. AVBs were supposed to be good agricultural monitors and experts in livestock and forestry, etc. The effectiveness of training in basic diagnostic skills -- identifying the needs of producers -- ensured that AVBs could deal with all concerns of producers in the field.

Another challenge is the difficulty of obtaining enough specialized technicians (agriculture, livestock, forestry, and farmer organization) to support AVBs in the performance of their duties. There is also a low ratio of supervisors to AVBs (1: 8-12). The lack of continued training of STs, the remoteness of villages, and the scarcity of research centers per region account for the low ratio.

Farmers lack financial resources to support the adoption of technologies. The weak linkage between producers and microfinance institutions makes it difficult for producers to access credit to support implementation of many technologies disseminated under the PNVA. The involvement of government in mobilizing funds and financing the planned activities is achieving some success.

Further problems are lack of managerial ability at the supervisory level in various technical departments (agriculture, livestock, forestry, cooperative action). Furthermore, the operational capability National and the Regional Coordination Committees is weak, with poor decision making and poor program coordination.

There is very low publicity of achievements of PNVA in both the print and other media (radio, TV).

What was the Source of PNVA's Success?

The PNVA has contributed significantly to the reorganization of agricultural institutions to improve the quality of interventions to beneficiaries. The integration of development activities (growing of crops, raising of animals and environment preservation) in addition to overall capacity building (training sessions for all stakeholders) make PNVA unique and efficient.

The main focus of PNVA is the source of its success because no other extension program had ever succeeded in developing such an effective organizational framework and tools in Mali. There is good organization of workers and stakeholders.

PNVA is the only structure in which the services and sectors such as agriculture, livestock, water, forestry, and cooperatives are merged to bring about rural development. Each of these sectors plays complementary roles and responsibilities toward the achievement of a common goal. This comprehensive and integrated development approach avoids duplications and contradictions in the introduction of interventions for the same producers.

The diverse, efficient and on-going training provided within PNVA for the field agents ensures that the specific and changing needs of producers are met. The technical topics in the monthly training sessions are adapted to the socioeconomic and cultural realities of producers, thanks to the linkage between research and extension.

Lessons that Could be Applied Elsewhere

Lessons learned from the implementation of PNVA that can be applied elsewhere to ensure success are:

- Putting in place and building an effective partnership between stakeholders (state technical services, research, NGOs, producers, and private sector) can ensure the success of extension efforts.
- Providing on-going and diverse training to all actors involved in the program implementation and forging

closer links to research can improve responsiveness to farmers' concerns.

- Implementation of supportive activities including funding can ensure sustainability of extension programs.
- Development of a program of joint activities involving all stakeholders should include clarification of roles and responsibilities.
- Involvement of beneficiaries in program activities and annual development planning can increase ownership of and contributions to the program by beneficiary communities.

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Disclaimer

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