WEST AFRICAN FOOD SYSTEM RESILIENCE PROGRAM (PRSA/FSRP)

MAPPING INNOVATIVE FARM ADVISORY METHODS AND TOOLS FOR SCALING UP AGRICULTURAL INNOVATIONS AND TECHNOLOGIES

EIGHTEEN CAPITALIZATION SHEETS ON INNOVATIVE FARM ADVISORY METHODS AND TOOLS

August 2024

Study conducted by the Network of Agricultural and Rural Advisory Services in West and Central Africa

Funded by the European Union

Study conducted in 13 West and Central African countries

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Capitalization sheets on innovative farm advisory methods for scaling up agricultural technologies and innovations

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CAPITALIZATION

Documentation on the Method of Agricultural Training Centres

August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

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1. Overview of the Agricultural Training Centre Method

The method of the agricultural training centre primarily focuses on strengthening the capacities of farmers (learners). However, the training centre is essentially a method for disseminating agricultural technologies and innovations. Several methods and tools can be integrated into training centres, including field schools, demonstration plots, printed materials, digital platforms, etc.

2. Brief Description of the Types of Beneficiaries Supported by the Method

The farmers being supported through the training centres are generally smallholder farmers who are literate in English. They are typically young (under 35 years old) and aspire to engage in agriculture as an economic activity (agribusiness).

3. Necessity and Objective of the Method

Agricultural training centres are established to address the social inequalities encountered in the dissemination of agricultural technologies and innovations (taking into account women, youth, and people with disabilities) and strengthen the skills of learners in solving agro-sylvo-pastoral production challenges faced by local communities. The objectives of

this tool include: (**i**) inspiring and training young people for agricultural occupations, (**ii**) adapting training programmes to the needs of economic markets, (**iii**) training agricultural entrepreneurs, and (**iv**) enhancing the entrepreneurial capacities of existing workers, among others.

4. Methodology for Implementing the Method

For the creation and effective operation of training centres, certain changes and innovations are necessary, including: (**i**) developing communication, linguistic, and socio-anthropological skills among learners, (**ii**) fostering a vocation for agricultural careers, and (**iii**) supporting the change in farmers' practices through the application of good agricultural practices.

The recruitment and training of learners follow these steps:

- Programming the training session: updating training modules according to objectives and needs, mobilising trainer teams and resources, etc.
- Planning and meeting with local authorities: organising a meeting with local authorities.
- Radio announcement: preparing and broadcasting a radio announcement to launch the call for applications.
- Application processing: receiving and processing the applications.
- Result selection: posting the results of the selected learners.
- Discussion meeting: holding a meeting with the selected learners.
- Choosing the demonstration site: selecting the site for demonstration.
- Site preparation: dividing and allocating the site according to the practice objectives.
- Conducting activities: carrying out experimental and/or demonstration activities.
- Monitoring and evaluation: monitoring and evaluating the activities at the demonstration site.
- Comparing results: comparing the results at the end of the experiment.

- Assessing technology adoption: evaluating the degree to which learners have adopted the technologies and innovations.
- Recommendations: formulating recommendations for further adoption and dissemination of the technologies among learners.

5. Impacts of the Method

It is difficult to specify the exact number of the people trained through agricultural training centres. For example, in Burkina Faso, several agricultural training centres have over the years contributed to the training of numerous agents and farmers, with training flows estimated at 12,000 learners per year, of which **37%** are women (reseau-far.com).
Training centres have achieved the following: (**i**) breaking down linguistic, gender, religious, and physical barriers; (**ii**) providing a solution for the production and multiplication of healthy seeds; (**iii**) improving yields and the organoleptic quality of cultivated products, and gradually scaling up new production methods through farmer-to-farmer exchanges; (**iv**) demonstrating to farmers the importance of identifying a market for their products before commencing production.

According to farmers, the training they received has led to increased yields thanks to better farm management and higher incomes through the processing of harvested products. Modules on market research and marketing have facilitated access to new markets. For young people, access to new markets is evidenced by online sales and networking among young agricultural entrepreneurs as well as cooperatives.

6. Technologies and Innovations Promoted Through the Method

Professional agricultural training centres play a key role in disseminating and promoting agricultural technologies. They serve as a bridge between research and farmers while training farmers in innovations that enhance productivity, climate resilience, and the sustainability of farms. The technologies promoted and adopted in these centres include, among others:

- Agroecology and conservation agriculture (Altieri, 2018)
- Agricultural mechanisation (Pingali, 2007)
- Irrigation and water management (FAO, 2011)
- The use of biotechnologies (Qaim, 2020)

- Digital agriculture and smart agriculture (Wolfert et al., 2017)
- Sustainable fertilisation techniques (Vanlauwe et al., 2015)
- Integrated pest and disease management (Pretty and Bharucha, 2015)
- Sustainable livestock farming and optimised animal feeding (Thornton and Herrero, 2015)
- Technical guidelines for specific crops
- The use of improved seed varieties
- Production and use of organic manure
- Line sowing
- Various soil management practices tailored to different crops
- Phytosanitary protection of crops
- Use of technical datasheets for specific crops and seed varieties, etc.

7. Average implementation costs of the agricultural training centre method

Establishing an Agricultural and Rural Training Centre (CFAR) is a significant and costly project (Fert, n.d.). Although the pedagogical farms of CFARs can generate their own resources, the pursuit of internal profitability may sometimes conflict with the quality of training (Fert, n.d.). Investment costs for CFARs can range from 363,500 euros (Fekama Agricultural College) to 451,600 euros (CFAR of the Savannahs) (Fert, n.d.).

Costs include the installation of the centre (buildings and equipment) as well as specific operating expenses such as: training fees for farmers; costs for adapting training modules related to new innovations or technologies; acquisition costs of agricultural inputs (seeds, farming equipment) for practical exercises; travel expenses (fuel, food and beverage, accommodation) for consultants and other people such as workers and agents; site development expenses (clearing, preparing planting beds, etc.)

8. Strengths and limitations of the method

Strengths:

The main strengths of the agricultural training centres as identified in the literature and during the national discussion and evaluation workshops and during the interviews for the documentation of methods and tools are as follows:

- Availability of qualified staff to supervise learners.
- High enthusiasm among young people for training in agricultural professions.

- A favourable political context for establishing agricultural training centres.
- Improved skills and professionalisation of learners.
- Access to innovations and new technologies.
- Promotion of entrepreneurship and rural development.
- Support for the agroecological transition.
- Adaptation to local needs and a diversity of training programs.

Limitations:

- Very high costs for establishing a centre (buildings and equipment) and its operation (mobilising supervisory staff and learners, consumables, etc.).
- Insufficient financial resources allocated to centres for enhancing trainer expertise and updating training modules, as well as for adapting training materials for different social groups.
- Limited infrastructure and equipment.
- Challenges in professional insertion and slow adaptation to climatic and economic challenges.

9. Prerequisites for success and the role of various stakeholders in the success of the method

The success of agricultural training centres is influenced by: (**i**) the development of consistent training programs tailored to farmers and local markets, (**ii**) clear coordination and collaboration among stakeholders, effective and better management of the centre's human and financial resources. For the success of a training centre, it is important to consider: (**i**) availability of agricultural land for the centre's activities, (**ii**) diversification of training topics to cover all aspects of farming, (**iii**) a higher proportion of practical training compared to theoretical instruction, (**iv**) provision of starter kits to learners at the end of their training cycle to enable self-employment, turning them into model farmers who facilitate peer-to-peer dissemination of agricultural technologies and innovations.

The experience of setting up agricultural training centres shows that: (i) agricultural advisory services alone can improve farmers' yields and living conditions by **30%**; (**ii**) agricultural advisory services must be a fully-fledged profession; (**iii**) achieving food sovereignty requires the implementation of a well-reasoned, planned, properly financed and sustainable national agricultural advisory and extension strategy.

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CAPITALIZATION

Documentation on the SHEP (Smallholder Horticulture Empowerment & Promotion) method

August 2024

Funded by the European Union

Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

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1. Overview of the SHEP method

The SHEP (Smallholder Horticulture Empowerment & Promotion) was designed as an agricultural advisory tool aimed at providing specific solutions to these underlying issues. It can be described as an agricultural extension approach that promotes market-oriented farming among smallholder farmers (JICA, 2018). It was developed in Kenya in 2006 through a technical cooperation project between the Kenyan Ministry of Agriculture and JICA (Sugimoto Fall, 2022).

The key features of SHEP include supporting agricultural activities, particularly by promoting the sharing of market information between farmers and market stakeholders, thereby reducing the information gap, and designing a series of activities that take farmers' motivation into account (JICA, 2018). According to JICA (2018) and Sugimoto Fall (2022), the vision of SHEP is to maximise farmers' initiative by following four key steps: (**i**) sharing the goal and vision of success with target farmers, (**ii**) encouraging farmers to become aware of business opportunities through market research initiated by the farmers themselves, (**iii**) enabling farmers to make decisions on crop selection and cultivation schedules, and (**iv**) equipping farmers with skills to improve their agricultural practices.

SHEP seeks to bring about a behavioural change among farmers and extension officers. It shifts the focus from a "produce and sell" approach to a "produce to sell" mindset. The goal is to empower smallholder farmers to engage in market-oriented agriculture.

The SHEP method is currently used in nearly 51 countries worldwide (Sugimoto Fall, 2022), with around thirty African countries having adopted and implemented the SHEP approach (Mwangi et al., 2021).

2. Brief description of the types of beneficiaries supported using the SHEP method

The SHEP method is primarily used with small-scale farmers who have limited agricultural land, with a maximum plot size of 2 hectares. This includes young people, women, and men alike. These households typically practise mixed farming, with a strong focus on vegetable production. In terms of livestock farming, the SHEP approach concentrates on small ruminants and poultry farming, which are well suited to small-scale producers. The main crops grown and sold by these households include various types of vegetables. The marketing of these products mostly takes place at the local level, although some er Farmers' organisations (FOs) have the opportunity to access markets in nearby towns

3. Necessity and Objective of the SHEP Method

The SHEP (Smallholder Horticulture Empowerment & Promotion) method was introduced in many West African countries from 2014 onwards with the support of the Japan International Cooperation Agency (JICA) to address the specific challenges faced by small-scale horticultural producers. This methodological choice was driven by several key observations: a significant proportion of the agricultural population in these countries consists of smallholder farmers whose incomes remain low due to exploitation by intermediaries, high transportation costs, and a lack of knowledge about market prices. This situation also leads to increasing information asymmetry and post-harvest losses caused by the absence of effective marketing strategies. The SHEP approach was introduced to tackle these issues by transforming agriculture into a commercial activity and empowering farmers to become entrepreneurs. The goal of SHEP is to improve the marketing of agricultural products and increase farmers' incomes. The services provided under this approach include sharing the vision behind SHEP, raising awareness of its importance, supporting decision-making for commercialisation, and offering solutions for market access and partnership development.

4. Implementation Methodology of the SHEP Approach

The SHEP method is implemented through a four-step support cycle:

- Vision sharing (awareness-raising workshops);
- Awareness-building (baseline surveys, market studies, networking forums);
- Decision-making (selection of target crops, development of action plans, cultivation schedules);
- Solution provision (technical trainings).

5. Impacts of the SHEP method

According to Sugimoto Fall (2022), more than 225,807 smallholder farmers have benefited from the SHEP method, with support from approximately 25,438 agents involved in SHEP activities. In Kenya, for instance, a project promoting this method has reached over 20,000 smallholder farmers (MOALF and JICA, 2020, cited by Mwangi et al., 2021). In Senegal, documentation study results indicate that the SHEP method has enabled **13.4%** of horticultural producer unions in the implementation area to gather information to improve their income. Additionally, **76.9%** of producer organisations have modified their production and commercial activities using SHEP tools. Furthermore, **96%** of targeted farmers have started collecting information to enhance their income, and more than **54%** of producer groups have observed an income increase of over **20%** since the method was introduced. About **62%** of unions in the implementation area have also experienced growth in their horticultural income. The direct beneficiaries include 2,594 individuals (1,128 women and 1,466 men), with 20,887 indirect beneficiaries (7,234 women and 13,653 men).

Farmers have reported an increase in income due to better market connections, strengthened business relationships, and an improved understanding of their economic environment. Access to new markets has been facilitated through business trips, enabling producers to establish partnerships with traders and other value chain stakeholders.

According to other sources, farmers have been able to apply the skills and knowledge acquired through SHEP training, leading to positive effects on their farms (Mwangi et al., 2021). On average, SHEP has helped farmers increase their horticultural income by **70%** to **80%** over two years (Mwangi et al., 2021; Sugimoto Fall, 2022).

6. Technologies and Innovations Promoted through the SHEP Method

Several technologies and innovations have been promoted through the SHEP approach, including:

- Promoting market-oriented agriculture;

- Creating forums for value chain stakeholders;
- Conducting market studies by farmers themselves;
- Encouraging farmers to maintain records to track production costs, improving cost management and profitability awareness;
- Establishing business relationships through market visits and study tours;
- Diversifying production to meet market demands identified through market research;
- Facilitating access to new services such as microcredit and irrigation technologies.

7. Average Implementation Costs of the SHEP Method

The costs associated with implementing the SHEP method mainly include transportation expenses for market research activities and forums, as well as financial support for agricultural advisors. These costs can be partially covered by farmers' organisations or the participants themselves. This method stands out for its cost-effectiveness, as it provides broad coverage of farmers at a relatively low cost.

The successful implementation of the SHEP approach requires various inputs, including human resources, training materials, equipment, and operational expenses (Mwangi et al., 2021).

8. Strengths and Limitations of the SHEP Method

The main strengths and limitations of the SHEP method identified during the national discussion and evaluation workshops and during the interviews on the documentation of methods and tools are as follows:

Strengths of the SHEP Method

- Simplicity and flexibility of the approach;
- Lower implementation costs.

Limitations of the SHEP Method

Initial farmer dependency on external aid is a key limitation, as it can lead to high expectations for continued support, necessitating proactive communication to prevent misunderstandings.

9. Prerequisites for Success and the Role of various Stakeholders in the SHEP Method

The prerequisites for the successful implementation of SHEP include clear communication from the outset to align expectations, active engagement from both beneficiaries and advisors, and strong institutional support. The main roles of institutional and other key stakeholders are as follows: local and national institutions must support and legitimise the method to ensure its sustainability; cooperation with horticultural value chain stakeholders is essential to strengthen the effectiveness of the approach while facilitating access to market and resource availability. In addition, market knowledge is essential for effective guidance on production, with efforts also dedicated to marketing and value chain management.

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CAPITALIZATION

Documentation on the Radio programmes Method

August 2024

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Introductory Note

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1. Overview of the radio programmes method

The Radio programme is a virtual platform for exchanging information on a given subject via radio among various stakeholders. It is achieved through a methodological process starting with the selection of a topic, the development of content, animation strategy, target audiences, and the ideal timing. It is thus considered as a method given its specific approach. Radio, as the dissemination channel, is the tool used alongside supporting information materials such as technical fact sheets. Radio is often combined with other ICTs—like mobile phones that allow farmers to respond and ask questions during the programme, portable voice recorders (e.g., MP3 recorders), and voice servers that enable two-way communication with the target audience (for example, by providing pre-broadcast information such as market prices, weather forecasts, and recaps of previous programmes).

2. Brief Description of the Types of Beneficiaries Supported by Radio programmes

Through Radio programmes, vulnerable groups gain access to technologies even if they do not own a radio set. According to farmers, all categories of farmers can access technologies via radio programmes.

In Africa, most farming communities live in rural areas—an estimated two billion people reside in rural zones of developing countries (Atelier international sur la radio rurale). In

these areas, the link between agriculture and rural development is vital since the majority of the population depends on agriculture for their livelihood.

The use of local languages in radio programmes helps target farmers with low literacy levels (David and Cofini, 2019), thereby reaching a large number of farmers. According to Rao (2015), a community radio station can reach up to 200,000 households.

3. Need and Objective of Radio programmes

Radio programmes were initiated in a context where farmers did not have real-time access to certain technical information to facilitate their farming operations. In addition, some remote areas were difficult to reach through conventional advisory activities. Moreover, in many localities, farmers already used radio for information and other needs. Agricultural advisory actors seized this opportunity to multiply communication channels to reach as many farmers as possible, especially in remote and inaccessible areas. The use of radio programmes was therefore necessary to: (**i**) communicate with farmers, (**ii**) reach a greater number of farmers in a short period, (**iii**) overcome barriers (such as COVID-19 restrictions and insecurity in remote areas), and (**iv**) foster interactions between farmers and between farmers and technicians during interactive programs. The objectives of these radio programmes are to: (**i**) reach the maximum number of farmers, (**ii**) respond in real time to farmers' concerns, and (**iii**) provide timely advice as the agricultural campaign evolves.

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4. Implementation Methodology of Radio programmes

The implementation of the Radio programme method follows these steps:

- Assess the needs of farmers;
- Preparing the topics to be developed in response to farmers' needs;
- Establisingh and signing partnerships with radio stations for the broadcasts;
- Developing the broadcast schedule in collaboration with the radio stations;
- Produce micro-programs (audio and/or video technical messages) to be aired;
- Conduct the Radio programmes with radio hosts and the technical expert on the subject.

During the broadcasting time, a brief summary of the agricultural activities for the period is presented to provide advice and open the floor for interaction.

5. Impacts of radio programmes

The main services provided by radio programmes include disseminating information and technologies, building farmers' capacity on technical production methods and phytosanitary practices, as well as on other production, harvesting, conservation, and processing methods.

Radio programmes positively influence farmers' behaviour by encouraging the adoption of technical production methods, enhancing knowledge about products for phytosanitary treatments, and more. In focus groups, men noted that these radio programmes promoted the use of improved seeds, organic fertilisers, biopesticides, and a reduction in production areas for easier maintenance. Women reported that the radio programmes helped them understand the production techniques for various crops and the proper doses of agricultural inputs.

With the adoption of these technical production methods, including selecting the best varieties, there is often an improvement in agricultural yields. Although difficult to evaluate due to the many factors generating yield, focus groups reported maize yields increasing by 30 to 40 sacks of 100 kg per hectare, while women noted improvements in peanut yields (an increase of 2 to 3 sacks) and maize (an increase of 20 to 30 sacks of 100 kg per hectare).

Furthermore, *Radios Rurales Internationales* demonstrated that radio programmes increased the demand for seeding materials and resulted in more farmers being willing to try innovations (Rao, 2015). Moussa et al. (2011) showed that radio increased interest and the adoption of triple bagging for cowpea by Nigerian farmers. Additionally, radio programmes enabled over 50% of listening farmers to enhance their knowledge of teff (Eragrostis tef) cultivation in Ethiopia (Rao, 2015).

6. Technologies and innovations promoted through radio programmes

Several technologies and innovations have been promoted via radio programmes. These include sustainable packaging management, sustainable soil fertility management, household income management, safe use of pesticides, micro-dosing, production and use of organic fertilizers, improved seeds, and more.

7. Average Implementation Costs of radio programmes

The overall cost for implementing a radio programme includes the personnel costs for the radio, technical support from agricultural experts, production costs for the programme, and

airtime, which will vary depending on the type of station (David and Cofini, 2019). Community radio stations can be set up with a modest budget of US$20,000 (covering equipment, broadcasting licence, and other essential items) (Rao, 2015). For instance, a Bolivian radio programme that aired six three-minute sequences on bacterial rot of potato cost USD 840 and reached approximately 2,000 farmers (approximately USD 0.42 per farmer) (Bentley et al., 2007). A four-month radio programme on teff in Ethiopia cost around USD 0.38 per farmer (Rao, 2015).

Implementation costs also depend on the organisational structure. For example, in the case of SOFITEX in Burkina Faso, with a minimum annual budget of 700,000 FCFA, a partnership can be established with a rural radio station to host at least one radio programme per month—averaging 58,333 FCFA per broadcast. With each broadcast reaching over 100 farmers, this amounts to about 583.33 FCFA per farmer per broadcast. The more listeners there are, the lower the cost per farmer.

8. Strengths and limitations of radio programmes

The main strengths and limitations of the radio programme method, as identified during national discussion and evaluation workshops and through field interviews, are as follows:

Strengths of the method:

- Availability of radio stations that are open to collaboration;
- High enthusiasm among farmers, demonstrating a clear need;
- High farmers' enthusiasm for the method
- Ability to reach a large number of farmers across all profiles and categories at low cost;
- Capability to deliver a uniform message to many farmers, with the option to tailor messages by region (via rural radio);
- Facilitation of experience sharing among farmers; etc.

Limitations of the method

- Insufficient financial resources to produce the broadcasts;
- Lack of detailed information about the listeners (making it difficult to determine the number of people who tuned in, their locations, profiles, and villages);
- Security challenges in certain localities.

9. Prerequisites for success and the role of various stakeholders in the success of radio programmes

The success of radio programmes is due to:

- The method being well adapted to the profiles and categories of farmers;
- Broadcasts addressing the current needs of farmers;
- Fixed broadcast schedules (with known day and time for farmers);
- Extensive coverage of multiple areas via radio waves; etc.

Key lessons and messages from using Radio programmes in agricultural advisory include:

- Farmers need real-time reference information on current issues (such as input costs, cotton prices, etc.) to better manage their activities;
- It is essential to provide a channel for farmers to express their needs;
- Building trust with farmers is crucial for the success of interactive broadcasts.

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1. Overview of the Farmer Business School (FBS) Method

The Agricultural Entrepreneurship School or Farmer Business School (FBS) is an adaptation of the farmer field schools designed to strengthen the business management skills of smallholder farmers (David and Cofini, 2019). The FBS approach is a comprehensive adult learning method that aims to change the mindset of smallholder farmers by raising their awareness of market opportunities and the possibilities for improving productivity, family income, and nutrition (GIZ, 2019).

The FBS method was developed by GIZ in 2010 and has been used in various projects to train 480,000 male and female cocoa farmers in 4 West African countries (Côte d'Ivoire, Ghana, Nigeria and Togo) and one Central African country (Cameroon) according to GIZ (2024a). After a successful pilot in 2017, during which 7,206 smallholder farmers were trained in the soybean, groundnut and cassava value chains in Malawi, FBS was expanded in 2018 to reach 15,510 smallholder farmers in the old and new value chains adopted (GIZ, 2019). Globally, more than 1,930,000 African farmers (**35%** women) across 25 African countries have been trained in Farmer Business School (FBS) since 2010 (GIZ, 2024b) and the method is widespread in more than 16 countries in West, Central, and East Africa (Matthess et al., 2017).

2. Brief description of the types of beneficiaries supported by the Farmer Business School (FBS) method

The FBS method is primarily used to support agricultural cooperatives as well as small family farms, which typically average around 2 hectares of land and generally practice manual, minimally mechanised agriculture. Cooperatives usually have between 15 and 30 members with varying individual landholdings depending on the crop, averaging around 5 hectares for cocoa. In addition to cocoa and plantain, the beneficiaries also produce cereals, legumes, roots and tubers, as well as engage in livestock production (poultry, small ruminants, pork) and tree crop cultivation (oil palm).

3. Necessity and Objective of the Farmer Business School (FBS) Method

The introduction of the FBS method was primarily aimed at transforming cooperatives into true enterprises capable of creating sustainable wealth. The goal was to elevate cooperatives to an entrepreneurial level by making them autonomous and revenue-generating, rather than operating as simple groups waiting for government subsidies. This transformation was intended to change the perception of cooperatives by demonstrating their central role in entrepreneurial development. The method was thus designed to address shortcomings observed in the functioning of cooperatives, particularly their dependence on subsidies and their lack of autonomy in managing businesses. Furthermore, the FBS was developed to strengthen farmers' skills, improve their productivity and incomes, promote the adoption of agricultural technologies, and enhance resilience to climate change. The FBS also aims to empower youth and women and contribute to rural development while improving food security and promoting environmentally friendly agricultural practices.

4. Methodology for implementing the Farmer Business School (FBS) method

The FBS is implemented in several steps: Identification of farmer groups, awareness-raising among potential beneficiaries; identification and prioritisation of problems, organisation of FBS training sessions, monitoring and evaluation of training sessions, development, implementation, and follow-up/supervision of beneficiaries' business plans, overall coordination of activities

The FBS method is inclusive, taking into account women, youth, and other vulnerable groups. For example, in Nigeria, of the 650 FBS established, 173 were entirely composed of women and 37 were mixed groups.

5. Impacts of the Farmer Business School (FBS) Method

The Farmer Business School (FBS) approach has a positive impact on agricultural yields by helping farmers adopt an entrepreneurial perspective (David and Cofini, 2019). Through this approach, farmers improve their efficiency, profitability, and ability to adapt to market fluctuations (Imorou and Afouda, 2018). Trainings based on experiential learning also enable farmers to practically apply the concepts learned, which can lead to significant increases in yields.

GIZ (2024a) data indicate that **50%** of FBS graduates interviewed have savings in a bank or within their cooperative, and **41%** have accessed agricultural loans. According to the same source, **40%** of the groups that were trained have registered or reactivated farmer organisations; **74%** use FBS tools for planning, record-keeping, and calculating losses/profits; more than **50%** of FBS groups organise group purchases and sales of inputs; and **45%** of groups have joined a cooperative or association.

According to interviews conducted during case study documentation, the adoption of technologies through the FBS in Nigeria significantly improved agricultural yields—from 2 to 3 tonnes per hectare up to 5 to 7 tonnes per hectare, representing an average increase of about **250%**. This yield increase has led to higher incomes for farmers, with some beneficiaries experiencing income increases of over **100%** due to higher production.

6. Technologies and Innovations Promoted Through the Farmer Business School (FBS) Method

Several technologies and innovations have been promoted through the FBS method, including:

- Integrated Pest Management (IPM)
- Water management
- Row planting and single-plant transplanting
- Use of deep placement technology for urea (PPU)
- Adoption of new crops and crop varieties
- Diversification of crops

7. Average Costs for Implementing the Farmer Business School (FBS) or Cooperative Business School (CBS) Method

It is difficult to define the exact cost of implementing the FBS method, but an estimate is possible based on feedback from projects and programs that have used the method. According to GIZ (2015), in various projects—excluding trainer salaries—the direct cost of FBS training is between an average of 8 and 13 euros per farmer, which is approximately 5,250 to 8,500 FCFA per beneficiary. This amount reflects the actual cost that each organisation must consider before organising an FBS training, assuming personnel are available (GIZ, 2015). In some countries, projects have managed, after extensive awareness campaigns, to reduce the direct cost to 7 euros (approximately 4,600 FCFA) per farmer. When trainer salaries are included, the total direct cost varies between 11 and 17 euros (7,215 to 11,150 FCFA) for each farmer trained in the FBS approach (GIZ, 2015).

For example, in Nigeria, according to project data from interviews during the method's documentation, the cost to deploy an FBS is about 1.5 million naira (approximately 1,000 USD) for two seasons of 4 to 5 months each, or about 3.0 million naira (2,000 USD) per FBS—an investment that proves relatively effective given the number of beneficiaries reached and the scope of the activities.

8. Strengths and Limitations of the Farmer Business School (FBS) Method

The main strengths and limitations of the FBS method, as identified during national discussion and evaluation workshops and through documentation interviews, are as follows:

Strengths of the Farmer Business School (FBS) Method

The FBS method has several remarkable strengths. It builds farmers' capacities through learn-by-doing, enabling them to actively participate and become experts in their field. The participatory approach fosters strong involvement from farmers, reinforcing their sense of ownership and commitment. Additionally, the method promotes group cohesion, facilitating knowledge sharing and the adoption of innovations

FBS contributes to the professionalisation of the agricultural sector by making cooperatives more empowered and professional, with improved management and profitability. The method is flexible and can be adapted to different contexts and the specific needs of

producers. It offers a structured training framework that facilitates the implementation of innovative agricultural practices.

Limitations of the Farmer Business School (FBS) Method

Despite its strengths, the FBS method has some limitations. The method focuses on only one crop per season, which limits the immediate diversification of skills. Additionally, the success of an FBS depends on the unanimous agreement of group members on the choice of a company, which can be challenging in cases of disagreement. Moreover, the FBS method requires a minimum level of literacy, which may exclude some individual farmers. Furthermore, FBS primarily targets farmers organisations, whereas individual farmers are more numerous, which can limit the method's overall reach.

9. Prerequisites for Success of the Farmer Business School (FBS) Method and the Role of Various Stakeholders

Key success factors for FBS include the engagement and training of farmers, political support, especially through agricultural promotion policies that emphasise agriculture as a business, and the support of well-trained master trainers and facilitators, which are essential for the method's effectiveness.

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CAPITALIZATION

Documentation on the Agricultural Fair

August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of the Agricultural Fair Method

Holding agricultural fairs is a method for disseminating research technologies and may also be arranged for other purposes. For example, there are fairs for improved or local seeds, which serve as exhibition platforms for the different varieties of various crops; innovation fairs, which showcase the various innovations developed around specific themes; knowledge fairs; etc. Fairs therefore help to raise awareness about food security, promote agricultural products within the national economy, highlight producers' skills, and disseminate both local and improved seed varieties. Other types of fairs are described by some authors depending on their areas of interest. In this regard, there is the agricultural technology fair, which is generally organised by the Technologies for African Agricultural Transformation (TAAT) Programme and CORAF. The objective of this fair is to present the agricultural technologies from the TAAT programme and those of CORAF's National Centres of Specialisation or Excellence, in order to promote their brokerage, adoption and integration into agricultural transformation and the socio-economic development of West and Central African countries.

Catholic Relief Services (CRS), for its part, describes four (4) main types of agricultural fairs, noting that all successful ones share the fact that they are well-timed and have clearly defined objectives (CRS, 2017). These four (4) main types of fairs are:

- The CRS Seed Voucher and Fair. This fair originates in East Africa and aims to enable farmers affected by disasters to obtain the seeds of their choice; it is generally geared towards local sellers/farmers, although it may also include the private sector and public authorities.
- The DiNER Fair (Diversity for Nutrition and Enhanced Resilience). This fair originates in Southern Africa. Its aim is to improve access to a variety of agricultural products and seeds to enhance household nutrition, increase food security and resilience. It includes education on nutrition, household decision-making processes, private sector input suppliers, community-based multipliers and individual sellers.
- The Livelihood Fair, which originates in South Asia. The aim of this fair is to protect and restore livelihoods. It often includes seeds, livestock and other non-agricultural goods.
- The Livestock Fair. This fair originates in East and Central Africa. Its aim is to improve access to livestock and the resources required for their upkeep.

2. Brief Description of the Types of Beneficiaries Supported by the Agricultural Fair Method

Agricultural fairs are suitable for all categories of producers. Men, young people, women and people with certain disabilities can all take part in agricultural fairs. Depending on the objectives of the fair, the appropriate profile of participants should be targeted. Thus, the method of organising the fair must take into account the participants' level of education and their languages.

3. Objective of the Agricultural Fair Method

The objective of holding fairs is manifold, including:

- Enabling participants to discover and appreciate the agricultural products on display;
- Fostering exchanges and/or the sale of agricultural products and technologies;
- Establishing business relationships among actors in the agrosylvopastoral value chains;
- Creating and strengthening partnership relations between producers, researchers, technical services and projects.

4. Methodology for Implementing the Agricultural Fair Method

The organisation of an agricultural fair can follow these steps:

- Framing the activity by the initiator: defining objectives, dates, venues, etc.;
- Identifying and communicating the conditions and criteria for participation;
- Identifying the participants;
- Identifying and selecting the thematic areas, products and technologies to be presented;
- Defining the specifications for the samples to be displayed and the available quantities;
- Defining the accompanying information that should be provided with the samples;
- Arranging the layout of the fairgrounds;
- Preparing the communications for the event;
- The actual conduct of the fair;
- Monitoring and evaluating the fair's activities and formulating recommendations for improvement.

5. Impacts of the Agricultural Fair Method

Holding a fair creates a forum for exchanges among producers and various actors in the value chains, which facilitates the uptake and adoption of the displayed technologies and the distribution of certain products, such as improved seeds (CRA-Maradi, 2015).

For the knowledge fair, which is a vibrant, interactive and collaborative workspace featuring lively discussions and practical demonstrations, the facilitated sessions allow participants to learn how others have improved the efficiency and quality of their work. Fairs, like other types of events, are networking opportunities that allow contacts to be established, ideas to be linked and viewpoints to be exchanged naturally in a relaxed setting (FAO, 2014).

6. Technologies and Innovations Promoted Through the Agricultural Fair Method

Several technologies and innovations are promoted through the agricultural fair method. These include:

- Agricultural inputs, including improved seeds;
- Improved breeds of animal species;

- Agricultural equipment and machinery;
- Technical fact sheets on the production, conservation and processing of agrosylvopastoral products; etc.

7. Average Costs for Implementing the Agricultural Fair Method

The organisation of fairs is time-consuming; it presents logistical challenges and is costly (David and Cofini, 2019). It takes into account the rental of the venue and equipment, advertising and the transport of farmers. Consequently, the cost of organising fairs, exhibitions and agricultural events can vary considerably.

8. Strengths and Limitations of the Agricultural Fair Method

The main strengths and limitations of the agricultural fair method, as identified during national discussion and evaluation workshops and through documentation interviews on methods and tools, are as follows:

Strengths of the Agricultural Fair Method

- Wide reach, which promotes connectivity and the sharing of experiences and knowledge among different actors;
- Networking, establishing contacts and highlighting local know-how;
- Showcasing innovations;
- The possibility of holding fairs in local languages, making them more accessible to beneficiaries.

Limitations of the Agricultural Fair Method

- Participation requirements that can make access difficult for producers (e.g. travel, stand rental, etc.);
- High costs associated with the organisation of a fair;
- Often limited to regional or national levels, which can hinder access for the maximum number of farmers.

9. Prerequisites for Success and the Role of Various Stakeholders in the Success of the Agricultural Fair Method

For the organisation of an agricultural fair to be successful, certain prerequisites must be primarily met:

- The establishment of an inclusive team dedicated to organising the fair;
- Clearly defined objectives and expected outcomes;
- Logistic issues (communication, transport, catering) must be planned and budgeted;
- The interests of the participants must align with the fair's objectives;
- Communications and displays must be prepared and evaluated in advance with the fair's coordination team;
- Participants must receive invitations and all the necessary information in a timely manner, allowing them to decide to participate, prepare for their participation and arrange travel.

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Documentation on the Innovation Platform (IP) Method

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1. Overview of the Innovation Platform Method

An agricultural innovation platform (IP) can be defined as **a network that brings together stakeholders either in person, virtually, or through a hybrid format (both in-person and virtual) to generate** technical or organisational **innovations** through the facilitation of **collaborations** and **partnerships.** Innovation platforms serve as a method for gathering other rural actors and diverse stakeholders such as farmers, traders, agro-industrialists, service providers, researchers, and government representatives, to identify solutions to common challenges, implement activities towards shared goals, and negotiate and coordinate their efforts. This method is commonly used by agricultural research organisations, development agencies, NGOs, and both local and national governments.

Innovation platforms may be temporary or permanent and can be established at different levels—local, national, or sectoral, such as within a specific value chain or economic sector (Posthumus et Wongtschowski, 2014). They can focus on a single thematic area, such as a specific commodity, or address broader topics, including natural resource management, decision-making processes strengthening, awareness-raising, and targeted interventions.

Successful innovation platforms require skilled, neutral facilitation, either by personnel from the initiating organisation or an external facilitator. The facilitator's role includes managing communication, conflict resolution, enhancing group dynamics, documenting activities, building capacity, and advocating for institutional change.

2. Brief description of Beneficiaries Supported by the Innovation Platform Method

The innovation platform method primarily supports medium-sized farms, typically ranging from an average of 2 to 3 hectares per household. Beneficiaries include men, women, and young people. These farms generally operate mixed production systems, integrating various plant and animal species. Livestock production includes poultry, small ruminants, cattle, and working animals or pets such as horses and donkeys. The main crops grown and marketed include millet, sorghum, maize, rice, groundnuts, cowpeas, cotton, sesame, cassava, mangoes, and tomatoes, and more. Agricultural products are sold in local markets, nearby towns, capital cities, and in cross-border markets.

3. Necessity and Objectives of the Innovation Platform Method

Innovation platforms were introduced in response to the limited dissemination of research-generated technologies and the weak participation of direct beneficiaries in identifying and implementing development projects. The objectives of establishing innovation platforms include: (**i**) facilitating networking among actors in agricultural value chains; (**ii**) improving access to information for stakeholders, (**iii**) enhancing the dissemination of technologies and innovations among IP members and (**iv**) strengthening agricultural product marketing.

The IPs have been set up to serve as a framework for co-creation and sharing of knowledge and experience among its members in order to: (**i**) identify the challenges and opportunities in the production and processing of agroforestry products, (**ii**) focus research questions on production systems, (**iii**) assess the social and economic impacts of production systems, (**iv**) identify the levers for adopting technologies and innovations to improve agricultural yields and producers' incomes, (**v**) support innovation and the dissemination of technologies.

4. Implementation Methodology of the Innovation Platform Method

The implementation of the innovation platform method follows several key steps: (**i**) informing and raising awareness among communities about IPs and member profiles, (**ii**) community-driven selection of IP members, (**iii**) holding a general assembly to officially launch the IP, (**iv**) electing the executive members of the IP, (**v**) developing an action plan for each IP, (**vi**) regularly organising IP meetings and sessions.

5. Impact of the Innovation Platform Method

Innovation platforms will not have an immediate and direct impact, as their contribution helps people to talk to each other and act together to put new ideas and solutions into practice (Posthumus and Wongtschowski, 2014). As a result, they have a positive effect on improving the crop and livestock production of the beneficiary farmers (Barro, 2013; Teno and Cadhilon, 2016). This capacity building has a positive impact on agricultural yields and members' incomes. According to Barro (2013) and Millogo (2013), the innovation platforms have had a positive impact on the agronomic performance of member farmers in the Sissili region in Burkina Faso. Agricultural yields have increased by almost 90% (Barro, 2013). As yield increases are closely linked to income, Barro (2013) found that strengthening the capacity of producers through the innovation platforms led to an increase in net income per hectare of around 102% and an improvement in net income per worker of around 225%.

During the case study documentation interviews, farmers and organisations promoting IPs came back to certain impacts of IPs, including:

- greater synergy between farmers, researchers and agricultural advisory services;
- taking into account the real needs of producers, so focusing research and extension activities on knowledge and innovations that are of interest to farmers;
- better use of local knowledge through the sharing of this knowledge among farmers and between farmers and technicians, and above all the planning of experiments at research level to assess the effectiveness and optimal conditions for the application of certain endogenous knowledge;
- better appropriation and adoption of technologies;
- increased agricultural production through the adoption of new technologies and farming practices;
- improving farmers' incomes through better organisation of value chains and better marketing;
- improving food security through more sustainable and diversified production systems;
- community resilience to the impacts of climate change through the adoption of resilient technologies.

For example, in the case of Chad, the adoption rate of new technologies with IPs varies between 60% and 90%, reflecting the growing acceptance of agricultural innovations among farmers. This adoption is facilitated by practical demonstrations, technical

advice and direct support for farmers in implementing good farming practices. The increase in yields through IP varies between 50% and 70%, which can be ascribed to the adoption of modern techniques, such as improved cultivation practices and the introduction of more efficient production technologies. This translates into a direct improvement in production and income for farmers.

6. Technologies and Innovations Promoted through the Innovation Platform Method

Several technologies and innovations have been promoted through the innovation platform approach, including:

- The use of improved seed varieties.
- The establishment of nurseries and mango tree grafting techniques.
- Agricultural product processing technologies.
- Access to new markets.
- Collective procurement of agricultural inputs.
- Soil mulching using woody biomass.
- Livestock feeding strategies incorporating fodder trees.
- The management of trees and shrubs in farmland.
- The use of improved seed varieties
- Men advocating for women's land rights.
- Facilitating women's access to microfinance credit, etc.

7. Average Implementation Costs of the Innovation Platform Method

Implementing innovation platforms often requires substantial financial investment (Gning *et al.*, 2021). Costs vary depending on the activities involved but typically amount to around USD 1,000 per annum (Posthumus et Wongtschowski, 2014). These expenses cover facilitator training fees and salaries, venue rental, transport, food and beverage, communication costs, and, if necessary, funding to test new ideas (David et Cofini, 2019).

Travel and subsistence costs for IP members depend on whether they are self-funded or supported by external partners. Self-financed members contribute between 1,500 and 2,500 CFA francs per meeting, while externally funded participants receive support ranging

from 8,000 to 10,000 CFA francs per meeting, with an average of 2 to 4 meetings each year.

8. Strengths and Limitations of the Innovation Platform Method

According to Ouidoh (2018), the existence of markets and the proximity of stakeholders facilitate the implementation of IPs. The diversity of stakeholders and the involvement of community leaders promote the identification and resolution of the challenges facing farmers. However, the low diversity of stakeholders in the IPs, the absence of a facilitator and the low capacity of members to provide solutions to the problems identified have limited their operation.

9. Prerequisites for success and the role of various players in the success of the Innovation Platform method

The successful results of the IPs are related to:

- First and foremost, the commitment of the Innovation Platform's umbrella organisation was crucial. A well-structured, dynamic union with a diversified partnership and endogenous facilitators to act as relays for supervising women producers;
- Conflicts are resolved endogenously. This is particularly the case for the harmonisation of selling prices for specific crops;
- The organisation of joint collections and grouped transport of produce to warehouse sites and fair and market sites, which solves transport-related issues.

Deploying the innovation platform (IP) method requires qualified human resources and specific skills. Sustainable development of the IPs is envisioned through: (**i**) their composition (direct and indirect members who are present at all times in the communities), (**ii**) their management, which is carried out by the direct players themselves, (**iii**) capacity building for the members to ensure their independent operation before the end of the project, (**iv**) the introduction of a membership fee to set up an operating fund for the IP before the end of the project, (**v**) the search for other partnerships and funding by the members.

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1. Overview of the CCASA Platform Method

The CCASA platform (National Science-Policy Dialogue Platform for Agricultural Adaptation and Food Security in the Face of Climate Change) is an exchange framework that connects all stakeholders in the agricultural sector. The main implementing stakeholders of the method include: (**i**) The Ministry of Agriculture, responsible for coordination, monitoring and evaluation, capacity building, fundraising, and promotion of innovations; (**ii**) Research institutions for developing innovations and strengthening farmers' resilience; (**iii**) Farmers' Organisations (FOs) for identifying farmers' needs and sharing experiences; (**iv**) Local authorities for facilitating interactions and supporting stakeholders; (**v**) The media for widespread dissemination of findings. This initiative fosters synergies between key national stakeholders involved in guiding and making political decisions essential for national plans and strategies to address climate change.

2. Brief Description of the Beneficiaries Supported by the CCASA Platform Method

The beneficiaries of the CCASA platform method are rural communities, with the farmers as the final beneficiaries. However, the platform serves as a departmental-level framework that supports decision-makers and leaders in developing resilience options and strategies for their communities. It also promotes the dissemination of climate-resilient agricultural practices. The supported farms have an average size of 4 to 5 hectares and include men,

women, and young people. The production systems are diverse, incorporating mixed and integrated farming. The most commonly raised livestock includes poultry and small ruminants, though cattle farming and small-scale fish farming also exist. The primary crops include cereals, legumes, roots and tubers, as well as fruits and vegetables.

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3. Necessity and Objective of the CCASA Platform Method

The CCASA platform method was officially introduced in Senegal in 2015 in a context of climate variability and change, characterised by recurrent extreme weather events, land degradation, disruptions in crop varieties, and the proliferation of pests. The global geopolitical context at the time, including the Paris Climate Agreement, also strongly influenced the establishment of this method. The CCASA platform was necessary for planning agricultural campaigns based on agro-meteorological forecasts. It was created to address challenges in agricultural activity planning by incorporating climate information and scaling up resilient technologies and innovations to cope with climate change. Its objective is to reduce the vulnerability of farmers and agricultural systems to the adverse effects of climate change. The specific objectives of the CCASA platform are:

- Sharing knowledge on climate change;
- Strengthening existing consultation frameworks and spaces;
- Ensuring the flow of information and activities between research institutions and key national actors, including rural development technical services, academic institutions, farmers' organisations, private rural sector stakeholders, media, NGOs, and policymakers;
- Enhancing stakeholders' capacity on climate change issues;
- Strengthening interactions between local and national levels to foster a political dialogue that integrates climate change into public policies related to agriculture and food security;
- Developing and implementing innovative projects promoting climate-smart agriculture.

4. Impacts of the CCASA Platform Method

The use of the CCASA platform has reached a significant number of farmers and contributed to increased agricultural yields. According to farmers, the platform is highly effective as it provides essential climate-related information (rain, wind, etc.), enabling

them to better plan their agricultural activities through access to weather forecasts in local languages directly on their phones. Participation in platform discussions and the adoption of technologies have led to improved agricultural yields. Specifically, farmers reported a **25%** increase in yields using the System of Rice Intensification (SRI) and a **30%** increase with the Zaï technique. Additionally, farmers observed an increase in their incomes. Access to weather information has helped them better plan their farming seasons, leading to improved yields and, consequently, higher revenues from product sales (an average **20%** income increase).

5. Technologies and Innovations Promoted through the CCASA Platform Method

Several technologies and innovations have been promoted through the CCASA platform, including Zaï technique, Assisted Natural Regeneration (ANR), System of Rice Intensification (SRI), Line sowing of rice, etc.

6. Average Implementation Costs of the CCASA Platform Method

The implementation costs of the CCASA platform are high and cover expenses related to national and local meetings, establishing Climate-Smart Agriculture (CSA) demonstration plots, broadcasting "Kaddu Baykat" radio programs, scaling up local frameworks, supporting research institutes, coordinating and monitoring field activities. The estimated cost of platform services is approximately 750,000 CFA francs per month per department. **90%** of these costs are covered by partners and **10%** by the Senegalese government.

7. Strengths and weaknesses of the CCASA Platform Method

The main strengths and weaknesses of the CCASA platform as identified during the national discussion and evaluation workshops, and during the documentation interviews on methods and tools, are as follows:

Strengths of the CCASA Platform:

- It facilitates the dissemination of information to farmers;
- It supports decision-making by bringing together multiple stakeholders;
- It promotes consensus on technical, organisational, and communication aspects among all stakeholders;
- It enjoys strong institutional support;

- It encourages significant involvement of local authorities and farmers in its implementation.

Limitations of the CCASA Platform:

Establishing the CCASA platform requires time to bring stakeholders together; it demands significant financial resources for implementation.

8. Prerequisites for Success and Roles of various stakeholders in the CCASA Platform's Success

For the CCASA platform to operate effectively, strong awareness-raising efforts among administrative authorities and local elected officials are necessary. Additionally, capacity-building initiatives for farmers on the platform's methodology and climate change issues are essential, along with establishing a multidisciplinary team for platform management and facilitation.

Key lessons and messages from the CCASA platform's operation include:

- Political involvement facilitated the platform's deployment;
- The engagement of various stakeholders (local authorities and farmers) contributed to achieving the platform's objectives;
- Fulfilment of commitments helped maintain platform user motivation;
- The availability of financial resources (Government's contributions and financial partners) ensured the timely implementation of all platform activities.

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CAPITALIZATION

Documentation on the farmer field school method (farmers field school or agropastoral field school)

August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution

1. Overview of the Method

Farmer Field Schools (FFS) and Agropastoral Field Schools (APFS) are two variants of the Farmer Field School method. The FFS is mainly based on crop production (agriculture), whereas the APFS integrates three components: agriculture, livestock, and environment. According to the FAO, the first Farmer Field Schools (FFS) were launched in Asia in the late 1980s. The field school represents a major innovation in the field of advisory services. The term was first used in 1989 in Indonesia when the collaboration between IRRI and the FAO led to a new approach to participatory extension on the ground (Duveskog 2013). It is a participatory approach to training and advisory services, based on the collective experimentation of innovative cropping systems (Bakker et al., 2022). Field schools have been promoted on all continents, and farmer field schools now exist in more than 90 countries (https://www.fao.org/farmer-field-schools/overview/fr/). The APFS, which is also a FAO initiative, was launched in 2018 through funding from the Global Environment Facility (GEF).

2. Brief description of the types of beneficiaries supported by the farmer field school method

The Farmer Field School method is generally used to support family farms with an average size ranging from 0.5 to 3 hectares. The method is inclusive and takes into account men, women, and youth alike. There are mixed FFS groups (men and women), as well as groups exclusively for men or for women.

The FFS method is implemented across diversified value chains, including animal production (poultry, small ruminants), crop production (cereals, legumes, market gardening), and forestry (arboriculture).

3. Necessity and Objective of the Farmer Field School Method

The Farmer Field School method is necessary to address common production challenges faced by communities, such as low agricultural yields, crop phytosanitary protection, food and animal health, and the lack of knowledge or limited adoption of agricultural technologies and innovations, etc.

The main objective of the field school is therefore to improve the adoption of agricultural innovations in order to increase crop productivity and strengthen farmers' resilience in the face of climate change. This is achieved through enhancing the skills of farmers so that they can adapt their practices and evolve their farms towards more sustainable production systems (Bakker et al., 2022).

4. Implementation Methodology of the Farmer Field School Method

The implementation of the Farmer Field School method involves several steps, mainly including:

- Organising a preparatory meeting: engaging with local authorities and the community to present the project and get their support or buy-in.
- Field exploration/diagnosis or Rapid Participatory Appraisal: conducting an initial survey with farmers to identify the needs, challenges, and opportunities of the area.
- Determining the options to be considered: selecting the practices or innovations to test on the Learning Plots (PA) and Special Study Plots (PES).

- Forming the group of producers: creating a group of 20 to 25 people, divided into 5 to 6 sub-groups composed of willing and motivated participants.
- Developing internal rules: jointly establishing with the group the rules of participation and operation.
- Identifying a local facilitator: choosing a local facilitator to serve as a mobiliser and intermediary.
- Developing an action plan and support plan: defining a detailed plan outlining the activities to be undertaken, responsibilities, and the meeting schedule.
- Choosing the crop and finalising the protocol: selecting the crop to experiment with and finalising the protocols for setting up and managing the field school.
- Delimiting and setting up the plots: delineating the learning plots and the customary practice plots of the farmers. Crops are then planted with the farmer under the guidance of the facilitator with best practices learning.
- Weekly module facilitation: conducting workshops and learning sessions with the group every week to discuss progress, challenges, and lessons learned.
- Data collection for comparative analysis: monitoring and collecting data on production, yields, and the economic aspects of the plots.
- Comparative analysis of the results: comparing the outcomes to evaluate the added value of the new practices tested against traditional practices. This assessment helps identify the potential benefits and select the best options to adopt.

5. Impacts of the Farmer Field School Method

The Farmer Field School method has got a positive impact on rural communities. Its implementation enables farmers to carry out activities (field training through observing crops, soil, and pests; experimentation; knowledge and know-how sharing) that empower them to “solve issues on their own” (Bakker et al., 2022).

Thousands of farmers have been trained in agricultural technologies and innovations through the Farmer Field School method. In this regard, according to the FAO, farmer field schools have contributed to strengthening the skills of more than 4 million farmers, herders, and fishers worldwide (https://www.fao.org/farmer-field-schools/overview/fr/). Over 60,000 smallholder farmers have been trained—30 percent of whom are women—

and 900 facilitators have been trained in the method in Mali, while more than 25,000 farmers have been reached in Togo, according to the case study documentation.

In agricultural terms, farmer field schools have contributed to increasing crop yields and maintaining the productive potential of available natural resources, including soil, vegetation, and water (FAO, 2003). This has resulted in improved yields. In Mali, for example, FFSs have led to a 25 percent increase in rice yields and a 40 percent increase in gross income. For cotton, gross income increased by 54 percent. These improvements in yields and incomes were also highlighted by producers during on-site focus groups. According to them, depending on the intervention areas, yields have doubled or tripled. The income increase, resulting from improved yields, ranges from approximately 30 to 50%.

6. Technologies and innovations promoted through the farmer field school method

Several technologies and innovations have been promoted through the Farmer Field School method. These include:

- Integrated Soil Fertility Management (ISFM)
- Integrated Management of Production and Pests (GIPD): the case of the fall armyworm
- Integrated Management of Soil Fertility, Water, and Pests through Fungi (GIFERC)
- The System of Intensive Rice Cultivation (SRI)
- Integrated Weed Management (rational use of pesticides, control of Striga, etc.)
- The use of inoculum in soybean cultivation to foster better nitrogen fixation and reduce dependence on chemical fertilizers
- Protection and improvement of the productive base (CES/DRS work), as well as cultural techniques (seeding density, phytosanitary treatment)
- Integration of agriculture and livestock (agroforestry); etc.

7. Average Implementation Costs of the Farmer Field School Method

The costs associated with implementing the field school approach vary greatly. According to David and Cofini (2019), these variations depend on the subject matter and the duration of the FFS cycle, and include needs assessment, program development, an expert trainer along with the training of facilitators, operating costs of the FFSs (such as materials), supervision of facilitators, and additional costs related to institutionalisation. The average

cost of an FFS is 56 USD per participant, although most FFSs cost between 20-40 USD per participant (David and Cofini, 2019).

8. Strengths and Limitations of the Farmer Field School Method

The main strengths and limitations of the Farmer Field School method, as identified during national discussion and evaluation workshops and in interviews for the documentation of methods and tools, are as follows:

Strengths of the Farmer Field School Method

- Participatory approach: It directly engages farmers in the learning process, thereby enhancing their involvement and sense of ownership.
- Learning by doing: It allows farmers to learn through direct experience, which leads to better understanding of knowledge.
- Consideration of farmers' perspectives: Producers' concerns and suggestions are taken into account, ensuring that the training and solutions offered directly address their real needs.
- Incorporation of proven local practices: It values local know-how while introducing new, adapted techniques.

Limitations of the farmer field school method

- The implementation cost per direct beneficiary is high;
- Limitation on the number of direct beneficiaries (25 to 30 farmers per group): The number of farmers reached per group remains limited, which can restrict large-scale impact;
- Impact of climatic hazards: Drought and variability in rainfall can disrupt the activities of the field schools and, in particular, the farmers, thereby affecting the outcomes of the method.

9. Prerequisites for Success and the Role of Various Stakeholders in the Success of the Farmer Field School Method

Conducting a participatory diagnosis and adopting a co-construction approach have both contributed to the success of the Farmer Field School method.

These two conditions have been crucial in creating a collaborative and inclusive learning environment. The participatory diagnosis allowed for a deep understanding of local challenges, while co-construction enhanced farmers' engagement and motivation. By ensuring that solutions were tailored to local contexts and involving farmers in every stage of the process, the method has succeeded in establishing effective and sustainable learning mechanisms.

The success of the Farmer Field Schools (FFS) method depends on several roles played by government policies, the institutional environment, and various stakeholders including the farmers.

Public authorities play a crucial role by providing the necessary resources for agricultural advisory services. This includes improving financial and logistical means to facilitate the scaling up of the method. A clear support policy and adequate investments are essential for effective dissemination of the method throughout the country.

Farmers must be actively involved in the implementation of the method. Their engagement is vital for the adoption and sustainability of the practices being taught. Their contributions in terms of time, resources (such as providing land or equipment), and active participation in activities are crucial to ensuring the method's success and impact.

Technical and financial partners, such as NGOs, input suppliers, and various projects, provide the technical, financial, and logistical support that is crucial for the method's success. Their collaboration helps expand access to the resources, innovations, and networks necessary for the implementation and dissemination of the method.

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CAPITALIZATION

Documentation on the family farm advisory (FFA) or farm management advisory (CGEA) method

August 2024

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Introductory Note

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The overall objective of the study was to constitute a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several people within CORAF and RESCAR-AOC and outside these structures in all 13 countries of the study contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of the family farm advisory method (FFA)

Family Farm Advisory Services (FFA) is a comprehensive approach that strengthens the capacities of farmers and their families to monitor their activities, analyse their situation, plan and make choices, and evaluate their results (Faure et al., 2004). It is therefore a consultative approach to help farmers improve their decision-making process and crop management including, for example, better crop management to improve food security, adjusting input use to reduce production costs, household budget forecasts to avoid debt, and more efficient use of household labour (David and Cofini, 2019). FFA therefore takes into account the technical, economic, social, and, if possible, environmental aspects of farmers' activities (Faure et al., 2004).

FFA approaches have been promoted in French-speaking Africa with support from the French cooperation, and particularly the French Development Agency (FDA), for almost two decades (Legile and Faure, 2013). Supports from other cooperations (Dutch, Swiss, Belgian) and commitments from certain States have also made it possible to adapt the FFA approach to different contexts (Legile and Faure, 2013). FFA is developed in more than 10 French-speaking African countries, including Benin, Burkina Faso, Côte d'Ivoire, Guinea, Mali and Senegal in West Africa and Cameroon, Congo and Chad in Central Africa (Dugué and Faure, 2003; Legile and Faure, 2013).

2. Brief description of the types of beneficiaries who were supported with the family farm advisory (FFA) method

The beneficiaries who were supported under the Family Farm Advisory (FFA) method are family farms with an average of 5 to 8 people per household, with areas varying from 2 to 10 ha. The main categories of people: men, women and young people are taken into account in the FFA method. The production systems are mixed crops with the consideration of animal and forestry production. The main animal species raised by farmers supported with the FFA are cattle, sheep, goats and poultry. The main crops that the supported farmers produced and sold under the FFA are cereals and legumes.

3. Importance and objective of the family farm advisory (FFA) method

Family Farm Advisory (FFA) was introduced in a context where Governments had somewhat withdrawn from certain actions in favour of farmers, including the provision of agricultural inputs, facilitating access to credit for farmers and supporting farmers to facilitate the sale of their production. Farmers Organisations (FOs) therefore implemented strategies to facilitate farmers access to inputs and credit. This required an assessment of the amount of inputs per farmer and a good management of the inputs made available to each farmer. The FFA method was therefore used to help better manage the support provided to farmers, but also to better assess the cost of production, which would allow unions to better assess the setting of prices for collecting production from its farmers.

The objectives of the introduction of the FFA are mainly: (**i**) to improve the capacities of farmers in planning the activities of their farms, (**ii**) to improve the capacities of farmers in managing their farms, (**iii**) to improve the profitability of agricultural farms through a judicious choice of technologies and innovations according to farmers' needs.

4. Methodology for implementing the family farm advisory method (FFA)

Typically, farmers (one member per household) meet in a group facilitated by an extension advisor or agricultural facilitator every two weeks. An FFA cycle lasts on an average of 3 years and is implemented in six stages: (**i**) diagnostics to identify farmers' needs; (**ii**) group training on selected agricultural practices; (**iii**) management training (planning of cropping seasons, grain stock management, cash flow planning, income-expense accounting, etc.); (**iv**) individual advisory visits to the farm; (**v**) analysis of technical and economic results at

both plot and farm levels by groups (computer-assisted, in some cases); and (vi) self-planning of the next cropping season based on past results and desired objectives (David and Cofini, 2019).

From discussions with some stakeholders in the field during the documentation of the FFA method, we note that the method was initially done individually with farmers, but has evolved to be done in groups for the needs of efficiency and interaction between farmers in order to improve the impacts of the method. The FFA in a group is done with an average of 25 to 30 farmers. The main activities of the process are:

- preliminary discussions with local authorities and resource persons in the area on the intervention on the FFA in order to obtain their support and buy-in;
- raising community awareness about the FFA through a Village General Assembly (VGA);
- identification of participants according to defined criteria (being a farmer, being a volunteer and committed to accepting innovations, agreeing to share knowledge with other farmers, being available to be trained in the activities, etc.)
- identification of farmers' needs through a questionnaire (training, equipment, technology, financial, etc.) in a focus group

Following these preliminary activities, a planning and implementation of the FFA group activities is done. This includes some of the following activities:

- capacity building sessions for relay farmers or facilitators,
- capacity building sessions for members on: production techniques for the selected crops; identification of technologies and innovations to be promoted; granary management, etc.
- inventory of farms through monitoring and advisory support for members;
- FFA notebook information
- Results feedback.

5. Impacts of the family farm advisory (FFA) method

FFA is a method integrated into advisory services provided by NGOs, FOs, cotton companies, or Government-dependent agencies and has reached nearly 100,000 farmers (Legile and Faure, 2013).

The FFA can have impacts on the farm; these impacts are assessed through technical performance criteria (production planning, family farm management and organisation, etc.), economic criteria (increase in income, productive investments) and environmental criteria (management of natural resources) but also on the farmer and his or her family (Grain de sel, 2019). A study carried out in Benin shows that the FFA has a positive effect on the yields and agricultural income of farmers (Ayena and Yabi, 2013). Indeed, Ayena and Yabi (2013) found an average net margin of farmers practicing the FFA higher by around **32%** (91,577 CFA francs/ha) than that of farmers not practicing the FFA (69,040 CFA francs/ha). In Burkina Faso, for example, the average gross margin per ha per farmers practicing FFA is respectively about **68%** for cotton crop, **94%** for maize crop, and **6%** for sorghum crop compared to farmers who do not practice FFA (Lalba, 2010). FFA therefore induces a dynamic of intensification of production in the farms of beneficiaries who manage to increase yields.

While documenting the FFA method in the field, the organisations promoting it and the beneficiaries expressed their satisfaction with the effects and impacts of the method. According to them, its adoption helps ensure: (**i**) better planning of farm activities by farmers (**ii**) better assessment of farm input needs by farmers, (**iii**) adoption of good agricultural practices through farmers capacity, (**iv**) better structuring of FOs for the production of organic manure in quantity to meet farmers' demands, (**v**) taking into account the real needs of farmers in agricultural extension activities, (**vi**) food security of farms and producer income through better management of farms.

According to the young people, agriculture today has become a business and nothing is done by chance. The FFA method allows them to take useful information to evaluate the economic profitability of their farming performance. Men and women also have a good appreciation of the FFA which according to their opinion allows them to improve their capacities on the management of their farms.

According to some advisory structures, with the FFA, there has been an improvement in agricultural yields. For example, for the USCCPA in Burkina Faso, the yields for maize crop increased from 2 to 2.5 tonnes/ha; 1 to 1.2 tonnes/ha for sorghum; 200 to 450 kg/ha for cowpea. These improvements are the result, among other things, to the adoption of technical production itineraries and good production and post-harvest practices, as well as the adoption of improved seeds.

During the focus groups, farmers confirmed these yield increases which are, according to them, had some corelations with the adoption of technical itineraries and improved

varieties, the use of organic manure. According to them, maize yields increased from 1t/ha to 2.5t/ha for maize; 400kg to 1t/ha for cowpea; 800kg to 1.5t/ha for sorghum.

6. Technologies and innovations promoted through the family farm advisory (FFA) method

Satisfactory feedback has been received from advisory structures and farmers regarding the adoption of agricultural technologies and innovations through the FFA.

According to the agricultural advisory structures that promote the method, the implementation of the FFA as an agricultural advisory method has fostered among the beneficiaries:

- the adoption of improved varieties,
- the compliance with technical production itineraries,
- the adoption of good production and post-harvest practices,
- the adoption of certain techniques and/or technologies including organo-mineral fertilisation, microdose technique, conservation farming (scarification, rotation and association of crops), fodder crops (bracharia, mucuna, pigeon pea, andropogon gayanus, etc.).
- the acquisition of skills on the rational management of the financial resources of the farm, etc.

According to the feedback from the men during the focus group, the FFA allowed them to adopt technical production itineraries and improved seeds; evaluate the cost of production and take stock; produce organic manure and use it; know and use registered phytosanitary products.

According to the women, the FFA permitted them to know and acquire short-cycle varieties of maize, cowpea and peanut; better control livestock farming (chicken coop maintenance, hygiene and veterinary products); produce and use organic manure; better sell cowpea (sale in kilograms); master the cowpea itinerary and the use of Purdue Improved Crop Storage (PICS) bags.

For young people, the FFA approach allowed them to learn about microdosing; disturb the soil less (reduced ploughing); produce organic manure; use organic phyto products with chilli pepper, ginger (1kg/product with 5L of water enclosed for 4 days, add 10L of water, after 15 days distribute in 1L in 13L); know and use improved varieties of maize and soybeans; produce operating accounts.

7. Average Implementation Costs of the family farm advisory (FFA) method

The costs of implementing FFA include salaries and allowances for FFA advisors and managers, development of tools and methods, implementation of supportive activities (David and Cofini, 2019). The average cost of FFA programs in Africa is 20 to 80 USD/ farmer/ year including salaries and operating costs for facilitators, training of facilitators and supervision (David and Cofini, 2019). The use of facilitators for program implementation can significantly reduce implementation costs (Faure et al. 2015). Indeed, for FFA schemes that more strongly combine "technical group consulting for non-literate people" and "management consulting for literate people" or that heavily mobilise farmer facilitators, the consulting cost varies between 2 and 20 USD/year/farmer in terms of advice (Legile and Faure, 2013).

Discussions with some stakeholders who promote the method during the documenting phase allowed us to understand that the costs of implementing the method vary from one structure to another. However, certain costs are taken into account in the calculations of the majority of structures, including: the cost of catering for farmers during community meetings, the incentives cost for endogenous facilitators to monitor farmers, the cost of guided tour in the field and the cost of assessment and results feedback workshops. For example, in the case of the USCCPA in Burkina Faso, the cost per beneficiary for the deployment of the individual FFA varies from 75,000 to 100,000 FCFA/participant for a three-year cycle and from 5,000 to 10,000 FCFA/participant for FFA in group for a one-year cycle with cycle renewal possibility.

8. Strengths and weaknesses of the family farm advisory (FFA) method

The main strengths and weaknesses of the family farm advisory method identified during the national discussion and assessment workshops and during the interviews phases for documenting the methods and tools are:

Benefits of the FFA method

- obtaining quality data for good farm management
- awareness of beneficiaries for good management of their farms
- easy dissemination of technologies to farmers with the FFA.

Limitations of the FFA method

The main limitation of the FFA is related to the high cost of the individual approach.

9. Prerequisites for success and the parts of various stakeholders in the success of the family farm advisory (FFA) method

The critical factors for the success of the FFA are in connection with capacity building, sharing of experiences, provision of inputs and equipment on credit to beneficiaries, easy access to new technologies.

Research and technical services have contributed to the success of the FFA by facilitating access to technologies and innovations. The commitment of farmers in the conduct of activities in order to live with dignity on their occupation as farmers has also contributed to this success.

Key messages were formulated by the structures using the FFA approach including the following:

- the FFA method helps to raise awareness among farmers about the management of their farms and the judicious choice of crops;
- FFA performed in a group is less expensive and promotes the dissemination of agricultural innovations and technologies;
- the mobilisation of endogenous facilitators in the FFA system is less expensive than the recruitment of technicians for the facilitations;
- sharing experience strengthens the skills and motivation of farmers in the FFA;
- for a good appropriation of the management of farms, there is the need to support the beneficiaries of the individual FFA for three years;
- the introduction of management tools must be done gradually, starting with simplified and adapted tools at the beginning, which will be reinforced over time.

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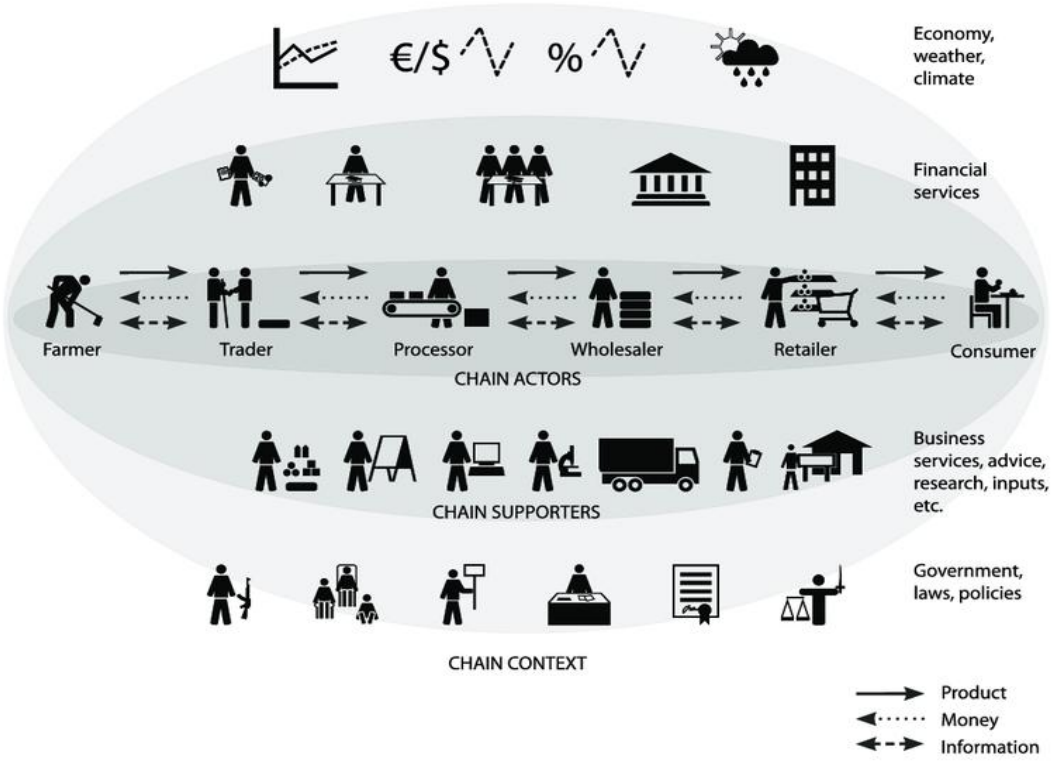
CAPITALIZATION

Documentation on the Value Chain-Oriented Advisory Method



August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of the Value Chain-Oriented Advisory Method

Agricultural extension aims to improve farmers' knowledge and skills to optimise their practices and enhance their competitiveness. The value chain (VC) approach in agricultural advisory services is based on the idea that farmers are not isolated but are integrated into a network of interconnected stakeholders (suppliers, processors, traders, consumers).

The value chain-oriented advisory method is an approach that supports all stakeholders (farmers, processors, traders, etc.) within a given agricultural value chain. This method identifies constraints and opportunities at various levels and offers tailored advice to improve the performance of the entire sector. It primarily focuses on strengthening the capacities of farmers to overcome challenges related to the underdevelopment of the agricultural sector and the limited knowledge and skills needed to meet international market requirements.

2. Brief Description of the Types of Beneficiaries Supported by the Value Chain-Oriented Advisory Method

This method is used to support medium-sized farms, typically ranging between 0.5 and 2 hectares. The profile of beneficiaries consists of **50%** men, **25%** women, and **25%** youth. Farmers practice both monoculture and mixed cropping. In terms of animal

production, beneficiaries raise poultry such as chickens, guinea fowl, and ducks, as well as small ruminants, like goats and sheep, as secondary activities. The main crops produced are soybean, maize, and yam, with marketing primarily focused on soybean, which is mainly grown for export, while yam and maize are sold in local markets.

3. Necessity and Objective of the Value Chain-Oriented Advisory Method

The value chain-oriented advisory method was developed in a context to support agricultural sector development, particularly for the production of organic soybean for export. This method was adopted to meet the international organic market requirements regarding quality and traceability of agricultural products. It aims to optimise every step of the process, from production planning with the use of good agricultural practices, to harvesting, storage, processing, and marketing. In this context, the method's strength lies in its ability to create synergies among the various links of the agricultural value chain, thereby facilitating the integration of farmers into global supply chains while ensuring sustainable and equitable agricultural development. The method was developed in 2015 and proved to be necessary to address several issues related to scaling up agricultural innovations: organising farmers into structured groups, such as groups of joint and several guarantees to negotiate better and access resources; meeting quality requirements for products, particularly for the international organic soybean market; resolving financing challenges by structuring financial needs and establishing guarantee mechanisms for obtaining loans; consolidating the different links of the chain to improve efficiency and cohesion; facilitating the creation or strengthening of business relationships among farmers, processors, and other stakeholders; and ensuring market access by implementing appropriate marketing strategies.

4. Methodology for Implementing the Value Chain-Oriented Advisory Method

The implementation of the value chain-oriented advisory method involves the following steps:

- Recruiting agricultural advisors;
- Training or capacity building for agents/technicians on organic production standards;
- Identifying and raising awareness among farmers;
- Organising farmers into cooperative societies;

- Training or capacity building for farmers in organic production standards;
- Assessing farmers' needs and planning production;
- Facilitating access to credit and agricultural inputs;
- Providing periodic technical advisory support by agricultural advisors;
- Monitoring and controlling the application of Good Agricultural Practices (GAP) and certifying plots;
- Conducting an annual review of the campaign coupled with collecting feedback from farmers.

5. Impacts of the Value Chain-Oriented Advisory Method

The value chain-oriented advisory method facilitates the adoption of improved techniques (enhanced seeds, integrated crop management, sustainable fertilisation), leading to increased yields (GIZ, 2019). According to Davis et al. (2020), farmers engaged in well-organised value chains have better access to quality inputs (fertilisers, certified seeds) and credit. Indeed, a study conducted in Kenya showed that farmers who were integrated into structured value chains increased their yields by **20** to **50%** thanks to improved input supply (Muriithi and Mats, 2015). By facilitating contractual agreements and reducing middlemen, this advisory method ensures that farmers have more secure market outlets and more stable prices (Ton et al., 2018).

Based on interviews with stakeholders during field documentation, the value chain-oriented agricultural advisory has achieved the following:

- Compliance with organic market standards: Farmers have started offering products that meet organic quality standards;
- Easier access to financing: Improved financing mechanisms have enabled farmers to obtain agricultural loans;
- Consolidation of the value chain: Coordination among different stakeholders in the value chain has been strengthened, enhancing sector efficiency;
- Creation of business links: Strong commercial relationships have been established between farmers and other value chain stakeholders, fostering sustainable partnerships;
- Better organisation of farmers: Farmers have been organised into structured groups, such as cooperatives, enhancing their capacity to negotiate and access resources;

- Secured market access: Farmers have benefited from market guarantees for their products.

Beneficiaries (women, youth, and men) have doubled their soybean acreage and per-hectare yields thanks to the use of GAP, adherence to organic production standards, and access to a fair market (better prices, equitable measures, and no cheating). They also confirmed that they now have access to the organic market with improved sales techniques.

6. Technologies and innovations promoted through the value chain-oriented advisory method

Several technologies and innovations have been promoted through this method, including:

- Agricultural contract arrangements: Establishing formal contracts between producers and buyers to ensure secure market access and stable prices;
- Supporting farmers in the creation, formalisation, and management of cooperative societies;
- Dissemination of quality certified seeds, biofertilisers, and biopesticides;
- Introduction of post-harvest equipment (e.g., threshers) to improve production quality;
- Implementation of an internal control and technical assistance system: Advisors monitor farmers' activities, ensure adherence to Good Agricultural Practices (GAP) and organic production standards, and provide technical advice based on their needs;
- Support in problem-solving: Farmers can ask questions, express concerns, and receive immediate assistance to overcome challenges;
- Facilitating access to inputs, financing, and markets;
- Integrated soil fertility management techniques (Giller et al., 2021);
- Precision irrigation and smart agriculture (Gebbers & Adamchuk, 2010);
- Agricultural product conservation techniques (FAO, 2018).

7. Average Implementation Costs of the Value Chain-Oriented Advisory Method

The implementation costs of the value chain-oriented advisory method include expenses for designing, printing, and disseminating training materials; costs related to training

technicians; expenses for raising awareness and training farmers; allocation of vehicles and work tools for technicians; costs for setting up and conducting test plots; operating expenses for technicians; and staff salaries.

8. Strengths and Limitations of the Value Chain-Oriented Advisory Method

The main strengths of the value chain-oriented advisory method identified during national discussion and assessment workshops and field interviews are as follows:

Strengths of the Value Chain-Oriented Advisory Method

- It facilitates access to national and international markets;
- It simplifies access to financing through mechanisms such as joint and several guarantees and contract arrangement with risk-sharing among value chain stakeholders;
- It organises farmers into cooperative societies, enhancing solidarity and collective capacity;

  It provides advisory services that focus specifically on a given value chain, considering all stakeholders within that chain;
- It offers a practical approach that allows for better control over the operating system;
- It enables the formalisation of business relationships among stakeholders;
- It fosters increased trust among stakeholders;
- It improves coordination among stakeholders for better structuring of agricultural sectors (Trienekens, 2011);
- It encourages the adoption of innovative technologies and practices adapted to market needs (Devaux et al., 2009);
- It promotes sustainable and inclusive economic models (Donovan et al., 2015);
- It supports socially equitable production (Vermeulen et al., 2008).

Limitations of the Value Chain-Oriented Advisory Method

The limitations of the methods are due the fact that:

- It requires a significant amount of time and resources for its deployment;
  It suffers from a shortage of technical personnel (trainers) for its implementation;

Some farmers struggle to meet contractual clauses, potentially undermining trust and system effectiveness;

- Inadequate support from certain companies can hinder the method's implementation and success;
- Difficulties in loan repayment by some farmers may make financial institutions reluctant to provide new credits, limiting necessary financing;
- May be challenging to implement in contexts where market structures are underdeveloped (Faße et al., 2009);
- Risk of marginalising the least competitive farmers (Hellin et Meijer, 2006);
- Risk of increasing farmers' dependence on specific buyers (Kaplinsky and Morris, 2001);
- It requires analytical and management capacities that are not always available in rural areas (Altenburg, 2007);
- It can be difficult to finance without support from public institutions or private partners (Humphrey and Schmits, 2002).

9. Prerequisites for Success and the Role of Various Stakeholders in the success of Value Chain-Oriented Advisory Method

For successful deployment of the value chain-oriented advisory method, several conditions must be met: (**i**) a legal framework that facilitates access to markets and credit (GIZ, 2016; Faure et al., 2018); (**ii**) commitment from both producers and companies in a collaborative approach (Devaux et al., 2009; FAO, 2014); (**iii**) availability of monitoring and evaluation tools to assess value chain performance (KIT et al., 2010; Biénabe et al., 2017); (**iv**) Development of skills in management, traceability, and marketing (Hellin et Meijer, 2006; Faure et al., 2018); (**v**) Development of labels and certifications to facilitate the marketing of agricultural products (Reardon et al., 2009; Trienekens, 2011).

According to interviews conducted during field documentation, the successful implementation of this advisory method requires: (**i**) a reliable market for production; (**ii**) the identification of a financier willing to invest in the value chain; (**iii**) the identification of production that meets market requirements; (**iv**) the organisation of producers. To achieve this, changes and innovations are needed in agricultural advisory organisations, including:

- Developing skills in good agricultural practices, organic production standards, organic certification, and extension services;

- Involving experts in sustainable agriculture and organic production standards;
- Strengthening partnerships among stakeholders (NGOs, microfinance institutions, and other technical partners);
- Improving techniques and methods for supporting farmers.

For successful implementation, it is necessary to:

- Identify farmers' needs and tailor awareness and training initiatives accordingly;
- Organise regular meetings and discussions with farmers to plan monitoring and advisory activities;
- Establish a system for collecting farmers' feedback and evaluating satisfaction;
- Set up an internal control, monitoring, and evaluation system for field technicians/advisors.

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CAADP XP4 PROGRAMME

CAPITALIZATION

Documentation on the Demonstration Method

August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of the Demonstration Method

Demonstration is one of the most common extension methods. It involves showing a technique or a skill, an input, a practice, or a technology along with its potential benefits to a target audience. Some experts distinguish between method demonstrations, which show how to perform a practice or use a technology, and result demonstrations that compare a recommended practice to an existing one. This is a highly flexible method that can be used on a one-time basis or over an extended period, depending on the objectives. Given that location and scale are important for maximum visibility, demonstrations can take place in a farmer's field, an agricultural resource centre, a communal plot, or a school field. Demonstrations can be led by farmers (participatory demonstrations) or extension advisors and can be organised by various types of organisations (public extension services, NGOs, private sector actors) (GIZ, 2020). Demonstrations are an integral part of other extension methods such as farmer field schools, video projection clubs, and community workshops.

2. Brief Description of the Types of Beneficiaries Supported by the Demonstration Method

The demonstration method is used to support all categories of producers (family farms, agribusinesses) and is adaptable to all profiles (crop, livestock, forestry). Because this

method is highly practical, it does not require the producer to be literate in English or even literate at all.

3. Necessity and Objective of the Method

Demonstration methods allow a technique or practice to be shown and explained orally, without the need for reading or writing skills (David and Cofini, 2019). This method therefore offers a degree of flexibility in timing and does not require farmers to be literate to be effective. The topic of the demonstration depends on the problems that need to be solved by the producers and according to their level of knowledge or experience (GIZ, 2020).

Demonstrations were developed to address challenges related to: (**i**) farmers' reluctance to adopt certain agricultural technologies and innovations, (**ii**) the limited and localized dissemination of some agricultural technologies and innovations, and (**iii**) the limited number of producers who possess knowledge of and have adopted new innovative methods for production, conservation, and processing of agrosylvopastoral products.

4. Methodology for Implementing the Demonstration Method

The implementation of the demonstration method follows the following steps:

- Establishing a technical team: A specialised team is formed to manage the implementation of the demonstration.
- Participatory diagnosis: A diagnostic analysis is carried out in collaboration with stakeholders to identify the needs and priorities of the producers.
- Identification of innovations and technologies: The innovations, technologies, or techniques to be demonstrated are selected based on the identified needs.
- Scheduling activities: The dates for implementing the demonstration are planned.
- Preparation for the demonstration: Preparatory activities, including logistics and organisation of the demonstration, are carried out.
- Mobilisation of equipment and inputs: The necessary equipment, tools, and inputs are gathered.
- Site preparation: The demonstration plots are delineated and set up; in the case of livestock, the demonstration herd is identified.
- Implementation of the demonstration: The demonstration is carried out according to the established plan.

- Monitoring and evaluation: The progress of the demonstration is tracked and evaluated to measure its impact and effectiveness.

5. Impacts of the demonstration method

The number of producers who were trained through demonstration plots and livestock demonstrations often depends on the specific programmes in place in each region or country. There is no single figure, as this varies with the different agricultural initiatives and training programs offered. In general, these projects aim to train a significant number of producers to improve crop and livestock techniques.

Demonstration plots and livestock demonstrations play a crucial role in promoting sustainable agricultural practices. They allow farmers to directly observe the benefits of innovative techniques and to diversify their crops using proven methods, thereby contributing to improved soil health and encouraging more sustainable agricultural practices. The results obtained in these demonstration sites often outperform those of conventional practices, promoting wider adoption of advantageous methods (David and Cofini, 2019).

The use of agricultural technologies and innovations through demonstrations has enabled producers to improve their yields—with increases ranging from 5% to 50%—as well as to boost their incomes by more than 10%.

6. Technologies and Innovations Promoted Through the Method

Several technologies and innovations have been promoted through demonstrations. These include:

- Composting;
- Bokashi (fermented composting for rapid decomposition of organic matter);
- Biopesticides and biological insecticides (using natural solutions such as ash broth, sulfur-lime broth, and neem leaf-based pesticides to control pests);
- Agroforestry (integrating trees to enhance biodiversity and prevent erosion);
- Biochar (adding charcoal to improve water retention and nutrient availability);
- Intercropping;
- Organo-mineral fertilisation;
- Improved seeds; etc.

7. Average Implementation Costs of the Demonstration Method

The costs associated with the demonstration method include training for extension advisors, materials and inputs for the demonstration, maintenance costs, and follow-up activities. According to Ramaratsialonina and Francillette (2011), the average cost of support for carrying out a demonstration is 34,000 Ar (Malagasy Ariary), which is approximately €12.2. Livestock demonstrations generally cost more than demonstration plots because they often require more equipment and infrastructure (Ramaratsialonina and Francillette, 2011).

8. Strengths and Limitations of the Method

The main strengths and limitations of the demonstration method, as identified during national discussion and evaluation workshops and in field interviews on methods and tools, are as follows:

Strengths:

- Availability of sufficient space to conduct demonstrations.
- Presence of qualified technicians to lead the demonstrations.
- High enthusiasm among producers for the method.
- Availability of necessary equipment and tools for the demonstrations.
- A political environment increasingly conducive to agricultural advisory services.

Limitations of the demonstration method

- Availability of a secure space for the “mother demo” plot (the primary demonstration plot used for training all farmers) can be a constraint.
- The selection of farmers to lead the demonstrations can either facilitate or limit the scaling up of the technologies developed through the demonstration.

9. Prerequisites for Success and the Role of Various stakeholders

The successful use of the demonstration method is largely due to the thematic areas addressed being closely aligned with the real challenges and needs of the farmers. The topics include critical issues such as soil fertility, the restoration of degraded lands, adaptation to climate change, short-cycle improved seeds, genetic improvements in animal breeds, and more. The participatory methodology—which includes practical training, peer-

to-peer feedback, and active producer engagement—has been decisive for the success of the method. The quality and dedication of the technicians also play a crucial role in ensuring high-quality training.

For the method to be successful, several prerequisites must be met. First of all, farmers must be engaged and proactive; secondly, qualified technicians must be available to lead the process; and thirdly, the necessary equipment and inputs must be accessible for carrying out the activities. Moreover, farmers participating in these demonstrations must have the capacity to replicate the demonstrations with their peers.

Lessons learned from demonstration experiences show that ensuring the method's success requires mobilising all involved actors, including producers, agricultural technicians, and partners. Training lead farmers or internal trainers has proven to be a key to success, as it facilitates the transfer of knowledge and the adoption of the recommended practices.

For policy-makers and agricultural advisory organisations, it is essential to promote a participatory and collaborative approach by strengthening synergies among the various actors and actively supporting farmers in implementing new practices through demonstrations.

The key lessons and messages from implementing demonstrations are: (**i**) the importance of convergence among actors for technology dissemination; (**ii**) adapting content to local needs to facilitate technology adoption; (**iii**) training and capacity building for actors on the technologies promoted through demonstration are necessary for adoption and dissemination; (**iv**) access to information in a timely manner sparks producers' interest in the method and technologies promoted; (**v**) incorporating feedback is essential for continuous improvement of the method.

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CAPITALIZATION

Documentation on the Relay Farmer or Farmer-to-Farmer Advisory Method

August 2024

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1. Overview of the Farmer-to-Farmer Advisory Method

The farmer-to-farmer extension approach (F2F) involves farmers themselves acting as agricultural advisors, working with public, private, or NGO-based extension organisations. These advisors, depending on their role and whether they receive allowances, are also referred to as contact farmers, rural facilitators, lead farmers, community knowledge agents, or volunteer farmer trainers. Generally, they are not formally employed but may receive allowances to cover their expenses. These advisors are often motivated by access to new knowledge and information, social recognition, and altruism.

The activities undertaken by farmer trainers include training, advisory services, follow-ups, and organising meetings, demonstrations, and field days. They are locally recruited and selected by an extension organisation in collaboration with local authorities and communities based on their knowledge, agricultural expertise, communication skills, reliability, and availability. They are typically trained in technical subjects, extension methods and approaches, facilitation, and communication skills, with ongoing training and periodic support from extension personnel. The farmer-to-farmer method (F2F) is often used in combination with other approaches such as farmer field schools, ICT-based approaches, and demonstration plots to enhance its reach.

2. Brief description of Beneficiaries Supported by the Farmer-to-Farmer Advisory Method

The farmer-to-farmer advisory method is primarily used to support family farms with an average size of about 1.5 hectares. Beneficiaries include rural producers (farmers and livestock farmers), young people engaged in agricultural production, and women who lead farms. These households' production systems are mixed, with a variety of plants and animal species. The main livestock species include cattle, sheep, goats, and poultry. Key crops grown include cereals, legumes, tubers, and root crops.

Several factors motivate certain producers to become relay farmers or endogenous trainers. These primarily include (i) Access to technical innovations and the opportunity to enhance their own skills through training and exchange with other leaders, (ii) their desire to share knowledge and support fellow farmers, (iii) the potential to earn additional income through services provided alongside advisory and training activities, (iv) social recognition associated with the status of a relay.

3. Necessity and Objectives of the Farmer-to-Farmer Advisory Method

This advisory method was introduced to improve the ratio of advisors to the number of farmers supported, ensuring closer monitoring of farmers. The objectives of this method include: increasing agro-sylvo-pastoral production, empowering farmers to manage their farms by enhancing their skills (learning and knowledge acquisition).

4. Implementation Methodology of the Farmer-to-Farmer Advisory Method

The implementation of the farmer-to-farmer advisory method follows several steps:

(i) Relay farmers are initially members of a grassroots farmers' group.

(ii) They are identified and selected by their peers within these grassroots groups.

(iii) Once selected, they receive training on technical aspects, facilitation, pedagogy, and the use of appropriate tools for their role.

(iv) They are equipped with basic materials, such as vaccination kits or sprayers, to facilitate their interventions.

(v) They provide services to their fellow farmers.

5. Impact of the Farmer-to-Farmer Advisory Method

Farmer-to-farmer extension programmes have been in use in the Philippines since the 1950s and in Central America since the 1970s (Selener et al., 1997). In Africa, these programmes have expanded significantly (Simpson et al., 2015) and are relatively common.

This model of extension by farmers has proven successful in Peru in Latin America (Hellin *et al*., 2002), in Indonesia in Far East and several African countries including Cameroon, Malawi, Ghana and Kenya (Franzel *et al.,* 2015), According to Masangano and Mthinda (2012), nearly 78% of development organisations in Malawi use this approach. In Cameroon, however, only one-third of the organisations use this approach in seven regions (Tsafack et al., 2014). However, even though these programmes are widespread, educational resources on the use of the approach as well as analyses and comparisons of F2F programmes are scarce (Franzel et al., 2015).

The farmer-to-farmer (F2F) extension method fosters technology adoption, improve productivity, and enhance main farmers' profitability (Yuko et al., 2018). These authors demonstrated in their study of rice production in Tanzania that the F2F method allowed producers to improve their paddy rice yield from 3.1 tonnes per hectare to 5.3 tonnes.

Financially, relay farmers offer advisory services at a low cost: local proximity reduces travel expenses, and no salaries are paid. They may receive allowances for travel or compensation for time away from their own farms. The allowances are limited to avoid that the relay farmers favour interventions in other farmers at the expense of their own farms. In addition to the allowances, costs include materials provided to relay farmers and training and support expenses, which may be partially covered by farmers' organisations. The originality of this advisory service is the fact that it is taken over by the relay farmer or their basic group (travel expenses and meals are covered as defined in each case in the internal regulations of local groups). A cost-effective service that allows for a low cost of the service.

Relay producers are used in the implementation of other agricultural advisory methods including farm advice, farmer field school, demonstrations, etc. For this purpose, the results of the study by Tchegnon et al. (2022), in Benin on the effectiveness of the use of relay producers in the implementation of family farm advisory service (FFA), showed that members have experienced a significant improvement in their capacity to plan their

activities (85%), cash management (87%), production stock management (89%), manpower management (70%) and in the definition of a project for the development of their operation (95%). The results also showed a reduction in the technical constraints of the main crops (68%), an increase in yields (76%). In addition, an increase in income (91%) and an improvement in food security (73%).

6. Technologies and Innovations Promoted through the Farmer-to-Farmer Advisory Method

Several technologies and innovations have been promoted through the farmer-to-farmer advisory method, including composting, micro-dosing, bio-pesticide production and use, assisted natural regeneration, zaï techniques, densified multi-nutritional feed blocks, mineral licks, and technical farming itineraries, etc.

7. Average Implementation Costs of the Farmer-to-Farmer Advisory Method

Implementation costs may include training costs, equipment of agricultural advisors (motorcycle/bicycle or transportation costs, clothing, stationery, mobile phones and airtime) and supervision and support costs (Franzel et al. 2015; David and Cofini 2019). Also, farmers training often have high expectations in terms of financial and non-financial compensation (David and Cofini, 2019). Kiptot et al. (2012) showed through their study in Kenya for a dairy project that the cost invested for training and support of agricultural advisors was about USD 160/year. Wellard et al. (2013) estimated F2F implementation costs at US$400 per farmer trainer over four years.

8. Strengths and Limitations of the Farmer-to-Farmer Advisory Method

In case study documentation, advisory organisations and producers highlighted some strengths and limitations of the farmer-to-farmer method.

Strengths

It is observed that the farmer-to-farmer method: (i) builds trust among participants, facilitating technology adoption; (ii) encourages continuous learning and experience-sharing in the absence of extension advisers; (iii) strengthens community engagement and connectivity; (iv) it is a low-cost system (no direct salaries paid); etc.

Fert (2019) notes that relay farmers in Burkina Faso, Kenya, and Madagascar have a shared advantage: they combine endogenous knowledge with new techniques tested on their own farm. Thus, The F2F method has a quick persuasion ability towards farmers. Its credibility is all the greater as it maintains close relations, even complicity, with those whose reality and daily life it shares. Finally, unlike the technicians who come and go according to available funding, relay farmers are more resilient and provide a minimum service in all circumstances.

Limitations:

For the limitations, it is noted that: (i) the results and impacts of the method are poorly documented, (ii) there is a low consideration of the gender dimension in the choice of relay farmers, (iii) the method requires a lot of time for monitoring and capacity building of the relay so that he/she becomes more or less empowered, (iv) there is the challenge of sustainable support of the relay farmer (farmers pay the services by themselves).

9. Pre-requisites for success and the role of different stakeholders in the success of the farmer-to-farmer method.

Fert (2019) indicates that implementing a relay farmer system requires:

- compliance with the principle of subsidiarity, and therefore the affiliation of relay farmers to their Farmers' organisation or base group, in particular as regards support or carry conditions;
- not to remunerate the relay farmers as employees, but to compensate for the service rendered (in particular through margins on the sale of products, seeds...);
- support the relay farmers in their function, whether by advisers, the Government or other actors (training, access to information...);
- promote exchanges between relay farmers on specific themes, to avoid isolation and open it to other contexts.

Key Lessons and Policy Implications

The key lessons and messages that can be drawn from the experience of the farmer-to-farmer method to guide public policies and agricultural advisory bodies in the judicious use of the method are that the method allows for appropriate solutions to the needs of the operation and requires the deployment of significant human resources.

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Capitalization sheets on innovative farm advisory tools for scaling up agricultural technologies and innovations

CORAF

RESCAR-AOC

FSRP
West Africa Food System Resilience Program

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CAPITALIZATION

Documentation on printed materials

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview on the printed materials

Printed materials in agricultural extension refer to all paper-based documents designed to disseminate technical, scientific, and practical information to farmers. In other words, they include all printed materials (brochures, posters, leaflets, technical sheets, guides, bulletins, or specialised magazines) aimed at transmitting knowledge, raising awareness, and training agricultural stakeholders on technological innovations, good agricultural practices, and farm management methods (Inter-Réseaux, 2013).

Printed materials facilitate access to information and technologies for all categories of producers, contributing to the large-scale dissemination of agricultural technologies and innovations. Main Types of Printed Materials Used in Agricultural Extension.

- Brochures and leaflets – These are short and illustrated documents presenting technical information on a specific crop, farming technique, or best practice (FAO, 2014).
- Posters and banners – They are used to raise awareness among farmers in training centres, cooperatives, or marketplaces (Rogers, 2003).
- Technical manuals and guides – They provide detailed information on specific agricultural topics and are often intended for trainers or extension officers (CIRAD, 2018).

- **Agricultural newspapers and bulletins** – They are used to publish technical articles, seasonal advice, and farmer testimonials.
- **Technical or fact sheets** – These are very concise documents explaining a specific farming technique with illustrations and step-by-step instructions (GIZ, 2019).
- **Comics and illustrated materials** – They facilitate message comprehension, particularly for farmers with low literacy levels.
- **Agricultural calendars** – They indicate optimal periods for various farming practices such as planting, harvesting, and treatments.

2. Brief Description of the Types of Beneficiaries of Printed Materials

Printed materials are used with all categories of farmers, from family-run farms to agribusinesses. However, some materials are better suited to specific groups. For example, picture-based booklets are more appropriate for farmers who cannot read or write, while technical sheets are better suited for those who can read and write in English.

3. Necessity and Objective of Using Printed Materials

Printed materials were developed to assist technicians in mastering research findings and facilitating their dissemination to farmers. These materials—including picture-based booklets, technical fact sheets, and leaflets—are used for capacity building and technology dissemination. They can be employed by extension officers in the field or through other channels, such as local radio stations, to communicate content to farmers. Printed materials serve as production guides for farmers and reference manuals for extension officers, ultimately ensuring easier access to accurate information that directly benefits farmers and their advisors.

4. Impacts of Using Printed Materials

The number of farmers reached through printed materials in agricultural extension varies depending on several factors, including the scope of extension programmes, the type of material used (brochures, posters, manuals, agricultural magazines, etc.), and the accessibility of these materials to farmers. In West Africa, for example, printed materials distributed through agricultural extension programmes have reached between 10,000 and 50,000 farmers per country (FAO, 2018).

Printed materials provide various services to farmers, such as capacity building, decision-making support, dissemination of innovations, and market information on agricultural products and inputs, etc.

According to farmers, the use of technical sheets has led to an increase in agricultural yields, with improvements ranging from **20%** to **100%**. This increase is mainly due to the adoption of high-yielding varieties and adherence to recommended farming technical practices.

5. Technologies and Innovations Promoted Through Printed Materials

Several technologies and innovations are promoted through printed materials, including:

- Cocoa drying techniques (e.g., Samoa oven);
- Proper coffee fermentation techniques;
- Simplified production pathways for various crops;
- Livestock feed production techniques;
- Animal fattening and health management;
- Composting techniques;
- Organic and/or mineral fertilisation techniques;
- Seed production;
- Varietal selection;
- Conservation of traditional seeds and other food products;
- Local food processing techniques, etc.

6. Average Costs of Using Printed Materials

The main costs associated with printed materials include reproduction costs and, to a lesser extent, transportation expenses. The cost of producing a printed document depends on several factors, such as the type of document (brochure, flyer, poster, technical guide), format, quantity, paper type, design, writing, printing, distribution, logistics, and promotional expenses. Depending on the type of document and the number of farmers to be reached, the final cost of using printed materials can be high. In many countries within the study area, printing costs for materials with some images range from 100 to 200 FCFA per page, while simple black-and-white text pages cost between 15 and 25 FCFA per page.

7. Strengths and Limitations of Printed Materials

The main strengths of printed materials identified in the literature review and during the national discussion and evaluation workshops and during the interviews on the documentation of methods and tools are as follows:

- Accessibility and durability – Printed materials (brochures, posters, manuals, etc.) can be kept and consulted at any time, unlike digital materials that require electricity or internet access (FAO, 2014).
- Ease of distribution – Printed materials can be distributed in remote rural areas where access to modern technology is limited (Rivera et al., 2001).
- Simplicity of use – Farmers do not need special technological skills to use printed materials (Van den Ban & Hawkins, 1996).
- Reliable information – Printed documents are often reviewed and validated by experts before publication (FAO, 2014), unlike online sources that may contain errors.
- Support for continuous training – Printed materials facilitate self-learning and training for farmers and extension officers (Swanson & Rajalahti, 2010).

The limitations of printed materials are mainly:

- High production and distribution costs – Printing and distributing materials can be expensive, especially in developing countries (Pretty et al., 2011).
- Difficulty in updating information – Unlike digital materials, printed documents become outdated quickly and require reprinting to update information (FAO, 2014).
- Limited accessibility for illiterate individuals – In some rural communities, low literacy rates can reduce the effectiveness of printed materials, requiring complementary methods such as radio or videos (Van den Ban & Hawkins, 1996).
- Environmental impact – Paper usage for printing can negatively affect the environment due to natural resource consumption (Swanson & Rajalahti, 2010).
- Lack of interactivity – Unlike digital tools, printed materials do not allow for real-time interaction with farmers to answer their questions (Rivera et al., 2001).

8. Prerequisites for Success and the Role of Different Stakeholders in Using Printed Materials

To ensure effective use, printed materials must meet several conditions, including adaptation to the target audience, high content quality, clarity, attractiveness, and wide

accessibility. It is also essential to collect feedback from farmers to improve and adjust the content.

Key factors for the success of printed materials include: (**i**) translation into local languages with more images than text; (**ii**) practical demonstrations after using printed materials; (**iii**) digitisation of materials to reduce reproduction costs.

To enhance the dissemination of printed materials, private sector partners should be involved in the process. Moreover, content should be regularly updated based on scientific and technological advancements to maintain farmers' interest.

Finally, patience is required when introducing printed materials in areas with low literacy rates, as adoption may take longer time.

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CAPITALIZATION

Documentation on the Digitalisation Tools for Farm Advisory: The Case study of Call Centres

August 2024

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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of the Call Centre Method

Agricultural call centres are telephone platforms dedicated to providing farmers with technical, economic, or regulatory information and advice to improve their agricultural practices (Saravanan et al., 2015). These services may be managed by governmental agences, NGOs, private companies, or agricultural cooperatives. Call centres play a crucial role while facilitating access to relevant information, thereby contributing to improved agricultural practices and supporting farmers in their daily activities.

2. Brief Description of the Types of Beneficiaries Supported by the Call Centre

Call centres are used to assist all categories of farmers, including men, women, youth, and people with disabilities. The only requirement is to have a mobile phone to make a call. Even if a farmer does not own a phone, he or she can borrow one from a neighbour, especially since there are options for free calls, therefore, no need to have prepaid credit.

3. Necessity and Objective of Using Call Centres

Call centres were introduced in a context characterised by insufficient funding for agricultural advisory services, a low ratio of advisory agents to farmers, increasing demands from farmers for training and information, limited material and logistic resources

for extension agents, isolated villages, extensive advisory areas, and security challenges that make field visits difficult or impossible for agents in certain locations. The development of Information and Communication Technologies (ICT), including mobile telephony and digital tools, has also fostered the emergence of call centres as an agricultural advisory tool. The main objectives behind the introduction of call centres are: (**i**) to improve the efficiency and effectiveness of agricultural advisory services; and (**ii**) to enhance timely access for agro-pastoral sector stakeholders to resources, information, and training.

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4. Impact of the use of call centres

Call centres enable farmers to receive personalised advice promptly without the need to travel. This is particularly beneficial for operations in remote rural areas (Nakasone et al., 2014). Compared to on-site visits, telephone or digital advisory services are more cost-effective and can reach a larger number of farmers at a lower expense (Aker, 2011). By providing updated information on best agricultural practices, crop management, and disease prevention, these services contribute to enhanced productivity and sustainability of farms (Goyal, 2010). Additionally, call centres play a critical role during crises (such as droughts, disease outbreaks, or pest invasions) by rapidly disseminating alerts and recommendations to farmers (Mittal and Mehar, 2016).

In the long term, call centres contribute to the professionalisation of stakeholders, adaptation to climate change, increased yields and incomes, and improvements in household food and nutritional security.

More farmers are being reached through call centres. To this end, in Africa, a study by the Technical Centre for Agricultural and Rural Cooperation (CTA) and Dalberg Advisors identified nearly 400 digital agricultural solutions, including call centres, with around 33 million smallholder farmers registered across the continent. These services have been growing at an annual rate of **45%** since 2012 (SPORE, 2019). For example, in Niger, the agricultural call centre set up by the *Réseau des Chambres d'Agriculture* (RECA) - the network of agricultural chamber - in 2017 registered 2,029 calls in the first 15 weeks (RECA, 2018); for the case of the 3-2-1 service in Burkina Faso, an average of 95,000 farmers are reached per month according to data capitalised by the DVRD (2024).

5. Technologies and Innovations Promoted Through Call Centres

Call centres play a crucial part in the dissemination and adoption of technologies among farmers. They use various ICT tools to provide relevant information (FARA, 2009). For example, Interactive Voice Response (IVR) systems allow farmers to access critical information in their local languages. When further details are needed, farmers can be redirected to a call centre staffed with knowledgeable personnel or to extension agents. This model facilitates the dissemination of specific information adapted to local conditions, such as climate or soil type (FARA, 2009).

A study conducted in Burkina Faso examined the impact of ICT on agricultural advisory services. The results indicate that using ICT—including call centres—has transformed advisory services by enhancing access to information and facilitating communication between farmers and advisors (Alexandre, 2018).

Technologies and innovations promoted through call centres include improved seeds, contract farming, fruit fly control, sustainable fertilisation, technical guidelines for specific crops, among others.

6. Average Implementation Costs of Call Centres

The implementation costs of call centres take into account: (**i**) the costs of establishing the call centre system (in collaboration with a mobile network operator); (**ii**) the costs of developing the content to be shared with farmers; (**iii**) translation fees for messages into various languages; and (**iv**) the costs of calls made by farmers.

The cost of developing and using ICT varies greatly depending on the infrastructure and the extent of coverage. Evaluating the implementation costs of agricultural call centres is challenging. For instance, according to studies by Ouédraogo et al. (2020), “N’KALO”, the market information and advisory service established in Burkina Faso set subscription collection costs in rural areas that ranged from 1 to 60 USD per year (635 to 38,000 FCFA). In Côte d'Ivoire, according to RECA (2018), the total cost of implementing the e-Extension programme was estimated at 600 million FCFA, comprising 300 million for investments (companies fees, smartphones, etc.), 75 million for ANADER expenses (training, portal updates), 170 million for equipment (servers and software), and 48 million for MTN’s telecommunication services (hosting part of the IT infrastructure and covering free calls during an initial phase of 2.5 to 3 million FCFA per month).

7. Strengths and Weaknesses of Call Centres

The main strengths and weaknesses of call centres, as identified during national workshops and assessment sessions as well as through field documentation interviews, are as follows:

Strengths of call centres

- The commitment of the government and its partners to the digitalisation of agricultural services.
- The availability and diversity of mobile network operators willing to engage in digitalisation efforts.
- The growing use of mobile phones by farmers and their openness to innovation.
- Extensive geographical coverage and network reach in rural communities.
- Accessibility of services in local languages.
- The ability to access call centre services using basic phones without internet.
- Free agricultural advisory services offered by some call centres and the speed in service delivery.
- The possibility of obtaining tailored advice from some call centres (via tele-advisors).
- The commitment of farmers to use these communication channels.

Weaknesses of call centres:

In some rural areas, limited access to mobile phones and the internet can reduce the effectiveness of call centres (Aker and Mbiti, 2010). The information provided may be too general and may not account for local specifics (soil, climate, crop varieties), limiting its relevance (Baumüller, 2018). The quality of advice depends on the expertise of the operators and the updating of databases; outdated or incorrect information can have negative consequences for farmers (Goyal, 2010). Communication via phone or SMS may not be sufficient for conveying complex knowledge that requires practical demonstrations (Glendenning and Ficarelli, 2012).

Additional limitations mentioned by stakeholders in field documenting include:

- security crises that can cause armed group to destroy telecommunication infrastructure;

- the cost of calls for farmers (e.g., 25 FCFA per call after the four free calls provided per month in Burkina Faso),
- insufficient financial resources for maintaining the platforms,
- dependence on mobile network operators,
- and incomplete national coverage by mobile networks.

8. Prerequisites for the Success of Call Centres

For a call centre to operate effectively, an adequate communication infrastructure is essential. This includes sufficient network coverage in rural areas (Kumar & Sharma, 2020) and access to ICT, particularly mobile phones and the internet (Aker, 2011). The services provided must be available, accessible, and adapted to the needs of farmers (Mittal et al., 2010), and call costs must be manageable for low-income users.

The information disseminated must be accurate, regularly updated (Gakuru et al., 2009), adapted to local conditions and farmers' needs (Meera et al., 2004), and delivered in a language and dialect that farmers understand (Chapota et al., 2014).

Operators at call centres need proper training to address the specific technical and socio-economic needs of farmers (Ferris et al., 2014). Additionally, it is crucial to establish a monitoring and evaluation system to measure the impact of call centres and ensure ongoing improvements (Qiang et al., 2012).

Key prerequisites highlighted by organizations during field documentation include:

- Political will to promote e-extension.
- Partnership agreements with mobile network operators.
- Negotiated call rates with mobile operators to facilitate affordable access for all farmers.
- Organisation of informational and awareness sessions to educate users on the tool.
- Involvement of all stakeholders to encourage widespread adoption.
- Creation of a multi-stakeholder committee (including agronomists, researchers, communicators, and representatives of farmer organisations) to identify key themes and messages for dissemination.

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West Africa Food System Resilience Program

CAADP XP4 PROGRAMME

CAPITALIZATION

Documentation on Folkloric Media

August 2024

THE WORLD BANK
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IFAD
Investing in rural people

Funded by the European Union

Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

The overall objective of the study was to compile a descriptive directory of innovative agricultural advisory methods and tools for scaling up agricultural technologies and innovations in West and Central Africa.

Several individuals within CORAF, RESCAR-AOC, and beyond, across the 13 countries covered by the study, contributed to the success of this initiative. We extend our gratitude to everyone involved for their contribution.

1. Overview of folkloric media

Agricultural extension is based on the dissemination of new technologies and best practices to farmers in order to improve the productivity and sustainability of agricultural systems (Rogers, 1995). In this context, folkloric media play a key role by facilitating the transmission of information through the culture and traditions of rural communities. They refer to all the traditional and cultural means of communication used to convey agricultural knowledge and innovations to farmers. Folkloric media include stories, songs, dances, popular theatre, proverbs and other forms of oral and artistic expression specific to a community. The particular strength of folkloric media lies in their ability to actively engage local populations in the communication and learning process, thereby enhancing their effectiveness (Anyaegbunam et al., 2004). In doing so, they contribute to a better adoption of agricultural innovations by integrating traditional knowledge and local values.

2. Brief Description of the Types of Beneficiaries Supported by Folkloric Media

Folkloric media are used to support all categories of producers – men, women, young people and individuals with disabilities. Depending on the thematic area of the exchange, experts in this field find ways and techniques to engage the whole community.

3. Necessity and Objective of Folkloric Media

Folkloric media are used in agricultural advisory services to facilitate farmers' access to information, technologies and agricultural innovations via media that are widely utilised by rural communities. Awareness-raising activities through these media are conducted in the local language. Despite the increasing use of digital tools, folkloric media remain essential for rural farmers due to their strong cultural resonance. During these sessions, information on agricultural extension and advisory services is provided. The objectives of introducing folkloric media in agricultural advisory services are to raise awareness, disseminate information, clarify issues and encourage the adoption of agricultural technologies and innovations

4. Impacts of Folkloric Media

The adoption of agricultural technologies and innovations through folkloric media has led to yield increases of between 80 and 90 per cent and to an increase in farmers' incomes of at least 50 per cent, according to field interview results.

5. Technologies and Innovations Promoted Through Folkloric Media

Folkloric media allow for the transmission of agricultural information in an accessible and engaging manner. Indeed, Simpson (2016) demonstrated in his study the importance of using cultural approaches to convey agricultural information by adapting to local contexts for better adoption of technologies. Folkloric media can therefore be used to disseminate improved agricultural practices, integrated pest management and water conservation techniques. This information can be conveyed through traditional songs, stories and/or theatrical plays (Peace Corps, 2009). Other technologies mentioned by stakeholders during field documentation include improved production and processing technologies for agrosylvopastoral products, improved seed varieties and enhanced animal breeds, etc.

6. Average Implementation Costs of Folkloric Media

The costs of implementing folkloric media can vary depending on several factors, including:

- Content creation: developing scripts, musical compositions or stories adapted to agricultural messages;

- Training for facilitators: preparing artists or facilitators to ensure effective delivery of messages;
- Logistics: organising the events, travelling to rural communities and material requirements;
- The duration and frequency of interventions: the number of sessions planned and their frequency.

7. Strengths and Limitations of Folkloric Media

Some strengths and limitations of folkloric media have been described in the literature. In this regard, strengths include:

- Cultural and linguistic accessibility (FAO, 2004); folkloric media use local forms of expression and local languages, which facilitate understanding and acceptance of messages by rural communities
- Effective oral transmission (Peace Corps, 2009; FAO, 2004); oral traditions allow for the dissemination of information in a memorable manner, drawing on stories and songs that can be easily remembered and shared
- The strengthening of social cohesion (FAO, 2004): folkloric events bring community members together, thereby promoting the sharing of agricultural knowledge and the collective adoption of new practices
- The valuing of local knowledge (FAO, 2004): by incorporating local cultural elements, these media are faithful to traditional knowledge and enhance them, encouraging farmers to adopt innovations compatible with their practices.

The limitations of folkloric media in agricultural extension identified by FAO (2004) are their limited reach, lack of technical precision, cultural evolution and limited resources.

Other strengths and limitations identified during national exchange and evaluation workshops and through documentation interviews on methods and tools are as follows:

Strengths of Folkloric Media

- The cultural relevance of folkloric media;
- Their easy accessibility to communities;
- The inclusive participation of communities, which motivates community involvement;

- The ease with which sustainable agricultural practices can be promoted through folkloric media as part of awareness-raising initiatives;
- The effective appropriation and empowerment of the community through folkloric media;
- The easy adaptability of folkloric media to changing contexts and needs, etc.

Limitations of Folkloric Media

- The difficulty in reaching a large audience
- The lengthy time required to prepare content for these media;
- Insufficient financial resources to support the process;
- The limited availability of qualified interpreters to translate the messages;
- The difficulty in assessing the impact of this tool on agricultural practices;
- The content can quickly become outdated;
- The difficulty in adapting to new technologies.

8. Prerequisites for Success and the Role of Various Actors in the Success of Folkloric Media

For the deployment of folkloric media, the availability of qualified resource persons and dedicated technical staff is a must. Furthermore, available financial resources and means for the use of these tools is necessary. Thus, it is essential to: (**i**) provide ongoing training and capacity building for those using these media; (**ii**) utilise modern and advanced technologies in the production of folkloric media for greater efficiency; (**iii**) hold accountable those responsible for producing the communication materials for folkloric media.

The lessons learnt from the use of folkloric media are that: (**i**) these media should remain a complementary tool to the various methods and tools used in agricultural advisory services; (**ii**) extension officers must have an in-depth knowledge of local traditions, customs and cultural expressions in order to adapt agricultural messages to the specific contexts of communities; (**iii**) the active involvement of community members in creating and disseminating messages ensures that the information is relevant and accepted by the target audience; (**iv**) extension officers must be trained in the use of folkloric media and understand how to effectively integrate these tools into their communication strategies; (**v**) technical information should be translated into accessible language and incorporated

into folkloric formats such as songs, stories or plays, thereby facilitating understanding and retention.

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CAPITALIZATION

Documentation on the focus groups

August 2024

THE WORLD BANK
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IFAD
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Introductory Note

This fact sheet has been produced as part of a study to map innovative methods and tools in agricultural advisory services in West and Central Africa. This study was commissioned by CORAF/WECARD (the West and Central African Council for Agricultural Research and Development) and carried out by RESCAR-AOC (the West and Central Network for Agricultural and Rural Advisory Services) across 13 West and Central African countries.

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1. Overview of a focus group

The focus group is used to identify the specific needs of a given group of farmers so that proposed solutions within the community can take these specific needs into account. In the field of agricultural extension, focus groups contribute to understand the needs, challenges and perceptions of farmers regarding various agricultural practices. For example, they can be used to assess the effectiveness of extension programmes, identify barriers to the adoption of new technologies, or gather feedback on specific initiatives.

Furthermore, the focus group enables the needs of vulnerable groups – such as women, young people and individuals with disabilities – to be taken into account. This allows for an understanding not only of their requirements in terms of agricultural technologies and innovations but also of the specific aspects affecting these groups in the dissemination and scaling up of such technologies and innovations. Beyond vulnerability issues, focus groups can be organised according to other profile criteria such as level of education, primary type of activity, etc.

2. Brief Description of the Types of Beneficiaries Supported by Focus Groups

Focus groups are used with various categories of farmers. The main idea behind focus groups is to form more or less homogenous sub-groups so that each farmer can be included in a specific group according to factors such as gender, age, level of education, type of activity, etc.

3. Objective of the Focus Group

The primary objective of a focus group is to facilitate the sharing of knowledge and experiences among a more or less homogenous group of farmers (men, women, young people, individuals with disabilities, crop farmers, livestock keepers, etc.). Members of this specific group sharing common criteria can exchange views more easily in a relaxed atmosphere.

4. Steps in Conducting a Focus Group

Conducting a focus group allows a large number of farmers to be reached and encourages their active participation in developing and disseminating agricultural technologies and innovations. To achieve this, the following steps should be taken:

- Identify the innovation to be disseminated;
- Mobilise farmers with the appropriate profile according to the focus group thematic area;
- Mobilise extension officers or agents to facilitate the discussion with the focus group members;
- Enhance the skills of the facilitators in conducting focus groups;
- Carry out the discussion sessions in the field;
- Monitor and evaluate the results of the focus groups; etc.

5. Impacts of focus group

The use of focus groups encourages changes in behaviour among farmers, which in turn leads to greater uptake and adoption of agricultural technologies and innovations, eventually resulting in increased yields and incomes for the farmers.

The focus group tool has enabled facilitators to reach a large number of farmers. Group follow-up is more efficient, saving both time and resources. For example, in one month an extension agent can reach 100 farms through focus groups, compared to 30 via one-to-one support.

6. Technologies and Innovations Promoted Through Focus Groups

Several technologies and innovations are promoted through focus groups. Adoption occurs gradually because initially it is difficult for beneficiaries to share economic information

within diverse groups due to concerns about mistrust and ill-will. With focus groups, farmers are more confident (being in smaller, more homogenous groups), which facilitates the sharing of experiences and knowledge. Discussions become smoother, and farmers are more open to innovations and new technologies.

7. Average Costs to conduct a Focus Group

The costs associated with conducting a focus group vary according to the number of participants per group and the organisational structure. The direct costs to farmers are not high and include travel and subsistence expenses where applicable. Other costs relate to the mobilisation and transport of the advisers or facilitators.

8. Strengths and Limitations of Focus Groups

The main strengths and limitations of focus groups, as identified during national discussions and evaluation workshops and through documentation interviews, are as follows:

Strengths of Focus Groups

- They allow the collection of qualitative data: focus groups yield detailed information on participants' attitudes, motivations, and experiences, providing an in-depth understanding of local agricultural dynamics;
- They promote interaction and synergy: group dynamics encourage the exchange of ideas, with participants questioning each other, debating and providing arguments, thereby enriching the discussion;
- They facilitate the identification of consensus and divergence: focus groups help to observe areas where participants agree or disagree, aiding in pinpointing points of consensus and divergence within the agricultural community;
- They are adaptable and flexible: focus groups can be tailored to various agricultural contexts, allowing a range of topics relevant to farmers to be addressed;
- They are inclusive: they enable the inclusion of specific categories based on the subject matter;
- They ensure that the specific needs of the group are taken into account; etc.

Limitations of Focus Groups

- The reach of a focus group is limited (due to the small number of participants);
- The results are too specific to the group and are not often representative;
- There is a risk of dominant participants influencing the discussion: some individuals may dominate while others remain silent, potentially biasing the outcomes and preventing all opinions from being expressed;
- There is a risk of socially desirable responses: participants may be inclined to give answers they believe are expected or socially acceptable, rather than their true opinions;
- There is a risk of potential conflicts: conflicts or power struggles may arise between group members, necessitating effective moderation to maintain a constructive discussion environment.

9. Prerequisites for Success and the Role of Various Stakeholders in the Success of Focus Groups

For a focus group to succeed, certain conditions must be met, including: (**i**) the availability and dedication of staff to conduct the focus group; (**ii**) the availability of logistical resources for the transport of agents and an appropriate venue for the meeting and discussions; (**iii**) the selection of dynamic and motivated farmers to discuss the chosen theme. In this regard, certain innovations are necessary, such as: (**i**) structuring the farmers, (**ii**) enhancing the capacities of agents in conducting focus groups, (**iii**) collecting and analysing socio-economic data from the discussion group, etc. Involving farmers in identifying the discussion topics greatly contributes to the success of a focus group.

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CAPITALIZATION

Documentation on Digital platforms

August 2024

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Introductory Note

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1. Overview of the digital platform tool

An agricultural digital platform is an online interface that gives farmers access to a variety of services and resources, enabling them to manage their farms more efficiently and sustainably. Platforms contribute to the digital transformation of the agricultural sector by offering farmers tools to improve productivity, access new markets and benefit from services tailored to their needs. They act as a point of convergence between agricultural producers and the various stakeholders in the value chain, such as distributors, service providers and consumers. The development of digital platforms in the agri-food sector is redefining the ways in which agricultural production is marketed and consumed (Grain de Sel, 2018).

2. Brief description of the types of beneficiaries supported by digital platforms

Digital platforms are open to all categories of farmers. However, it is difficult for farmers who do not have a high level of education to use them. Digital platforms are used much more by technicians, who use them to find the information they need to provide to farmers. The videos and various documents on these platforms are most often downloaded and made available to growers through other channels.

3. Goal of digital platforms

The main function of digital platforms is to promote the sharing and use of agricultural training videos. These videos cover a range of topics relating to plant, animal and forestry production.

In the case of 'Access to Agriculture', the videos cover the following areas: Grains; Root, Tuber & Banana; Vegetable; Legumes; Fruit & Nut; Other Crops; Livestock; Aquaculture; Sustainable Land Management; Plant Health; Equipment; Business Skills; Approaches; Others (all in French).

In the case of the Burkina Faso Ministry of Agriculture's 'Agritube', the videos cover the following topics: Grains; Tubers and roots; Fruit and vegetables; Legumes and oilseeds; Agricultural mechanisation; Agricultural inputs and regulations; Seed production; Manufacture and use of organic inputs; Innovative technologies; Crop pest management; Agri'Voucher.

4. Impacts of digital platforms

Digital agricultural platforms are playing a growing role in improving farmers' yields by facilitating access to vital information and optimising farming practices. They provide farmers with accurate weather data, technical advice, financial services and market opportunities, contributing to better decision-making and more efficient farm management. In terms of productivity, Feed the Future (n.d.) claims that independent studies have shown yield improvements of up to **170%**. The contribution of NpAg (innovation and digitisation for agriculture) to improved productivity is said to be associated with better weather forecasts, recommendations for fertiliser use, or simply making it possible to purchase improved inputs (Feed the Future, n.d.).

The effects of NpAg on incomes have been observed regularly over the last decade and ranged from **2%** to **20%**, but with some positive outliers of up to **60%** improvement in incomes (Feed the Future, n. d.).

The number of farmers subscribing to digital agricultural services has increased by **40-45%** per year over the past three years. (www.microsave.net/fr/blog/2020/05/28/levolution-de-leconomie-de-la-plateforme-agricole). The African Development Bank (AfDB) reckons that 33 million people have already signed up to digital agricultural services such as weather forecasts and access to markets.

(www.microsave.net/fr/blog/2020/05/28/levolution-de-leconomie-de-la-plateforme-agricole). The 'Accès Agriculture' platform has 90 million users, 266 entrepreneurs in 18 countries, and more than 4,500 videos on agro-ecology, with content in more than 100 languages (https://www.accessagriculture.org/fr/global-use). The 'Accès Agriculture' platform has 90 million users, 266 entrepreneurs in 18 countries, with more than 4,500 videos on agro-ecology, with content in more than 100 languages (https://senegal.un.org/fr/123751-84-000-producteurs-s%C3%A9n%C3%A9galais-ont-re%C3%A7u-les-tous-premiers-conseils-agricoles-de-la-plateforme). The 'Agritube' platform of Burkina Faso's Ministry of Agriculture contains a variety of videos in five languages relating to plant, animal and forest production (https://agritube.gov.bf/). The M-Louma digital platform, which has been operating in Senegal since 2012, has 75,000 registered users (Grain de Sel, 2018).

5. Technologies and innovations promoted through digital platforms

Digital platforms (such as Agritube, Accès Agriculture, etc) enable agricultural knowledge to be disseminated rapidly and on a large scale. They offer multimedia content (videos, tutorials, discussion forums) that makes it easier for farmers to learn on their own. A wide range of technologies are disseminated, including conservation agriculture, climate-smart agriculture and efficient irrigation techniques. According to Rogers (2003), digital platforms accelerate the adoption of new technologies by reducing the distance between experts and farmers. Thanks to the demonstration effect offered by videos, farmers can visualise techniques and implement them more easily.

6. Average Implementation Costs of digital platforms

The cost of developing and using ICT varies enormously depending on the infrastructure and extent of coverage (Saravanan et al., 2015). For applications such as social media, the cost can be as little as a few dollars for devices and data charges, whereas for complex applications such as web portals, e-learning platforms, apps, expert systems or decision support system development, the cost can be several million dollars (Saravanan et al., 2015). According to these authors, it would take an average of US$300 to US$2,000 to create a basic website, US$2,000 to US$10,000 to integrate a content management system (CMS), and between US$10,000 and US$60,000 for a sophisticated web portal with added functionality. To these costs one should also take into account the maintenance

of web portals, which also comes with a considerable price tag. An expert system can cost between US$1,000 and US$10,000, depending on its design, the software and the size of the content.

7. Strengths and limitations of digital platforms

Digital agricultural platforms offer numerous benefits for the farming sector, but also have certain limitations. They provide easier access to information, reduce production costs, facilitate and improve the traceability of agricultural products, and help to strengthen farming communities. (How can digital technology be used in agriculture to improve farm management, from production to marketing? - francenum.gouv.fr in French).

The limitations of digital platforms include the difficulty of accessing infrastructure, the lack of digital skills among farmers, the cost of procuring digital devices, and the confidentiality and security of data. (Boost the adoption of digital tools by small farmers in French) (Royer et al., 2020).

8. Prerequisites for success and the role of the various stakeholders in the success of digital platforms

The use of digital platforms requires an appropriate technological infrastructure, including a stable and fast Internet connection (ITU, 2021), suitable equipment (smartphones, tablets, computers) (FAO, 2020) and appropriate network coverage, particularly in rural areas (World Bank, 2019).

To adopt digital platforms, farmers need to be familiar with digital tools and new technologies (UNESCO, 2022), be aware of cybercrime and understand good digital practices (OECD, 2021).

To ensure effective use, platforms must offer content tailored to farmers' needs (FAO, 2021; FAO, 2020; CTA, 2018).

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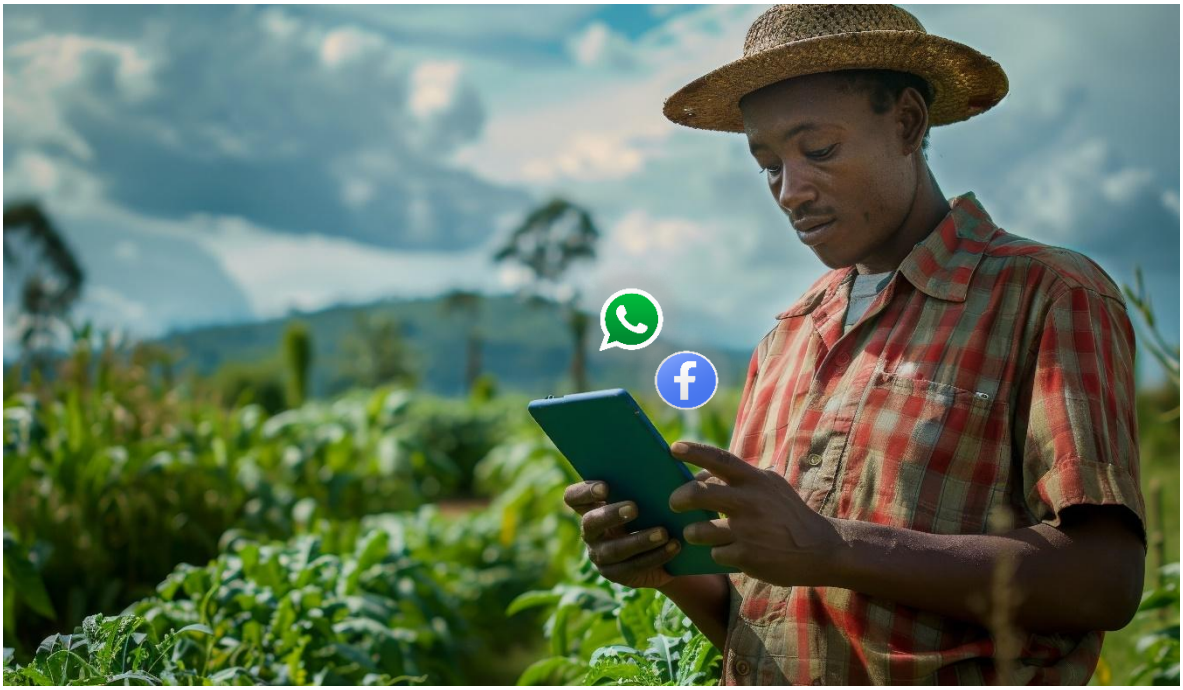
CAPITALIZATION

Documentation on social networks as farm advisory tools: Facebook, WhatsApp



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1. The use of social networks as a farm advisory tool: Facebook, WhatsApp

Social networks are increasingly being used as farm advisory tools. Facebook and WhatsApp, for example, are used extensively by many farm advisory organisations. They use these two tools in farm advisory services in the following ways:

(i) identifying a topical theme of interest to farmers;
(ii) creating and sharing a registration link on Facebook for the training session;
(iii) registering and validating participants' registrations;
(iv) creating a group for the training session with registrations that have been validated on WhatsApp;
(v) sharing the training link on the WhatsApp group that has been created;
(vi) running the training session

At the end of the training, management rules are put in place to maintain and operate the WhatsApp group. These rules include:

- Interdiction to share other links on the group
- Interdiction to publish anything outside of agricultural development (agricultural development is all about agriculture, livestock farming and the environment): share videos, technical fact sheets and other technologies within the groups.
- Self-management of the group is encouraged

- Around 15 to 20 administrators for all the groups, including nationals and foreigners, are in place to ensure that the group's management rules are complied with.

Social networks are E-extension tools, but they are also used by a number of other methods such as the field school, SHEP approach (Smallholder Horticulture Empowerment and Promotion), the VBA approach (Village-based Advisors), the Farmer Business School, etc. Other tools used with social media include data fact sheets, videos, etc.

2. Brief description of the types of beneficiaries supported using social media: Facebook, WhatsApp

Social media are used in farm advisory services to support all categories of farmers: men, women, young people, people with disabilities, etc. The most important thing is that the farmer has a phone that enables him or her to connect. Once they have joined a group, especially on WhatsApp, the ability to read and write is not compulsory, as messages can be passed in the local language in audio format.

3. Necessity and objectives of using social media: Facebook, WhatsApp

The main objectives of using social media in farm advisory services are: (**i**) to facilitate the large-scale dissemination of information, (**ii**) to maintain exchanges between participants in a given activity, (**iii**) to facilitate exchanges between various stakeholders on a specific issue related to farm advisory services, (**iv**) to facilitate farmers' access to markets, (**v**) to limit the travel expenses of extension agents.

Social media enable rapid and interactive dissemination of information, decision-making and changes in farm management (Phillips et al., 2018), thus contributing to the adoption of new farming practices.

4. Impact of the use of social media in farm advisory services

The use of social media facilitates the sharing of information, knowledge and experience as well as innovations and technologies among farmers and between farmers and technicians as well as research. Through these exchanges among farmers and between farmers and technicians, farmers have access to innovations and technologies, which facilitates their uptake and adoption. According to the farmers, discussions in these groups enable them to access and adopt technologies. This is the case for technical itineraries,

the use of organic manure, improved seed varieties, and the places where agricultural inputs are sold, etc. The adoption of innovations and technologies helps to increase agricultural yields, and hence the quantities of agricultural produce and the incomes of farmers. Also, through social media, farmers have access to new markets, according to their testimonies. This is the case with information on agricultural fairs, where participation gives them new customers. Also, through discussions in the various groups on supply and demand for agroforestry products, farmers have access to new markets.

Documentary sources have also mentioned the impact of social media in agricultural advisory services. In Senegal, for example, farmers use WhatsApp groups to exchange voice messages in local languages, sharing advice on farming practices, weather conditions and solutions to common challenges (warimag.net). Many farmers use Facebook to market their products, share videos of their harvests and attract new customers, increasing their sales and visibility (dakar-echo.com). Platforms such as Agribusiness TV use Facebook to broadcast videos showcasing agricultural entrepreneurs, inspiring other farmers to adopt new technologies and practices. (shs.cairn.info). *La Cause Rurale* in Burkina Faso uses social media to disseminate information on various issues relating to farm advisory services and facilitate the sharing of experience among farmers and between farmers and technicians. Its Facebook page has more than 224,000 members, the Facebook group more than 14,000 members, more than 14 groups on WhatsApp with more than 7,000 members and a website with a library of more than 3,000 documents, including technical fact sheets (www.lacauserurale.com).

5. Technologies and innovations promoted through social media: Facebook, WhatsApp, etc.

A number of innovations and technologies are being promoted through social media. These include :

- Phytosanitary management of pests, with guidelines on the phytosanitary products or good cropping practices to be adopted for pest management;
- Production techniques and good practices;
- Irrigation through the promotion of drip irrigation;
- Itineraries and good practices in fruit growing;
- Sharing agro-meteorological bulletins;

- Sharing technical fact sheets on different crops and improved varieties;
- The sharing of videos relating to specific farm advisory topics;
- Information on agricultural markets (availability, prices, sales outlets); etc.

6. Average Costs of setting up social media: Facebook, WhatsApp

The use of social media for agricultural extension offers significant benefits in terms of cost and effectiveness. These networks enable agricultural information to be disseminated quickly and interactively, reducing the need for physical travel and printed material. The costs of using social media as an agricultural advisory tool are mainly the cost of procuring an android phone, connection fees and the cost of incentivising administrators to regulate exchanges on the groups. Apart from the costs of motivating administrators, the other costs are borne by farmers, but not just for farm advisory services, but for their needs in general.

7. Strengths and limitations of social media: Facebook, WhatsApp

ICTs facilitate access to agricultural information and improve farmers' decision-making (Aker, 2011). The use of social networks including WhatsApp and Facebook reduces the need for extension workers to travel, thereby lowering associated costs (World Bank, 2017). They also make it possible to reach a large number of farmers, including those in rural areas with an internet connection. WhatsApp enables rapid interaction between farmers and extension workers through text, audio and video messages (Munthali et al., 2018; Chhachhar and Hassan, 2013; Mwalukasa, 2013).

The lack of physical interaction can be a limitation to these networks. Agricultural extension very often relies on practical demonstrations, which are difficult to achieve via social networks (Davis and Sulaiman, 2014). Also, limited access to the Internet in some rural areas reduces the effectiveness of these tools (FAO, 2018; Aker and Mbiti, 2010). The dissemination of erroneous or unverified information is a major risk on these platforms (Zanello et al., 2019). Some farmers have difficulty using these tools because of digital illiteracy or the language in which the platforms are used (Meera et al., 2004).

The main strengths and limitations of social media identified during the national discussion and evaluation workshops and during the interviews to document the methods and tools are as follows:

Strengths of social media: Facebook, WhatsApp

- The applications are free and inexpensive;
- the ease with which farmers can use these tools and the fact that they are now being adopted by all categories of farmers, even those who cannot read or write a language (as in the case of WhatsApp);
- the ease with which stakeholders can be put in touch and the ease with which they can interact with experts;
- the availability and accessibility of information and technologies at all times;
- the ease of sharing of experience among farmers and between farmers and technicians;
- Discussions are based on the needs and interests of farmers;
- the wide geographical coverage and reach of social media (large number of farmers reached);
- the possibility of viewing videos and images on agricultural technologies and innovations

Limitations of social media: Facebook, WhatsApp

- The information shared is not controlled;
- Compulsory access to an android phone and the internet is a limitation for farmers, who have limited financial resources;
- Discussions are often unfocused and not very fruitful;
- The low level of literacy among farmers is a limiting factor;
- The lack of staff dedicated to leading and managing the groups.

8. Prerequisites for the success of social media (the case of WhatsApp groups)

The use of social media such as WhatsApp and Facebook for agricultural extension requires a number of essential conditions to be put in place to ensure their effectiveness. These include adequate infrastructure, such as access to electricity and a reliable internet connection, especially in rural areas. Without these elements, the use of digital technologies remains limited (African Union, 2023). The costs associated with Internet access and the acquisition of compatible devices must also be affordable for farmers. High tariffs can be a major barrier to the adoption of these technologies (Trendov et al., 2019). Also, users (farmers) must have the necessary skills to use these platforms effectively.

Training programmes on the use of social media can facilitate this adoption (Trendov et al., 2019).

According to the data from the interviews conducted during the documentation phase, the use of social media in farm advisory services requires: (i) the existence of sufficient technological infrastructure, the existence of a stable socio-political context, and the involvement of users in the design of media content. Innovations are also needed for their use, including: (i) capacity-building for users to make it easier to understand and use social media, capacity-building for social media managers on specific topics: digital transformation, online community management, multimedia content creation, digital education and pedagogy, data analysis, management of change, networking and partnerships, and so on.

Successful use of social media is mainly associated with:

- self-regulation of the groups by volunteer administrators
- running a training session before the discussion groups are set up.
- Most of the technologies and innovations in the groups are disseminated by the members themselves.

Farmers and other stakeholders (research, technicians) have played a role in the success achieved. Farmers are committed to learning more in order to improve the implementation of their activities. In addition, the commitment of the members, with their various profiles, to support the farmers is noteworthy.

The key lessons and messages to be drawn from the use of social media (as in the case of WhatsApp groups) are as follows:

- these networks are easier for farmers to use;
- They allow farmers to be trained on specific topics;
- IT skills are needed to manage exchange and sharing forums on social media;
- There is a need for time to run discussion and sharing forums on social media, hence the need for resource people to run the specific thematic sessions;
- It is important to undergo training on a given topic before setting up certain discussion forums such as WhatsApp groups;
- The content of social media should be adapted to the needs and interests of farmers, to ensure their active participation;

- There is a need to organise capacity-building sessions for social media users and content managers, to ensure that they take fuller ownership of these networks and disseminate the technologies more effectively;
- It is necessary to involve farmers in the design of network content, so that their real needs can be taken into account.

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