



Institut de recherche et de promotion des alternatives en développement
Institute for Research and Promotion of Alternatives in Development

Case Study Report

Agricultural Value Chain Development Radio
The Cases of Kônôbougou and
Bougouni/Yanfolila

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ACRONYMS, ABBREVIATIONS AND TERMS USED

AFD	<i>Agence française de développement</i> (French Development Agency)
AFDR	<i>Association pour la formation, le développement et la ruralité</i> (Association for Training, Development and Rurality)
APIL	<i>Action pour la promotion des initiatives locales</i> (Action to Promote Local Initiatives)
CAADP	Comprehensive Africa Agriculture Development Programme
CAD	Canadian dollar
CFAF	CFA franc
CREDD	<i>Cadre stratégique pour la relance économique et le développement durable</i> (Strategic Framework for Economic Recovery and Sustainable Development)
ENSAN	<i>Enquête nationale de santé</i> (National Health Survey)
FIER	<i>Formation professionnelle, insertion et appui à l'entrepreneuriat des jeunes ruraux</i> (Vocational Training, Integration and Support for Entrepreneurship among Rural Youth)
FRI	Farm Radio International
FSPG	Food Security Policy Group
GAC	Global Affairs Canada
ICT	Information and communication technologies
ID-FM	<i>Initiative Développement FM</i> (Radio station)
NGO	Non-governmental organization
PDA	<i>Politique de développement agricole</i> (Agricultural Development Policy)
PDAM	<i>Programme de développement de l'aviculture au Mali</i> (Mali Poultry Development Program)
PNISA	<i>Plan national d'investissement dans le secteur agricole</i> (National Investment Plan for the Agricultural Sector)
PoINSAN	<i>Politique nationale de sécurité alimentaire et nutritionnelle</i> (National Food and Nutritional Security Policy)
RADCHA	<i>Radio pour le développement des chaînes de valeur agricole</i> (Agricultural Value Chain Development Radio)
SDG	Sustainable Development Goal
UGCPA-BM	<i>Union des groupements pour la commercialisation agricole de la Boucle du Mouhoun</i> (Agricultural Marketing Union of Boucle du Mouhoun)

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About FSPG's series of case studies

In 2019, the Canadian Food Security Policy Group (FSPG) commissioned a series of six case studies to understand how Canadian investments in agriculture support sustainable development outcomes in West Africa. Six case studies of projects supported by Canadian civil society organizations were selected. These projects showcase how such investments support broad sustainable development outcomes such as gender equality, environmental sustainability, climate resilience, improved livelihoods, and enhanced food security. Case studies were informed by literature reviews of project documentation, and interviews and focus group discussions carried out in impacted communities, with research carried out by local research teams supported by Canadian and local partners.

FSPG is a network of Canadian development and humanitarian organizations with expertise in global food systems, and food security in the Global South.

Project at a glance: Agricultural Value Chain Development Radio (RADCHA)

Canadian partner: Farm Radio International (FRI)

Local partner: FRI Mali

Budget: \$666,566 CAD

Duration: 2015–2017

Project location: Mali – Sikasso, Ségou and Koulikoro regions

Actual research location: Bougouni, Yanfolila and Konobougou

Participants: Radio Kafokan in Sikasso, Radio Sikidolo in Ségou, *Initiative développement* (ID) FM in Koulikoro, and 91,000 farmers who listened to radio programs on stations supported by the project

Value chain: Poultry

Key objectives: Increasing food security and improving incomes of small-scale farmers and their families in sub-Saharan Africa using radio to increase revenues generated by their participation in the local poultry value chain.

Sustainable development goals addressed: Food and hunger, education, economic growth, sustainable consumption and production, gender equality

CONTEXT OF THE STUDY

Promoting food sovereignty and food security is a priority for Mali's national political authorities. The country has around 43.7 million hectares of arable land suitable for agriculture and livestock, of which 5.2 million hectares (11.9%) are cultivated annually¹. The country is also crossed by two major rivers, the Niger River and the Senegal River. Mali's economy is based mainly on the primary sector (i.e. agriculture, livestock and poultry farming, and fishing), which employ almost 80% of the working population. The economy is dominated by the informal sector.

In Mali, the *Agricultural Orientation Law* is the frame of reference for all agricultural policies. It has served as the basis for numerous policies, including the *Politique de développement agricole* – Agricultural Development Policy (PDA), which favours the promotion of partnerships and the creation of common markets within the major subregional, regional and international economic groups. The *Agricultural Orientation Law* is based on eight (8) major² strategic³ guidelines:

- i) ensuring food and nutritional security for all populations in Mali and particularly in the subregion;
- ii) ensuring institutional development and increased capacity for all stakeholders;
- iii) protecting the environment and better managing natural resources;
- iv) promoting investments in the agricultural sector;
- v) improving the competitiveness of agricultural and agro-industrial products in the domestic, subregional and international markets;
- vi) developing an agricultural research and advisory system for sustainable and competitive agriculture;
- vii) providing training for all sector stakeholders and giving them access to the knowledge and skills required to effectively carry out their work and achieve their objectives; and
- viii) mobilizing consistent and accessible funding and resources for agricultural development.

The *Politique nationale de sécurité alimentaire et nutritionnelle* – National Food and Nutritional Security Policy⁴ aims to ensure food security for Malians, improve nutrition for the most vulnerable populations, and increase their capacity for resilience according to the *Cadre stratégique pour la relance économique et le développement durable* – Strategic Framework for Economic Recovery and Sustainable Development (CREDD)⁵ in order to reach Mali's sustainable development goals (SDGs) by 2030. Specifically, these are:

- i) to increase availability of food in a sustainable manner to meet food demand in Mali;
- ii) to increase capacity for shock and crisis prevention, while reducing and/or mitigating the effect on vulnerable populations and their recovery;
- iii) to improve the physical and economic accessibility of food to populations, especially the vulnerable and poor;
- iv) to improve nutrition of populations, particularly of vulnerable groups; and

¹ Ministry for Rural Development, *Le plan national d'investissement dans l'agriculture* – The National Agricultural Investment Plan (PNISA), Mali, 2014, 132 p, p. 9

² Mali's agricultural policy: version 2013, 34 p, p. 15

³ Agricultural Orientation Law of Mali (LOA-Mali), 2006.

⁴ *Politique nationale de sécurité alimentaire et nutritionnelle* – National Food and Nutritional Security Policy of Mali.

⁵ Chair and Commissariat for Food Security, *Politique nationale de sécurité alimentaire et nutritionnelle* – National Food and Nutritional Security Policy, volume 2, 2017, 76 p, p. 22

- v) to strengthen institutional and financial governance in the area of food and nutritional security.

With regard to agriculture financing, Mali adopted the Comprehensive Africa Agriculture Development Programme⁶ at the Maputo summit in July 2003 and signed, as part of its implementation, an agreement urging African Union countries to devote at least 10% of their national budgets to agricultural investments with the purpose of achieving an agricultural growth rate of at least 6% per year (*Plan national d'investissement dans le secteur agricole – National Investment Plan for the Agricultural Sector*, NISA, p. 5). The country has also subscribed to the principles of the Paris Declaration on Aid Effectiveness⁷ set out in 2005. In addition to these two elements, there are also state subsidies of 20.5 billion CFA francs (CFAF) per agricultural campaign, 37 billion CFAF for rice imports, 20 billion CFAF for milk and 9 billion CFAF for fish. The state also spent 1.6 billion CFAF per year between 2006 and 2015 on counterpart funds⁸. Reports on each category are available in the *Plan national d'investissement dans le secteur agricole – National Investment Plan for the Agricultural Sector*, which has made possible total direct financial contributions amounting to around 66 billion CFAF, of which 60 billion CFAF (91%) goes to the State⁹. To this end, since 2017, the Malian State has devoted 15% of its national budget to agriculture, including crop production, animal production, fishing and forestry.

Despite these efforts, 25% of Mali's households are food insecure, including 3% who experience severe food insecurity (National Survey on Food and Nutritional Security, 2015). There are more food insecure households in rural areas (27.7%) than in urban areas (14.6%). 70% of poor and very poor populations rely on the market for food, and must also deal with the issues of climate change and gender inequality, discussed in detail below (PoINSAN, p. 8).

The FRI Project

Between April 2015 and July 2017, Farm Radio International (FRI) implemented the project “**Radio pour le développement des chaînes de valeur agricole – Agricultural Value Chain Development Radio**” (RADCHA) in Mali with financial support from Global Affairs Canada. FRI is a Canadian international non-governmental organization that works primarily to improve the living conditions of Africans in rural areas through the most globally-accessible communication tool, radio¹⁰.

The RADCHA project was carried out in the regions of Koulikoro, Sikasso and Ségou in partnership with three radio stations: Radio Kafokan from Bougouni, Radio Sikidolo from Konobougou, and *Initiative-Développement* (ID) FM from Koulikoro. The objective of this project was to strengthen food security and improve the incomes of small-scale farmers and

⁶ Reference document, financing of agriculture. Mali adopted the Comprehensive Africa Agriculture Development Programme at the Maputo summit in July 2003 and signed, as part of its implementation, the agreement which commits African Union countries to devote at least 10% of their national budgets to agricultural investments, with the objective of achieving an agricultural growth rate of at least 6% per year (*Plan national d'investissement dans le secteur agricole – National Investment Plan for the Agricultural Sector*).

⁷ With regards to development aid. Mali is the second largest recipient of French and EU development aid in sub-Saharan Africa, after Ethiopia. Development aid finances 60% of infrastructure in Mali.

⁸ Counterpart funds: Subsidies allocated by the State to the agriculture sector for agricultural inputs and institutional support (consulting, training, support).

⁹ Chair and Commissariat for Food Security, *Politique nationale de sécurité alimentaire et nutritionnelle – National Food and Nutritional Security Policy*, volume 2, 2017 76 p, p. 8.

¹⁰ FRI works in partnership with hundreds of radio stations across 41 countries in sub-Saharan Africa and has offices in Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Nigeria, Senegal, Tanzania and Uganda. Altogether, they provide tens of millions of small-scale farmers with information and transformative opportunities to have a more powerful say in their own development.

their families in sub-Saharan Africa by using radio to increase the profits generated by their participation in the local poultry value chain.

Over the two years of this project, communication focused on the most important information needs of farmers related to sanitation and poultry disease prevention and management, chicken housing construction techniques, as well as marketing that respects gender equality¹¹.

- Food security awareness, basic access to agricultural and poultry markets for communities (connections between poultry farmers with wholesalers, hotels, restaurants)
- Construction of improved chicken coops, which increases poultry production and productivity
- Vaccination of poultry

Other initiatives present in the local Malian context

The *Agence française de développement* – French Development Agency (AFD) has implemented a program for poultry disease prevention and management in certain areas of Mali. In the first year of the program, poultry vaccination was free for all poultry farmers. In the second year, poultry farmers covered 50% of the costs of vaccination, and for the third year, the program suspended its subsidies. AFD then started a project with the intention that it be maintained independently by public service agents after three years of various subsidies.

The *Programme de développement de l'aviculture au Mali* – Mali Poultry Development Program (PDAM), funded by the Malian government, has enabled the creation of poultry markets, as well as the recruitment and training of village poultry vaccinators and the financing of their equipment. The program also enabled the creation of an association of chicken breeders in Niougoula.

The main constraints identified after the implementation of these two projects are, among others:

- The low level of engagement in livestock and poultry farming
- Women's lack of control over poultry prices due to market constraints
- Lack of knowledge of:
 - techniques related to the construction of improved chicken coops,
 - poultry disease prevention and management,
 - poultry feed, and
 - poultry marketing networks (among men) and the weak presence of women in marketing networks.

The RADCHA project was implemented in response to these limitations, some of which were mentioned by interviewees themselves, in order to support the needs of poultry farmers through its radio broadcasts. In order to prepare the programs, an understanding of the challenges among poultry farmers was required. Starting from a place of understanding poultry farmers' needs was strongly emphasized during project implementation.

¹¹ This involves offering training sessions that train both men and women on women's rights and the woman's role in the family.

RESEARCH METHODOLOGY

The research team analyzed Mali's national agricultural policy initiatives from 2008 to 2019 using SWOT Analysis to highlight strengths, weaknesses, opportunities and threats. FRI provided lists of people and institutions to meet with to discuss the various topics. In addition to this information, the research teams consulted relevant public policy documents along with national data and reports to provide an overview of the local context in which the project was carried out.

For data collection in the field in the two selected areas (Konobougou and Bougouni/Yanfolila), two techniques were used in addition to consulting primary sources:

- (i) Individual and/or three-person interviews using reasoned sampling
- (ii) Focus groups

In total, 52 people were interviewed in the two zones, including 18 women and 34 men (Appendices 1 and 2).

For each area, differentiated targets were set at the request of the RADCHA project team. The team focused on communities in the broadcasting area of the radio stations, technical poultry farming services, and radio broadcasters, both men and women. Wherever the research team went, every effort was made to achieve gender parity whenever possible. Unfortunately, this parity could not be fully obtained due to social events that took place in the field, such as illnesses, deaths, or unavailability due to field work. This led the team to revise the sample size and take a closer look at the challenges encountered in obtaining information from the sampling of participants. The team was committed to mobilizing target populations. In Konobougou, a total of 15 people, including 5 women, were interviewed during field visits to this area. Two (2) focus groups and 15 individual interviews were conducted. In Bougouni, however, 37 people were able to be mobilized for six focus groups and 25 individual interviews. This sample size made it possible, despite the gender imbalance, to validate the information collected for this case study.

Finally, with regard to data recovery and validation of report content from the participants the team met in the field in Bougouni/Yanfolila and Konobougou, the research team made contact by phone, through calls and messages, to obtain their approval before the broadcasts. This method had to be used because of the COVID-19 pandemic, which did not allow for group meetings or physical contact. All of the research participants confirmed the information and data in the report as it related to their input during the data collection stage. As for the FRI team, an earlier version of the report had been submitted for assessment before being validated.

FRI'S APPROACH: PARTICIPATORY RADIO CAMPAIGNS AND THE RADIO MARKETPLACE

During the project, FRI used two of its radio program approaches to reach audiences: the Participatory Radio Campaign (PRC) and Radio Marketplace. A PRC is an outcome-oriented radio campaign that involves farmers in understanding, discussion, decision-making and implementation of a specific farming practice. A PRC is produced and broadcasted by a radio station over a limited time period, and consists of four steps:

1. *Understanding* – Farmers familiarize themselves with the PRC topic (problem and solution or improvement). They learn more about the PRC process and are encouraged to participate.
2. *Discussion* – Farmers examine how the solution or improvement works in other regions and discuss the advantages and disadvantages, obstacles and solutions.
3. *Decision* – Farmers are encouraged to make a public decision and adopt the approach, or at least make a conscious decision not to do so, now that they are well informed.
4. *Implementation and celebration* – Farmers are given detailed instructions to overcome each challenge as the new approach is implemented. Achievements by farmers who adopted the practice are celebrated.

A PRC is made up of episodes 30 to 60 minutes in length, broadcast twice a week—the first time live and the second time replayed. The broadcast schedule is chosen based on the time when the largest possible audience is available to listen. Usually, a PRC lasts between three and six months, depending on the complexity of the topic.

The first PRC focused on poultry disease prevention and management, and included information on diseases, common periods of diseases, and methods and means of prevention and treatment, such as vaccines and vitamins. The second PRC informed listeners about the construction of chicken coops, and included information on the models of chicken coops, standards to be followed in terms of dimension (doors, windows, roofs, orientation), maintenance, and size according to the number of chickens. Once the PRCs had been broadcasted, a mid-term evaluation took place and an “Echo Campaign” of the two PRCs began. This consisted of re-broadcasting the same programs from the first campaign but this time, featuring farmers who began implementing the practices during the first campaign. The objective here was to seek out a second wave of individuals who had hesitated to participate the first time but who, after listening to the PRC again, were ready to adopt the proposed practices.

Radio Marketplace programs focus on marketing, that is, regular updates of market prices of poultry. This allows both men and women farmers to be aware of changes, have access to real-time information, and be put in touch with other market stakeholders. This program theme offers farmers a service that can give them more opportunities and ways to increase their income.

To produce its radio content, FRI organized a face-to-face design workshop that brought together poultry sector specialists, farming representatives, other key stakeholders such as extension workers and people from the radio station involved in the project.

In particular, the RADCHA project produced radio broadcasts in which they invited agents from the technical breeding and animal production services, as well as poultry farmers, to explain the different diseases affecting chickens and discuss promising practices that would improve poultry health, while increasing knowledge of market issues. Through these broadcasts, specialists gave the names of veterinary products adapted to different poultry diseases and

the prices of these products. Poultry farmers (both men and women) also shared their tips and tricks for success. These programs have helped put poultry farmers in contact with veterinary pharmacies to facilitate access to treatment products and to better control dosages (authorized veterinarian, Kônôbouyou).

CONTRIBUTIONS OF THE PROJECT TO CHANGES IN THE AREA

GENDER EQUALITY AND WOMEN'S EMPOWERMENT

The RADCHA project promoted women's empowerment through poultry and vegetable gardening activities.

Any change in standards leads to a change in relationships between those involved in the process. These changes can relate either to discourse, or to practices, or to both. Analysis of the speech of those interviewed reveals a change in perception of poultry practices and power relations in certain areas. The transition from traditional to semi-improved poultry farming calls into question the standards of traditional poultry farming, where women historically have not usually participated as poultry farmers themselves¹². These standards affect many areas, such as chicken housing, disease prevention and management, feed, and product marketing strategies¹³.

Marketing poultry is no longer seen as a purely male activity: it can also be done by women. This change in perception has served as a gateway for the financial empowerment of women, since they no longer need to rely on men for the sale of poultry they have farmed. Above all, *"this practice is deemed synonymous with male deception"* (according to some women in the Konobouyou area).

The RADCHA project raised awareness among men on the rights of women and girls.

In the Bougouni area, attitude changes towards women with regards to women's empowerment and rights are difficult to achieve, mainly due to the fact that it is an area that is *"deeply rooted in cultural, religious and secular traditional practices"*¹⁴. This means that there may be little room for significant social change.

Nevertheless, through a diverse range of radio broadcasts, The RADCHA project has played a prominent role in raising community awareness on the rights of women and girls. For the programs on the status of women, radio hosts used traditional and religious examples to explain the importance of the empowerment of women as a pillar of the family's economy. These broadcasts focused on gender, farming techniques and veterinary products linked to the poultry value chain. The questions were intended to engage communities to better understand women's rights in the current context. Through programs on the state of women's access to agricultural land, one interviewee said, *"Now there are men who allocate fertile land to women for their agricultural production, not fallow land"*¹⁵. This thus demonstrates the increased appreciation of women in the agricultural sector and the willingness of men to give better land to women, whereas before, it was the opposite.

¹² At the end of the project, the communities have mastered the understanding of animal farming techniques and veterinary products, as well as poultry diseases.

¹³ Before the project started in the areas, animal and poultry farming was almost always practised only by men. Now, as a result of the project, women are also involved in these farming activities.

¹⁴ Participant involvement in focus groups.

¹⁵ Mamadou Diarra, male poultry farmer in Faradiélé, Bougouni area.

Another advantage to these programs is that now men help women with their daily tasks, as illustrated by the words of this radio host:

“Through radio broadcasts, I now understand that women and men complement each other, that woman is not just a subspecies of man. I help my wife with her vegetable gardening. Now, when I travel, she takes care of my chicken coop [and] vice versa. I have also stopped all forms of violence against my wife: both verbal and bodily. We are now living in perfect harmony”.

The RADCHA project has enabled more sharing of household responsibilities and division of labour.

Project interventions in Bougouni impacted changes in relationships between men and women, in particular in the division of domestic household work, which was demonstrated most clearly, in some cases, by the reduction of women’s daily tasks¹⁶. One beneficiary stated: *“Before the project, women were considered field labourers. They worked hard like men and came home at the end of each day to prepare for evening tasks. Now that I better understand the status of women, it is clear to me that women should not do everything alone; men should help them. The women in my household work in the fields with me, and at 3:00 p.m. every day, I allow them to leave so they can return home to prepare dinner. Before, they stayed in the fields until 5:00 p.m. and would then go home to prepare dinner while we [men] rested. There is no doubt that women have flourished as a result of this project”¹⁷.*

Another participant agrees that the project has been very effective: *“Before, when my child was sick, my wife found it difficult to tell me because we did not communicate. Now, with gender training, we are talking more. She is no longer embarrassed to directly tell me when a child is sick or if she has concerns about something”¹⁸.*

During cooperative meetings, women now prepare the meals and men fetch the water to help them. The way men and women share the work is a social innovation introduced by the project in the target areas. According to one male participant, *“The sharing of roles between the men and women is the result of radio programs on the rights of women and girls. Before the programs, if a man were to do chores during a meeting, he was considered submissive, as it was only women who prepared meals”¹⁹.*

ORGANIZATION, LEADERSHIP AND SOCIAL COHESION: ACHIEVEMENTS FOR WOMEN

The RADCHA project contributed to the betterment of associations and women cooperatives.

Through radio broadcasts on leadership²⁰ and collaboration, the project’s interventions have contributed to improving the governance of several associations and cooperatives in the target areas.

In the area of Konobougou, conditions are ripe for an emergence of female leadership in poultry farming. The existence of a poultry breeder association and the involvement of certain women in this setting are strong indications that female leadership will become more popular with time. As Ya Cissé, a woman poultry farmer in Niougoula, pointed out, *“I currently have*

¹⁶ Including chores and gathering firewood. Before, only women did these tasks. Now, men are contributing as well. In addition, the men did not pay for food needs. Now, gradually men are becoming more aware and are starting to contribute money for food.

¹⁷ Adama Diakité, male poultry farmer in Kléssekoro, Bougouni area.

¹⁸ Kolon Samaké, Faradiélé focus group, poultry farmer cooperative member.

¹⁹ Zié Diarra, Faradiélé focus group, poultry farmer cooperative member.

²⁰ The project contributed to growth in leadership in the project area because training was given to beneficiaries to help them better understand association leadership. This is a direct result of project interventions.

*around forty chickens. My chicken coop fell during the winter and I lost some of my hens. But I'm preparing to resume construction of a new chicken coop when the rain stops"*²¹.

Before the RADCHA project, women were less involved in poultry farming. All of the women we met wanted to have space for poultry farming. Ya Cissé works with her husband. According to her, they make the decisions together and each of them is committed to successful outcomes. Thanks to her commitment, and that of other women cited in the report, there is potential for a ripple effect and for negotiating plots with landowners.

Other examples exist, such as the case of a woman who, according to Diarra from Kônôbougou, after listening to the programs, made the decision to sell her poultry herself. This sale was previously entrusted to her husband, but he did not object to his wife's new behaviour. Despite this change, constraints still remain for some women. This is due to the fact that certain men doubt women's abilities, mainly because it is difficult to access wood for the construction of chicken coops and synthetic phytosanitary products that are used in poultry feed. These comments demonstrate that self-confidence is essential for leaders, and that autonomy in decision-making, physical ability and/or financial means are all necessary for enabling women to achieve their goals.

At the organizational level, all poultry cooperatives have registration identification and are recognized by the administrative and political authorities of the Bougouni circle. To this end, there is an umbrella organization grouping together all the poultry cooperatives in the Bougouni area called the "Umbrella Co-operative of Banimotié Poultry Farmers".

Within associations and cooperatives, the issue of gender is taken into account, in accordance with Mali's *National Gender Policy*, which stipulates that there must be equal opportunity and access for men and women when it comes to organizational responsibilities. There is now a greater female presence at the decision-making level thanks to the RADCHA project, thus aligning with the objectives of the national policy.

The RADCHA project increased the financial autonomy of women producers.

The most exciting innovation of the project in Bougouni was the strong involvement of women in poultry farming. Previously only considered a source of income for heads of households (very often men and elderly women), poultry farming has gradually become an activity for young, active women. Testimonies from poultry farmers highlight the merits of the project:

*"Thanks to my income from poultry farming, I am more or less financially independent. After each sale, I pay for clothes for my children and food for my family. If I have a relative who comes to visit me, I go into my chicken coop and I take a chicken or a rooster to use for the meal, since in our culture, we slaughter a chicken to welcome travellers"*²².

According to one woman focus group participant, *"Before the project was implemented, I had to ask my husband about everything, even a small expense like 25 CFAF to pay for salt. Now, our income from poultry farming allows us to support these small expenses"*²³.

²¹ Ya Cissé, woman poultry farmer in Niougoula.

²² Sata Diarra, Kléssekôro focus group, poultry farming cooperative member.

²³ Safiatou Diakitè, Kléssekôro focus group, poultry farming cooperative member.

Another participant spoke of her newly acquired ability to be able to pay for her sick child's medication without having to ask her husband or use credit, which would have been impossible before the RADCHA project²⁴.

According to Assétou Coulibaly, project beneficiary from Niougoula, every time a woman sells a chicken, she gains some financial autonomy, and with this money, she is able to meet several needs without relying on her husband, which previously caused conflict. She adds that:

“If all men saw the value of women's involvement in poultry farming, they would all build chicken coops for their wives.”

Though previously reserved for men, the poultry trade is now increasingly practised by women, making it more lucrative overall. Women understand market prices and can verify information with intermediaries, even if they are not always physically at the markets. Knowing the market price of poultry allows them to enter a profitable market. Moreover, access to a profitable market reduces a woman's financial dependence on her husband, as Drissa Diarra from Kônôbougou explained:

“Before, I did not have the courage to sell my chickens because I was ashamed. Whenever I wanted to sell some of my chickens, I gave them to a man to do it. But now I do it myself.”

Now that poultry farming is seen to be profitable, many are choosing to stay in the rural areas (and not participating in the “rural exodus”), as explained by Moussa SOW of Niougoula:

“I used to go often to the city. One day, I went to visit an acquaintance who raised poultry and who had more than a thousand chickens. I was surprised at the scale of this activity. I talked about it with other people a lot until I decided to get involved in poultry farming myself. I was also motivated by the fact that the people of Bamako travelled dozens of kilometres to maintain their poultry farms. I told myself that the distance I would have to travel is shorter than people in Bamako travel, so I left my parents' home and settled a few kilometres away from the village. After that I did not participate in the rural exodus to the city.”

The project has contributed not only to the financial empowerment of women, but to changing customs that do not have women's well-being at heart. Building women's capacity to act, improving their communication skills, and encouraging them to stay in rural areas have all reduced tensions and have fostered more peace in their homes.

The RADCHA project has unexpectedly strengthened social cohesion.

Another unexpected outcome of the project was the strengthening of social cohesion. Through planned project radio broadcasts, women have created social connections with one another and have brought new dynamics to the continuous process of sharing information, knowledge and practical know-how. Various speakers reported that people who previously refused to speak with each other ended their disagreements in order to work together in the spirit of development.

It should be noted that, in the Bougouni area, meetings were held regularly and decisions were made without negative demonstrations and without power relations coming between the members while the project was being implemented.

INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH

²⁴ Mah Koné, Kléssekôrô focus group, poultry farming cooperative member.

The RADCHA project encouraged the construction of modern chicken coops and the acquisition of related knowledge.

One technological innovation that the RADCHA project indirectly promoted was the construction of modern chicken coops. Through the broadcasts, the project made knowledge from chicken coop technicians available to all cooperative members, which enabled beneficiaries to be trained in chicken coop construction techniques. During the programs, three types of chicken coops were introduced:

- Straw roof chicken coops
- Terrace chicken coops
- Galvanized sheet metal chicken coops

According to one male poultry farmer in the Baguinéda area: *“The trainers advised building chicken coops on terraces to avoid the risks associated with bushfires and the relatively high cost of sheet metal. But outdoor barns require that solid wood be used at the roof level. The problem is that it is not easy to find the recommended wood. The trees are cut down by developers.”*

This highlights a problem that sometimes comes up when building chicken coops—that the wood that is needed is not always accessible.

The topic of improved chicken coop construction was followed by other thematic topics addressed during the radio broadcasts, such as hen house maintenance and guidelines related to both poultry feed and disease prevention and management. It is important to note that guidelines for semi-modern poultry farming involve technologies that can be adopted globally or incrementally depending on the abilities and working conditions of the individual adopting the system. Its implementation requires an open mind, according to Drissa Diarra of Kônôbougou:

“Engaging in semi-modern animal farming means changing your way of thinking. We have to leave behind hen-keeper logic and make way for commercial logic.”

In addition to the material dimension of poultry farming, there is also the intangible side. Many people in the target communities now have a positive attitude toward innovation, which was not always the case before, according to the interviewed participants.

The RADCHA project improved the capacities of women through radio broadcasts.

The greatest strength of the RADCHA project, in all the target communities, has to do with communication; the programs allowed women to better understand poultry feed needs, disease prevention and management, building and maintaining chicken coops, and marketing strategies to improve incomes. Several beneficiaries testified to the benefits of radio broadcasts, highlighting improved capabilities and the quality of the knowledge shared:

“The programs were beneficial because now everyone is able to vaccinate their chickens. If you don’t have time to do this, you can call the veterinarian and tell him the type of disease the chicken has. This will help the veterinarian to avoid going back and forth, especially over long distances.” The prevention of chicken diseases and proper treatment for sick birds are very important; this allows women to ensure that the care provided is of good quality, in the event they are forced to seek a veterinarian’s service. Listening to and participating in radio programs

have also given listeners the ability to master certain communication tools such as the telephone.

It is important to note that as much as radio programs have offered technological advancement, they have also contributed to building local capacity in the creation of new jobs. Mamou Toure, male radio host, explains: *“I learned a lot thanks to the project. Now, I can do many things I couldn't do before. I can edit a radio program alone. I learned how to use many tools.”* It can therefore be concluded that those who work in the areas of technical services used in poultry farming have improved their knowledge in several related fields.

The RADCHA project enabled women's access to the market.

Through the use of radio, the project played a key role in connecting poultry farmers and vegetable producers to opportunities so that they could take advantage of local markets. Market prices were given on the radio programs to prevent producers from selling their products at inflated prices. Connecting poultry farmers with traders, restaurants, hotels and individuals has also been very beneficial for various local stakeholders. The co-operatives have successfully set up outlets for the easy distribution of the poultry produced.

Since farmers were looking everywhere for outlets to sell their products, in Kônôbougou, the RADCHA project introduced the idea of developing a “poultry value chain”, making the market entry process more formal and defined.

According to Assétou Coulibaly, *“The meetings [organized] during the project period raised awareness among women. Before, women sold their chickens in total ignorance without any idea of the market price. Since selling poultry at the market was seen as a male activity, a woman had no choice but to be satisfied with the price her husband decided for her.”*

Thanks to the project, women are better informed and are no longer in the dark about market trends. Broadcasting radio programs on market trends, regulations, and up-to-date prices was a strategy tailored specifically to the local context.

The RADCHA project increased profits through cooperatives.

The project also contributed to the development of irrigation in the intervention areas in order for women to carry out vegetable gardening activities. This has enabled beneficiary women to create and diversify their sources of income.

The changes made within the cooperatives through product marketing have been made thanks to regular payments from members, which constitutes working capital for the cooperatives. A part of the resources mobilized by these cooperatives then becomes loans for members at their request.

Although, according to interviewees, the project has substantially increased the income of cooperatives and poultry farmers, the capacity for saving is low or even nonexistent for most beneficiaries. Some women said that *“the money earned made it possible to realize [their] immediate expenses,”* but that the idea of saving income was not shared because the money earned went towards meeting immediate needs.

CLIMATE CHANGE AND THE ENVIRONMENT

The project made it possible to take on new agroecological approaches in the various intervention areas to adapt to effects of climate change on agriculture. Through radio broadcasts, beneficiaries gained information on subjects such as using compost and other organic crop inputs in vegetable gardening, as well as information on livestock feed and the integration of agriculture and livestock farming.

The RADCHA project has enabled local responses to climate change.

A form of solidarity developed among participants during the project. Cooperative members from different agricultural spheres began to share their success stories with each other, which became an important element in carrying out local responses to climate change. When members would share experiences during field visits, they continually tried to find solutions to common difficulties encountered in poultry and vegetable farming. Questions that surpassed the level of local knowledge were collected and submitted to technical services for answers. This demonstrates a particular interest in improving local conditions as well as an effort to encourage solidarity and common work and enriching knowledge towards building a better environment.

Although it is difficult to measure the exact contribution the RADCHA project had on mitigating climate risks, many participants recognize that actions undertaken as part of a group have given them a higher level of awareness on environmental issues. Practices have been improved and, in the long term, this dynamic could have significant impacts on local ecosystems.

The RADCHA project triggered new agroecological strategies to adapt to climate change.

Intensive farming normally involves the widespread use of synthetic chemical fertilizers, but many scientific studies have proven that use of such fertilizers have harmful impacts on the environment. On the other hand, the communities involved in the project know that sustainable poultry farming produces massive amounts of chicken droppings, which can be used as organic compost for the promotion of healthy and sustainable farming, with little impact on the environment. Poultry droppings are sold in Kônôbougou at 2,500 CFAF for a 50 kg bag, or about \$5.50 CAD (Drissa Diarra).

The RADCHA project has helped with productivity when using chicken droppings. In fields and irrigated perimeters of the target areas, the use of chicken droppings as compost was linked to increased productivity, partly because it reduced the amount of chemical fertilizer used, which can have negative consequences on the sustainability of agricultural land.

In using organic inputs along with compost and organic manure production techniques, among other techniques and technologies, local poultry farmers are given real alternative solutions not only to adapt to climate change, but also to strengthen their resilience in the face of climatic fluctuations²⁵. In Kônôbougou, women understand the importance of organic fertilizers; they know that using them means that their products will enjoy a longer shelf life. The development of poultry farming further facilitates access to organic fertilizers and contributes to reducing the amount of synthetic chemical fertilizers purchases, thereby increasing women's profit margins.

TRANSFORMATIVE APPROACHES

²⁵ All of the beneficiaries practise composting in the target area.

The RADCHA project has highlighted the significance of local knowledge.

The RADCHA project has benefited enormously from knowledge found within the communities. Unlike other development projects and programs implemented in the Kônôbougou area, the success of the project lay in its approach, which meant working closely with men and women within the communities as individuals first and foremost. Listeners benefited from the way the programs were organized, as this allowed them to clarify any topics discussed and to learn from one another. This social proximity with other listeners in the community therefore increased the understanding of subjects relating to the project.

At the local level in Kônôbougou, poultry farming is a cultural practice rooted in the community's way of life. In recent years, many actions have been taken to ensure a change in poultry practices. These changes relate to factors external to the community.

In the Kônôbougou area, communication can be more interactive or collaborative depending on who is talking. This is evident both in the preparation of the radio programs and in their broadcasting. In addition to those working in radio, representatives of public and private technical facilities, as well as certain poultry vendors, participated in a range of activities related to the preparation of radio programs. Direct communication was established where listeners could ask questions about elements that were not included.

*The RADCHA project used input incentives.*²⁶

The increase in demand for authorized veterinarian services is a significant outcome of the project. This can be explained by the fact that those who carry out modern, semi-improved and traditional breeding use certain techniques, vitamins and other products to maintain good health and prevent diseases in their poultry. According to the veterinary surgeon in Kônôbougou, he now sells 6,000 doses of various kinds of vaccines every week. The demand for these services is high during the winter months and the dry-humid period. It also corresponds to periods when poultry diseases are more common.

Sassy Bouaré, the current veterinary health representative for the area, was the first person to innovate poultry farming practices, as his comments illustrate:

"Before, people did not know about vaccination, but thanks to a series of awareness-raising activities that I carried out in the community, the situation has improved a bit. As a result, poultry farmers in the area have started to order vaccines."

The veterinarian also points out that, since the implementation of these initiatives, the demand for vaccinations has only increased²⁷.

Poultry farming is one of the major activities in the Bougouni area. Local chicken breeds are the most popular among the families in this area, who raise them using chicken coops or cages built of mud or other local materials. This type of farming is not only a source of nutritional supplement for families and smallholder farms, but it is also a source of additional income to cover basic needs when required. Poultry farming is therefore multi-faceted and has a social,

²⁶ The radio broadcasts gave advice on certain inputs, and listeners began to buy them so much that demand for both products and veterinarian services increased.

²⁷ Technical service veterinarian responsible for monitoring.

cultural, economic and even organizational dimension, and more and more associative initiatives are being formed around this activity.

The RADCHA project created partnership opportunities.

The implementation of the RADCHA project would not be possible without a healthy political relationship between Canada and Mali, facilitated by FRI and local partners. The partnership between FRI and the village communities and among the communities themselves has developed positively thanks to the involvement of poultry farmers and both upstream and downstream technical services offered throughout the process. Information exchanges and requests for advice between stakeholders continue to increase. This available knowledge is accessible to everyone, men and women alike. It should be noted that, like any other partnership, this includes multiple and diverse expectations: each partner has expectations of the other, and each implementation stage must make it possible to clearly identify different expectations and to see that they are met.

The project worked in conjunction with technical services in the sector. This particular partnership introduced new dynamics, which led to an increase of support and advice to project beneficiaries in the area of poultry farming and vegetable gardening in different areas.

The RADCHA project's approach went beyond its target audience.

Beyond its target audience, the project also encouraged those who were not poultry farmers to take an interest in and to even take on this activity. The radio programs were opportunities for non-breeders to understand the different stages of poultry farming, associated activities, and necessary conditions for successful poultry farming²⁸. Both men and women were able to benefit from the broadcasts and make visits to vegetable gardens and chicken coops so they could duplicate the experience at home.

To this end, anyone in the listening area of FRI's radio stations had access to the project's radio broadcasts and was able to react to the content. The mobilization mechanism put in place by the project aimed for inclusive participation of all listeners. This was highlighted by the fact that there were various positive outcomes in areas not specifically targeted by the project, according to one consultant's summary²⁹. The system consisted of organizing a competition between the villages with listening access to the radio stations: after each broadcast program, a series of questions related to the program was posed and the village who answered the most questions correctly benefited from free vaccinations of its entire poultry population without any discrimination³⁰.

The radio programs produced were short-lived and ended when the project ended, though. As one radio host stated: "*The project [does not] generate the same enthusiasm today as it did before,*" a consequence that should be noted.

This observation from FRI shows that the project had generated a lot of enthusiasm among populations at the beginning and during implementation, but that enthusiasm was no longer at the same level after the project had ended. The inter-village listening competition, for example, which has also ended, is no longer a source of motivation to encourage communities to get involved and improve their poultry farming practices.

²⁸ According to a radio host, following requests for the program by poultry farmers who were not beneficiaries of the project.

²⁹ Consultant Touré Fatoumata Traoré

³⁰ These are the weeks of vaccination carried out by technical breeding services.

LESSONS LEARNED

There are several lessons to note from the case analysis of the RADCHA project.

- **The current level of commitment of the communities is the result of the collaboration of several different projects and actions implemented in poultry farming practices in recent years.**

The RADCHA project was designed to fill the gaps left after the completion of the AFD and PDAM initiatives. However, despite specific attention paid to filling these gaps, the changes that have resulted will not last unless steps are taken soon to consolidate the joint efforts of the three projects. The approach could include an emphasis on collaboration between the three organizations so that activities are complementary and do not duplicate efforts or replicate gaps in certain aspects of the target activities. In order to ensure sustainability, as well as long-lasting results, in addition to collaboration, the activities themselves should also be coordinated; that is, each activity must complement the other. This would promote transparency and make organizations accountable for implementing activities and monitoring procedures. Although the RADCHA project has brought about improvements in understanding challenges facing poultry farmers, and has helped bring about certain changes, many obstacles remain that could negatively influence the lasting nature of the changes, and therefore appropriate responses to this problem are necessary.

- **Reducing gender discrimination, ensuring better representation of women in cooperatives, and affirming women's leadership help create better family dynamics.**

Through the radio programs, the project made it possible to effect change in gender relations in the different areas. It is therefore crucial that this continues in order for the change to establish itself in local attitudes and practices. At this stage, it is difficult to know if these achievements will be sustainable following the completion of the programs. However, according to some women interviewed, they believe they must continue to educate those around them so as not to lose what they have learned. The project team must then take steps to build the groundwork for these positive changes to last in the communities, potentially through local leaders.

- **Due to the withdrawal of the project, activities were not able to continue and positive outcomes were not sustained.**

The ending of project interventions calls into question the exit strategy and the sustainability of the outcomes of the RADCHA project at the local level. If the exit strategy had been better planned, beneficiaries could have continued the activities started by the external partners. Although this situation is not unique to the RADCHA project, it raises concerns that should be taken into account in future interventions, especially with regard to the hard-won roles in leadership for women, and the sustainability of such roles.

The ending of the project led to the immediate ending of radio programs on poultry farming techniques, causing frustration among the populations who would have liked the programs to continue. Despite the project's achievements, the technological innovations introduced to the poultry farming sector risk being lost because the project's end coincided with a slowdown in poultry farming in the target areas of Bougouni. It is important to note that although the exit strategy for the project was considered abrupt, the project itself lasted two years with more than 184 hours of broadcasting, using a Participative Radio Campaign (PRC), followed by a mid-term evaluation to determine changes in public knowledge and practices. This then made

it possible, in the second year, to refocus a second PRC cycle on aspects that the public had difficulty grasping during the first phase of the PRC. It must therefore be said that the programs evolved with the public.

Developing an exit strategy consisting of a final evaluation phase before the closure of the project would certainly have better enabled the sustainability of the project's interventions and/or the possibility of better identifying mechanisms to ensure that the technological innovations introduced continued to be used. If issues related to the project's termination (exit) had been solved before the end of the project through a comprehensive approach, local beneficiaries could have taken ownership of the project and planned a way to continue it. The main objective was to build the capacity of radio broadcasters so that, even after the end of the project, they were able to apply some of these skills to the weekly agricultural program they broadcast.

- **In urban or semi-urban areas, it is difficult for women to access land because of land speculation.**

Women's access to land ownership is an obstacle to promoting the construction of semi-improved chicken coops. In villages where this issue does not exist or is very rarely addressed, land access and ownership is easier for men. With initiatives like the RADCHA project, it is crucial to include ways to raise awareness on the issue of women's access to land and land ownership in order to maximize the chance of success of innovations that various initiatives allow.

- **Barriers and lack of access to financial inputs, human resources, and materials have prevented the continuation of the project.**

One major obstacle is the lack of or barrier to financial means to carry out activities. In some cases, too much money is allocated to building chicken coops, which results in the inability to complete the construction itself, or the inability to purchase manure, compost or other necessary materials. This shows a gap not only in financial management, but also in the knowledge and differentiation between expenditures necessary for infrastructure and expenditures that are optional. Likewise, financial barriers can also prevent farmers from buying enough poultry to secure a subsistence minimum.

Since building and maintaining chicken coops are activities that require several hands, another problem that has come up is the lack of human resources available to farmers (often caused by migration to cities), the lack of family members present, or the lack of money to pay a third party for their services.

Deforestation is another problem noted by participants of the RADCHA project when discussing the type of wood necessary for the construction of chicken coops. The necessary wood is often not accessible and updated chicken coops do not necessarily resist the forces of nature. The construction of chicken coops could therefore contribute to deforestation of the local environment, and it is therefore important to find alternatives for the necessary infrastructure.

Obtaining essential products for poultry farming often requires travelling more than fifty kilometres at a time, a journey virtually impossible for most farmers. This interferes with the implementation of certain important activities related to the promotion of poultry farming. It is necessary to promote local services, particularly in remote villages, to reduce the costs of operating poultry in the various areas.

CONCLUSIONS

This specific case study demonstrates that the RADCHA project has succeeded in bringing about changes in attitudes towards women in the different intervention areas. Even if outcomes still need to be strengthened locally, they were still important and in line with the cooperative approaches Canada has taken with Mali. Regarding the rural agricultural economy, some outcomes in the field show a strong appreciation for the RADCHA project in terms of social and financial inclusion in the target areas.

Finally, it should be noted that this project is very important for the beneficiary farmers, and it has initiated a beneficial process of change which now needs to be strengthened.

With regard to the sustainability of project outcomes related to social mores, the inclusion of women in poultry farming, gender equality, and other themes addressed, it is necessary for all activities, including program content, to continue beyond the end of the project. This could be done either through continuing the implementation of activities and making the content of the recorded radio broadcasts accessible to all. With systems promoting the continuation of training and content, communities could remain connected and aware of best poultry practices, allowing improvement of daily practices in an equitable way.

RECOMMENDATIONS

The following recommendations were made in part by the beneficiaries during the interviews and in part by the research team.

For the technical services and the administrative authorities in the areas

- **Establish and operate a system and a mechanism for the sustainability of project outcomes by integrating all actions implemented in municipal and/or regional poultry development systems.**

This would involve organizing a meeting in collaboration with leaders of beneficiary organizations, the project team, and the FRI office in Mali, in order to mobilize appropriate stakeholders to set up a plan for resuming project activities. Empowering decentralized state technical services would ensure not only that activities could resume, but also that they would be included in the national system for promoting the poultry sector in Mali in general and in the project areas in particular. Radio stations involved in the project should be considered by broadcasters and other groups as key stakeholders who should be included in any future planning. After all, it is through radio stations that the public can be reached.

For the direct beneficiaries of the project

- **Contribute to the mobilization of financial, material³¹ and technical resources in collaboration with the project team and the technical services responsible for supporting populations.**

It is important that FRI and its partners mobilize material and financial resources to sustain the actions implemented by the project. To continue these efforts, it is important to set up a monitoring and support system for participants in the different areas.

³¹ Equipment suitable for farmers' composting activities.

- **Increase awareness and mobilize men with wives who are enthusiastic about poultry farming to commit to building chicken coops for their wives in order to facilitate implementation of activities.**

Activities should be planned with assessment of all those involved in mind, especially women and young people, in order to provide support according to specific, identified needs.

- **Develop partnerships between poultry farmers and processors, customers, and women restaurant owners to better ensure sustainable poultry sales with higher profit margins.**

These win-win partnerships will truly help to attract an increasing amount of substantive funding in the poultry sector.

- **Organize internal oversight assignments to better understand the level of application of the training and information received and to provide the necessary support for the development of project activities in the various areas.**

Internal oversight assignments, organized by state technical services, will better equip promoters, but also will give them confidence to continue their work in the poultry sector. Following the end of the project, state technical services, which are mandated to carry out this internal oversight, could also contribute directly or indirectly to continue the work of poultry farming in the area. These technical services provide advisory support in all agricultural, forestry and pastoral activities in rural areas.

For future project teams from civil society organizations

- **Negotiate financing for a new longer project phase and contribute to mobilizing financial and technical resources for radio broadcasts.**

Indeed, local stakeholders and beneficiaries are unanimous that there are still actions that can be taken to strengthen project outcomes and to ensure sustainability. For certain actions, such as the promotion of poultry housing, it is simply a question of completing the action and setting up maintenance mechanisms. If project activities continue, beneficiaries would like to focus on the following in particular:

- training on the production of fodder crop seeds;
 - improved restructuring of cooperatives so that they can fully play a role in promoting fodder crops and organic manure for agricultural production and more; and
 - resuming radio programs on women's rights, technical itineraries of poultry farming, access to markets, the agricultural calendar, quality seeds, the use of inputs, composting, and other subjects deemed important.
- **Organize mobile video sessions to facilitate access to information in the target areas.**

During these sessions, facilitators can move from one community to another to share success stories to motivate those who are not involved to become involved in modern poultry farming³². This would complement radio broadcasts and take into account the visual and physical dimension of the RADCHA project. For radio broadcasts, it is about listening and reacting; video projections would allow listeners to see participants who are telling their stories. The

³² Chicken coops are one innovation introduced in the project's target areas.

visual combined with the audio would make it possible to further convince beneficiaries of the benefits.

For technical and financial partners

- **Continue to finance the project with the goals of strengthening outcomes and promoting better conditions for scaling up the project into other areas of the country³³.**

Broadening the project's scope will further strengthen the credibility of the FRI team and its partners among beneficiaries and will create numerous ripple effects in terms of improving the socioeconomic living conditions of women, and will have other positive impacts.

³³ This is an extension of the project in villages not targeted by the initial RADCHA project area.

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APPENDIX 1

Bougouni/Yanfolila Case Study: List of participants interviewed

#	Name	Gender	Area	Profession
1	Oumar Dé Cissé	M	Bougouni	Faso kan Radio Host
2	Sidibé	M	Faradiélé	Radio Director
3	Kolon Samaké	M	Faradiélé	Poultry Farmer
4	Zié Diarra	M	Faradiélé	Poultry Farmer
5	Bakary Bagayogo	M	Faradiélé	Poultry Farmer
6	Mamadou Diarra	M	Faradiélé	Poultry Farmer
7	Bourama Coulibaly	M	Faradiélé	Poultry Farmer
8	Ba Oumou Samake	M	Faradiélé	Poultry Farmer
9	Maimouna Samaké	F	Faradiélé	Poultry Farmer
10	Alimatou Diakité	F	Faradiélé	Poultry Farmer
11	Kadidia Diarra	F	Faradiélé	Poultry Farmer
12	Broulaye Sanogo	M	Bougouni	Manager, Breeding Post
13	Maguiraga Fatimata Konaté	F	Bougouni	Animal Husbandry Service
14	Elisé Diarra	M	Bougouni	Programme Manager, Agriculture Sector
15	Drissa Diakité	M	Kléssékôrô	Cooperative President, Poultry Farmer
16	Bourama Diakité	M	Kléssékôrô	Poultry Farmer
17	Amadou Diakité	M	Kléssékôrô	Poultry Farmer
18	Seydou Diakité	M	Kléssékôrô	Poultry Farmer
19	Madou Diakité	M	Kléssékôrô	Poultry Farmer
20	Adama Diakité	M	Kléssékôrô	Poultry Farmer
21	Bourama Diakité	M	Kléssékôrô	Poultry Farmer
22	Issa Domango	M	Kléssékôrô	Instructor, Poultry Farmer
23	Kalilou Diakité	M	Kléssékôrô	Poultry Farmer
24	Adama Diakité	M	Kléssékôrô	Poultry Farmer
25	Sekou Diakité	M	Kléssékôrô	Poultry Farmer
26	Soumaila Golfa	M	Kléssékôrô	Poultry Farmer
27	Madou Diakité	M	Kléssékôrô	Poultry Farmer
28	Sata Diarra	F	Kléssékôrô	Poultry Farmer

29	Saran Diarra	F	Kléssékôô	Poultry Farmer
30	Safiatou Diakité	F	Kléssékôô	Poultry Farmer
31	Mariam Diakité	F	Kléssékôô	Poultry Farmer
32	Mah Koné	F	Kléssékôô	Poultry Farmer
33	Kadiatou Samaké	F	Kléssékôô	Poultry Farmer
34	Fatoumata Diakité	F	Kléssékôô	Poultry Farmer
35	Mariam Diakité	F	Kléssékôô	Poultry Farmer
36	Rokia Touré	F	Kléssékôô	Poultry Farmer
37	Sata Diakité	F	Kléssékôô	Poultry Farmer

APPENDIX 2

Kônôbougou Case Study: List of participants interviewed

#	Name	Gender	Area	Profession
1	Sassy Bouare	M	Kônôbougou	Community Listener/Authorized Veterinarian
2	Drissa Diarra	M	Kônôbougou	Listener
3	Assétou Coulibaly	F	Niougoula/ Kônôbougou	Listener
4	Badra Traore	M	Niougoula/ Kônôbougou	Listener
5	Gaoussou Tamboura	M	Niougoula/ Kônôbougou	Listener
6	Ya Cissé	F	Niougoula/ Kônôbougou	Listener
7	Rokia Diarra	F	Niougoula/ Kônôbougou	Listener
8	Moussa Sow	M	Niougoula/ Kônôbougou	Listener
9	Mouké Dembele	M	Sanankoro/ Kônôbougou	Listener
10	Yéya Minta	F	Sanankoro/ Kônôbougou	Listener
11	Mamadou Kouyate	M	Kônôbougou	Radio Broadcaster
12	Mamou Toure	M	Kônôbougou	Radio Broadcaster
13	Adama Téssouké Directeur	M	Kônôbougou	Radio Broadcaster
14	Bengaly Directeur	M	Bamako	FRI
15	Lamine Togola	M	Bamako	FRI