PROFEIS–Mali annual summary report 2017

January–December 2017

1. INTRODUCTION

The present report is about the activities of twoprojects: one is funded by MISEREOR (PROFEIS: Promoting Farmer Experimentation and Innovation in the Sahel) and the other by McKnight Foundation (FaReNE: Farmer-led Research Networks).

2. PROFEIS

The PROFEIS programme called***"Promoting Farmer Experimentation and Innovation to improve food security and resources conservation in the Sahel"***is in its 4th phase of three years.The 2017 reportrefers to the first year of Phase 4(2017–2020).

The specific objectives for this 4th phase are:

- Well-performing farmer innovations are documented and scaled up to improve food security and nutrition of resource-poor farmers.
- Institutions of research, tertiaryeducation andextension as well asNGOs and farmer organisations are using the Participatory Innovation Development (PID)approach in their activities.

2.1 Governance of PROFEIS–Mali

The governance of PROFEIS–Mali is achieved through three main bodies or functional organs:steering committee, multistakeholder innovation platform and technical team or coordinating unit.

- The **steering committee**, playing the role of Board of Trustees, is made up of 15 active members coming from different institutions (representatives from farmer innovators, farmer organisation, NGO, national extension services, research and resource persons). The members meet once a year for orientation through evaluation and validation of the annual report, andreview planned activities, annual expenses and future budget. The Board's first annual meeting was on 6 August.
- The **multistakeholder innovation platform** is composed of22 members from different institutions/organisations. It provides technical advice on the activities being implemented. The members meet twice a year. The first meeting of this platform was on 13 July.
- The **technical team** or **coordination unit**is composed of representatives of four institutions including a farmer organisation network (AOPP), a national NGO (ADAF-Gallè), the National Agricultural Research Institute (IER) and the National Extension Service (DNA).The role of the technical team is planning, implementation, monitoring andparticipatory evaluation with farmer innovators and their communities through all the processes of project implementation.The technical team meets once a month.

2.2 PROFEIS activities

- **Conception and funding of the proposal for Phase IV**

January–April: processing of the proposal by MISEREOR; signatures of the funded proposal with MISEREOR and of contracts with local partners (AOPP, IER, DNA).

- **Launching of 4th phase of the project**

12 April at Ségou and 15 April at Mopti with 43 participants, including four women, in each region. The total number of participants was 86 including eight women.

- **Joint experimentation**

From May to November, three joint experiments were conducted. Two experiments are still underway. Two studies on strigaat the Ségou site were:

- ✓ A student made a comparative study of different farmers'innovations for fighting *Strigahermonthica* on millet using local products including ash from millet straw, from wood and from cow dung. The student's report is available in French.
- ✓ A student made a comparative study of different innovations for fighting *Strigahermonthica* on millet using products from the*Parkiabiglobosa*tree (yellow powder, leaf and pod powder) at different rates. The student's report is available in French.

Grafting "*zeguéné*" or*Balanitesaegyptiaca* trees

The farmer innovator SidikiCoulibaly, who initiated the grafting of *N'Pégou* and *N'Gounan* trees, continued his own informal research. For example, he planted the seeds of the grafted trees in a nursery and cross-grafted these plants among themselves. He also grafted another local plant *Balanitesaegyptiaca*on the same species. The fruit on the grafted plant is bigger than on the non-grafted one (Photo 1).

Photo 1: Fruits of grafted *Balanitesaegyptiaca*

A socio-economic study on clay incubator

A student conducted a socio-economic study to evaluate the efficiency of the locally developed clay incubator in Nayo village. With 180 hybrid "Wassachiè" hens, the rate of efficiency over six months was 22% in terms of number of fertilised eggs that actually hatched.

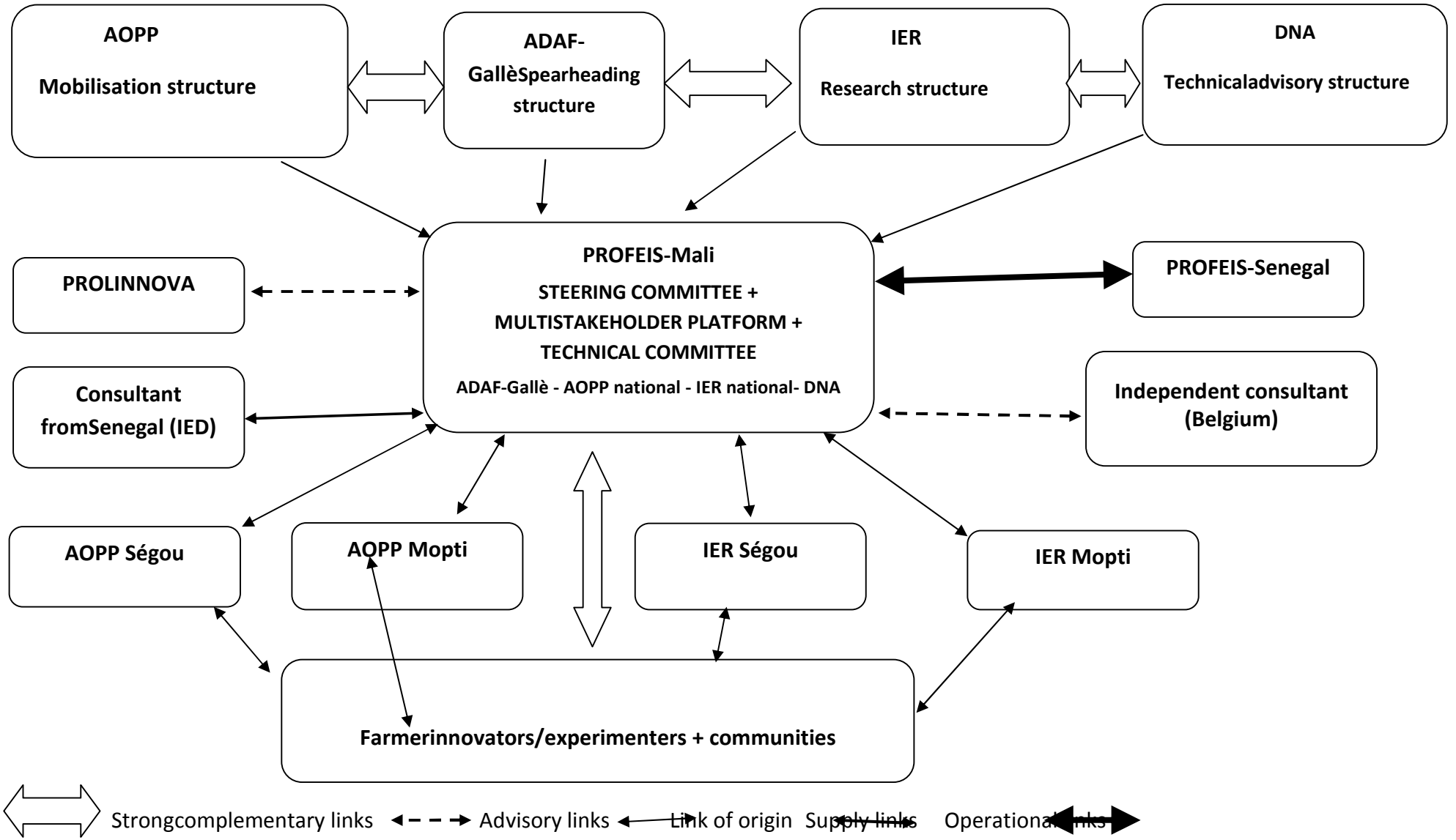
A refrigerating tricycle

An experiment is in progress with an innovator about the feasibility of a refrigerating tricycle to facilitate the long-distance transport of fresh products such as fish and tomatoes from the production site (up to 600 km, according to the innovator).

- **Multi-stakeholder innovation platform meeting**

The first multi-stakeholder innovation platform meeting was held on July 13 with 24 members including six women.

PARTNERSHIP LINKS OF PROFEIS-MALI



- **Farmer exchange visit**

18–24 September:An exchange visit among poultry farmers from the villages ofDjéla, Nayo, Kanouala andKori-Koriwas organised around the solar clay incubator and a demonstration ofa local product to reduce the high mortality of guinea fowl chicks.The aim of this visit was to strengthen networking among poultry farmers.The 20 participants included onewoman.

- **Annual ProlinnovaInternational Partners Workshop (IPW 2017)**

The IPW was held at Tamale, Ghana.Two members from the technical team of PROFEIS (a man and a woman) participated in the meeting.

- **Local InnovationSupport Fund (LISF)**

In early May, the LISF process started with several meetings in the different project sites to explain the importance and the conditions toaccess thefund to the group members,followed by training and workshops.Based on that, two types of initiatives to strengthen farmer innovation were determined: individual and community ones.The main needs expressed by different communities for the fund were poultry and vegetable gardens to improve human nutrition. With the fund, four improved poultry houses were built in four villagesfor the benefit of four organisations. Each organisation received200 chicks and poultry feed for sixmonths from the project.Aftersix months in the village of Kanouala, 196 adult birds survived and can be estimated to be worth 490,000 FCFA (approximately USD1000).

- **Solar clay incubator experimentation infour villages**

One of the key problems identified by farmers about the clay incubator has been the energy source. Not only is the price of kerosene expensive; it is also increasingly difficult to obtain.The farmers asked the project to try to substitute the kerosene with solar energy.In 2017, with the LISF, a solar system was set up on each clay incubatorinthe villages of Nayo, Kanouala and KoriKori,in addition to the first solar clay incubator testedin Djela in 2016.

Difficulty: The heat of the solar system was insufficient during the cool season because the solar energy accumulated during the day at this time of yearis not enough to keep the chicks warm at night. The farmers therefore decided to try using only one of the three units (each for 200 eggs) in the clay incubator and found that the solar-generated heat is sufficient for 200 instead of 600 eggs during the cool season.

- **Institutionalisation strategy workshop**

17–18 August: A workshop was held on PID institutionalisation strategyat the Research Centre for Solar Energy (CRES), Bamako.One of the main recommendations was to elaborate a practical booklet on PID for sensitisation of decision-makers.

Another workshop was organised with the local leaders including male and female elders from SégouRegion in 2017.The objective of this workshop was to get their perception about the different innovations.The participants said that most relevantinnovationswere not ready tobe shared.

- **Documentation and sharing**

Contractshave been signed with local radio stations tospread some relevant farmer innovations in the Ségou and MoptiRegions just before the rainy season.The objective of the wide diffusion was to sensitise farmers to try out some of the local innovations(mid-June–mid July).

- **Experience fact sheetsin progress**

With the support of Bara Guèye,one of the backstoppersfrom IED–Afrique, four experiencefact-sheets are being edited.

- **Adoption outside of the project zones**

Many farmers outside of the project intervention zones have adopted local innovations. Some farmer organisations from the surroundings of Bamako as well as other intervention zones of ADAF-Gallèsuch asOmitradougouVillage (KayesRegion) andOuolodo andDidiéniVillages (KoulikoroRegion) have adopted two innovations: the clay incubator and guinea fowl production using local products (potash solution or solution of some plant parts) to reduce the high mortality of the guinea-fowl chicks).

3.FARMER-LED RESEARCH NETWORKS (FARENE) PROJECT FUNDED BY MCKNIGHT

During the inception phase, eight farmer innovations were selected for joint experimentation. In June–October (Year 1), four joint experiments were implemented in four villages: NabougouNampasso, Pongonon and Kiri. All the four associations/cooperatives were trainedin the process of managing LISFs.Each villagereceived a fund and planned its own experimentation.

- **BenkadiAssociation inNabougouVillage**

The BenkadiAssociation has 124 members (including 24 women). As a fund,itreceived515,000FCFA (about USD 1000).

Training: 24 female members of the association were trainedin sheep fattening, producing honey with Kenya top-bar hivesand composting. As a result, 13 hives were set up; the test harvest was 20kg with a few planted acacia trees.The cooperative made ten tons of compost. Thewomen who were trained in fattening sheephad access to a fund of 480,000 FCFA, with which they could buy 20 ewes. After one year, these ewes produced 12 lambs.Theremainingfunds were used for the training in composting and beekeeping.

Farmer experimentation:The village already had a plot with acacia trees but no field crops.With their experiment, the local farmers sought to find out:i) whether they could grow crops in the alley between the trees, and ii) if they can increase their production when crops are grown in association with acacia trees.The farmersgrew sesame, black pea and groundnut in alleys between theacacia trees. Acacia is a legume that fertilisesthe soil.The combination of field crops and acacia trees led toimproved soil fertility and increased crop production compared to the control plot without trees.

- **AmakènèCooperative in Pogonon Village**

The cooperative has 84 members, including 24 women. It received 480,000FCFA to use as an LISF.

Training:The members were trained in sheep fattening and making compost.

Farmer experimentation: The factors the farmers evaluatedwere type of land preparation (simple ridges and tied ridges) and type of soil (loam soil and clay soil) for growingdual-purpose sorghum, millet, sesame and black pea.All crops brought higher yields with tied ridgesthan with simple ridges: 23% higher in the case of sorghum and 34% higher in black peas.The yields of sorghum, millet and sesame were higher on clay soil than on loam soil: sorghum yield was 24% higher, millet yield was 23% higher and sesame yield was 36% higher.The yield of black pea was 35% higher on loam soil than on clay soil. For the interaction between type of land preparation and soil type, no significant difference was found in any of the crops.

- **BenkadiCooperative in Nampasso Village**

This cooperative has 71 members, including four men.It received 515,000 F CFA from the LISF for fattening ewes and planting*Moringaoleifera*.

Training:Among the 20 members trained in sheep fattening, 14 members (including 9 women) receivedaewe.

Farmer experimentation: Factors that the farmers evaluated were simple and tied ridges with sorghum/groundnut mixed cropping.The yield of themixturewas 42% higher with tied ridging than with simple ridging.

- **DoumnokènèCooperativein KiriVillage**

The cooperative has 80 members, including 50 women. To use asLISF, the cooperative received 400,000CFA.

Training:A group of 20 women members was trained in fattening ewes and producingcompost.Because the fund was not sufficient for all the members of the cooperative, the members decided to make a revolving fund so that every member would have aewe sooner or later. In 2016, 20 women received aewe. In 2017, 10 new women received their sheep.The ewes of some women became pregnant and therefore. Because of that, the reimbursement was postponed

Farmer experimentation:The farmers evaluatedthe use of fertilisers on sorghum, groundnut,sesame and black pea.The yield for all crops increased with fertiliser except the sesame, but no significant difference was found among the different crops.The yield of sesame on the control plot (without fertiliser) was significantly higher than on the fertilised plot. The sesame usually performed better on poor soil. A difficulty of the experiment was the drought that affected all the crops.

Exchange visits

- One exchange visit organised between the two networks in Mali (Ségou and Mopti) in October with 25 participants (10 women and 15 men).
- Another exchange visit between the Mali network and the Burkina Faso network on LISF was organised on 8–9 October.Of the 15 participants from Burkina Faso, five were women, whereas all ten participants from Mali were men.

Documentation: Two bulletins was compiled and published.

General conclusion for the FaReNeexperiments

Although the season was difficult with regard to rainfall, some interesting and important results were obtained in all the experimental sites:

- ❖ At KiriandNabougou, the use of mineral phosphate fertiliser increased the yield for almost all the crops except sesame.
- ❖ At Pogonon, the tied ridges constitute an important alternative to improve the rainwater management for crops as well as to solve some water problems for the people.
- ❖ AtNampasso, the mixed-cropping systems showed some substantialadvantagescompared to sole cropping.

The overall problem of this project was the insufficiencyof funding.The implementation of all activities was possible because of the partnership of FaReNe with PROFEIS.