



Prolinnova–Cameroon narrative report on Year 3 of the Proli-FaNS (Promoting local innovation in Food and Nutrition Security) project

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1.0 BRIEF DESCRIPTION OF HOW THE REPORT WAS PREPARED

This report was prepared together with multiple stakeholders, as stipulated by Prolinnova principles, from NGOs, research and education institutes, rural development advisory and awareness-raising services and farmers involved in the Country Platform (CP). NGO members were: Ms Sylvie Mbog and Ms Olga Tchuendem (ODECO); Roger Mongono Bayiha (AIDER) plus Ms Amina Bwebeyupu in charge of monitoring and evaluation (M&E) of the Proli-FaNS project; Ms Gertrude Ngo Bahoya (CRAFEJ); François Amougui, Paul Oscar Mbom and Arthur Tonye (COSADER) and Ms Chantale Ngo Bonga and Jean Bosco Etoa for the CP and Proli-FaNS coordination. Persons involved from education and research were: Sygnola Tsafack, lecturer at ISAGO (Obala Higher Institute of Agriculture and Management) / IAO (Obala Agriculture Institute) and member of the local multistakeholder platform (MSP) of Nkométou and Martial Obele, student at the same institute; Philippe Kosma and Felix Alain Wassoua, lecturers at Maroua University and academic supervisors of Ghislain Demanou Nanfack, student of that university involved in the PID on shallots; and Roger Ponka, lecturer at the University of Maroua, who is progressively becoming the CP focal point in the area. People from the rural development advisory and awareness-raising services were Alain Beko'o Abondo for the Chamber of Agriculture, Livestock, Fishery and Forestry (CAPEF) and Armelle Sylvie Ngambia, Consuela Ladji Mahsiga and Bertrand Ntankeu for ACEFA. Farmers who participated in preparing this report were in three groups: one group around Serge Ayangma, a member of the CP and two common initiative groups involved in PID: AETA (*Agriculteurs et Eleveurs de Tala 1* / Farmers and Herders of Tala 1) and Egalité, of which Rachel Ngono and Esther Ngah are members, respectively.

Sources of information used to write the report were reports from: various meetings for validation of innovation or planning of activities of the local MSP; celebration of International Farmer Innovation Day (IFID); focus-group discussions (FGDs); direct collection of data from the field with farmers; information on the PID process with students and sometimes telephone conversations to seek clarifications.

2.0 CHANGES IN PROJECT CONTEXT DURING THE 12-MONTH REPORTING PERIOD

The death of a 17-year-old boy at Obala after a knife attack by another boy because they were fighting for a girl led to conflict between two communities. For days, this paralysed the town and the neighbouring villages (Ekoumdouma, Nkométou etc) where the CP has innovators and their economic activities.

Two important projects are being implemented at Batchenga in order to provide water and electricity to Cameroon's capital city Yaoundé. Activities to install transport equipment from Batchenga to Yaoundé have started and cut across villages around Nkométou. Although farmers were aware of the project because of the good information activities, some farmers are still awaiting compensation for their fields, houses etc. A lot a change will probably occur in this rural area during the coming weeks or months, favoured by adaptation to the new environment. The process will certainly lead to new local innovation.

During the year, the ACEFA programme added a new acronym to become Perennial Cooperation Programme (PCP-ACEFA). This change also led to movements of ACEFA personnel and local advisers all over the country, including the Lekié Division and Nkométou where the CP is working. Ms Ngambia was moved from *Comité Local de Groupement* (CLG) Nkométou to Yaoundé; fortunately, she was replaced by Bertrand Ntankeu, formally ACEFA adviser in the Okola area. Other local advisers participating in Proli-FaNS project were affected: Ms Consuela Ladj Mahsiga was promoted but will remain in the Monatélé area; Ms Flore Ndogmo was transferred from Batchenga to Mfou in the Mefou Afamba Division.

The decision taken during the meeting of the CP in July 2017 to add the farmer organisation APINK at this level led to replacement of Serge Ayangma in the local MSP. Two farmers have been proposed to replace him but were rejected by the MSP because of their low involvement in CLG activities. A third person proposed was Achille Menounga, who appears to be accepted by the others as the new representative of the CLG in the Nkométou MSP.

The events and personnel movements described above led to delays and changes in periods that were originally scheduled for activities.

3.0 IMPLEMENTING THE PROJECT AND ACHIEVING ITS OBJECTIVES

3.1 Achievement of project objectives

This section is presented according to the three specific Proli-FaNS project objectives. Under each objective, the focus and development follow.

Objective 1: Rural communities develop their innovative capacities to effectively improve food security, nutrition security and nutritional diversity.

Under Objective 1, this report is divided in two parts. The first part follows progress of the three foci during the year, which were: i) local innovations identified, validated and documented; ii) farmer-led joint experimentation started on selected innovations; and iii) local innovations disseminated at learning events for adoption / adaptation. The second part presents the evolution under the two main indicators of Objective 1.

A) Achievements in attaining the three foci of Objective 1 in Year 3

a) Local innovations identified, validated and documented

From August 2018 to July 2019, sessions for validation of local innovations organised by the local MSP permitted validation of six farmers' innovations. Five farmers are involved in those innovations that were validated, which were:

- **Innovation of Ms Donette Ngoune.** This 28-year-old woman succeeded in recycling plastic bottles that otherwise ended up in rivers or blocked channels for rainwater runoff. The 1.5-litre plastic bottles in which water was sold are used as small double-bottom containers to practise urban agriculture for growing short-season vegetables. The innovator uses a straw to supply water to the plants.
- **Innovation of Leopold Assola.** In his cocoa-growing area, the man transforms the husks of cocoa beans into a cosmetic product. Ladies appreciate his cosmetics because it has beautiful effects on their skin. This activity increases the family income and helps Assola feed his family and pay his children's school fees.
- **Second innovation of Ms Catherine Nghah.** Inquiries about using red leaves of cocoyam to feed snails permitted the local MSP to identify that snail farming in the area of Ekoumdouma/Nkométou is indeed an innovation. Consumers and sellers of snails used to collect them in the bush as a non-timber forest product. Catherine Nghah innovated by starting to raise snails in a pen behind her house.
- **Innovations of Ms Rachelle Ngono.** This woman described her technique to increase the yield of shallot (locally called "village onion"). She improved the technique she learned from her mother by cutting the stem of the shallot before planting. After planting, she also discovered that she should remove soil around the plant to increase production. This woman and her group selected two innovations in shallot seed preparation for joint experimentation:
 - cutting off the upper third of the shallot seed before planting, which leads to early rapid growth during the first seven days, as was proved by joint experimentation;
 - an innovation that arose during the joint experimentation process when facing seed shortage: the women in AETA proposed to cut one shallot to produce more than one seed. Through transversal separation from the bottom to the top of the shallot, two or four seeds were produced, depending on the size of the shallot.
- **Innovation of Stephane Souley Belinga.** This 25-year-old man has found how to reduce the amount of mineral fertiliser used in vegetable production by spreading localised small amounts of fertiliser that allows optimal growth of the young plant. In this way, he is halving the amount of fertiliser he used to spread.

Four local innovations were captured in six documents, and another document was produced with all the 18 innovations identified and validated by the local MSP in Nkométou.

The four innovations documented separately were:

- i. "Preparation of shallot seeds": one document describes the innovation and a second one is on the related PID process;

- ii. “Using *kanwa* for reducing bitterness in chocolate”: one document describes the innovation and a second one is on the related PID process;
- iii. “Multiplying bee colonies”: a document describing the innovation;
- iv. “Feeding red cocoyam leaves to snails”: a document describing the innovation.

Sixteen of the 18 innovations identified in Nkométou were documented initially in a catalogue produced at the end of Year 1 of the Proli-FaNS project. A second catalogue with all 18 innovations appeared at the end of the Year 3. Three of the farmer innovators identified had offered two innovations each to the MSP.

b) Farmer-led joint experimentation started on selected innovations

Two local innovations underwent joint experimentation in Year 3. The first farmer-led joint experiment concerned snail farming and was carried out together with a student from IAO. The second joint experiment was on treating shallot seeds before planting; this was in cooperation with Maroua University.

- Outcome of the joint experimentation on snail farming were on three levels. The first one is the process to deepen the relationship between the stakeholders involved: the IAO College (already member of the local MSP), the coordination of Prolinnova/ Proli-FaNS and other NGO members of the CP and farmer groups like Egalité, which is member of the CLG, representing the farmer group in the Nkométou MSP. The second level concerns mutual benefits and sharing of results. After feeding rotten avocados and red cocoyam leaves, the innovator added papaya leaves as another substitute to feed snails. The third level is the great improvement in protein consumption, especially by the children of this innovator, but also the improvement in the pen to raise snails after the innovator benefited from the Local Innovation Support Facility (LISF) to improve her innovation. As she said during an FGD, the place she now uses for her snails is more comfortable for working, more secure from theft and prevents the snails from escaping.
- The results of the joint experimentation on shallot seed treatment were shared among members of AETA during the FGD. The joint research allowed farmers to save on labour for land preparation. They used to clear more land than available seed, and the space between two shallots plants was wide. During PID, greater attention to good spacing of seed in the shallot plot permitted farmers to sow more seed per unit area. That could also help improve yield/m² for this group. Collaboration with the Prolinnova–Cameroon CP in this PID also raised the ambitions of the AETA members. As they can obtain two crops per year, they have decided to keep as seeds all shallots harvested during the March–May rainy season for the next planting period (August–December).

c) Local innovations disseminated at learning events for adoption / adaptation

Local innovations were disseminated at events such as celebration of IFID, during sessions to validate innovations, during FGDs and through distribution of documents and self-promotion of innovations by the farmers.

Celebration of the International Farmer Innovation Day (IFID) on 29 November 2018 permitted the CP to disseminate local innovations among 32 participants at Ekoumdouma. Participants invited included the traditional rulers of Ekoumdouma and Nkométou and the

person in charge of the Nkométou Catholic Parish. It was during this event that the PID on using *kanwa* to reduce bitterness in chocolate was shared with members of the CP and invited participants. The farmer innovator and the student of Maroua University who was involved in the joint research made the presentation.

Validation of innovations and the FGDs were other occasions to share innovations within the farmer organisations. It became apparent in the case of PID on shallots that some members of the AETA group were not well informed about what the other members were doing with Prolinnova. It was similar in the case of members of Egalité, in which only one woman is following the innovation development activities. Three FGDs held by the CP allowed sharing and explaining of innovation development among 21 persons. Ten of them in the three groups had not previously been well informed about the innovations. During the session to validate the innovations, 18 participants including local MSP and CP members attended. The occasions when students defended their theses at the university were also useful to disseminate innovations, e.g. the joint experiment on shallots in August 2019 in Maroua.

The best case of sharing local innovations for adoption or adaptation is through self-promotion by the innovator. The innovator in snail farming is a very curious example. On the one hand, she has rejected several occasions that would have allowed dissemination of her innovation: she refused being interviewed by reporters of the national broadcasting company Cameroon Radio and Television (CRTV) and she refused to collaborate with the ISSAER Agriculture College near Sa'a in the Lékié Division. On the other hand, she shows some degree of self-confidence and concern with other people's problems. She said that at least five people in Ekoumdouma Village tried to start snail farming but four of these people did not request training from her. She is currently training one woman in snail farming, and the student from ISAGO who conducted the joint experimentation with her on behalf of Proli-FaNS is now farming snails at Obala. The beekeeper Serge Ayangma has also improved the score for dissemination of innovations by combining two of his innovations – the Fonge hive and multiplication of bee colonies – and installing an additional 150 hives and colonies during Year 3 of the project.

B) Achievement of Proli-FaNS indicators for Objective 1

Indicator 1: *In the selected site, rural communities experiment with their self-developed novelties to improve food security, nutrition security and nutritional diversity.*

The locality of Nkométou and the neighbouring villages in Lékié Division are in the equatorial forest area. The cropping system is influenced by four seasons: two rainy and two dry seasons. The local people obtain food mainly from cropping, from collecting non-timber forest products of both plant (*Gnetum africana*; *Irvingia gabonensis* etc) and animal (snails, bush animals, fishing etc) origin, and from income gained through selling products of the two above-mentioned sources or developing other income-generating activities. Diversification of family sources of food is common, including all three lines of activity mentioned above. The staple diet in the rural households consists of starchy foods (manioc, plantain, sweet banana, yam, potato, cocoyams etc) mixed with leaves, mainly of cassava, black nightshade and amaranth and a few legumes such as groundnuts and beans. These are all produced in crop mixtures on the small-scale family farms.

Innovations identified, validated and documented during Year 3 of Proli-FaNS are widely contributing as sources of food in the rural homes. The relative contribution varies between the villages in Lekié Division, because some villages are closer to the city than are others; it also varies depending on the occupations of the parents and the availability of plots of land for the family. The following cases illustrate the level of the contribution of local innovation and experimentation to family nutrition.

- **Preparation of shallot seeds.** Shallots are used as ingredients to cook all types of food in rural homes, except cassava or amaranth leaves without salt. If salt is added to one of these dishes, shallots are also added. Members of AETA explained during the FGD that, because shallots have many medicinal properties, it is important to add them to food. However, the main reason why women are innovating in this sector is to increase family income in order to support children attending school and also to buy food items not produced on the farm. All of the shallots harvested during the joint experiment were kept to serve as seed in the next season.
- **Home production of vegetables by Donette Ngoune.** The innovator's family came from another area of the country, acquired land and settled in Nkometou. Because the family did not have enough land for cropping, the young woman uses plastic water bottles to make small double-bottom containers to produce vegetables such as parsley and tomato on the veranda of her house. This reduces dependence of the family on the market for those food ingredients.
- **Feeding red cocoyam leaves to snails.** This innovation has high impact in Ms Ngah's family in at least three ways: firstly in terms of diversification, the family is living without a regular source of income in a rural area where the staple diet is starch-based with some leaves, where non-timber forest products are becoming rare and where access to animal proteins is not easy. This animal protein is what Ms Ngah's innovation is providing for her family, especially her three children. She and her husband do not eat snails but their children eat them. The second impact is the regularity of the activity. She often has snails in the period February–March, the end of the dry season when food – even leaves – is difficult to find. The third impact is an increase in income for the family to buy food, to pay children's school fees and to pay for healthcare when needed.

Indicator 2: *Other farmers who were not originally included as direct project participants have begun to adapt/contextualise local innovations disseminated by the project farmers and are conducting own experimentation in farming and natural resource management.*

During Year 3 of Proli-FaNS, three cases of dissemination and adoption of innovations can be mentioned, although the follow-up is not easy. Farmers did not recognise or claim the origin of the innovation, especially when the original innovator is in the neighbourhood.

- In addition to Martial Obele (the student of ISAGO who started farming snails after working with the innovator), five other women tried to do the same. Four of them failed; they had decided to start the activity without contacting the innovator. Only one of them, Ms Rebecca Ngono, approached the innovator and she still learning from her.

- During the joint research for shallot seeds, five women were more involved than others but when the CP held FGDs, more women were able to explain the innovation process and the objectives to be attained.
- The combined innovation of the Fonge hive and multiplication of bee colonies was shared among 150 farmers during Year 3.

Objective 2: Women are more widely recognised as innovators and are supported in further developing their innovations, from which they control the benefits.

This second objective is presented in the same way as the first one: the achievement according to the two foci of the objective and then according to the indicators.

A) Achievements of the foci and indicators of Objective 2

a) Women’s innovations identified, developed, documented and shared

Four women’s innovations were identified and documented in Year 3, and also a previously identified innovation was documented. The five innovations were by three women:

- Ms Rachel Ngonon’s two innovations for preparing shallot seed for planting:
 - Cutting off the upper third of the shallot seed before planting; PID showed that this led to early rapid growth of the seed during the first seven days
 - Transversal separation from the bottom to the top of the shallot to produce 2–4 seeds from one shallot, depending on the size of the shallot
- Ms Donette Ngoune innovation for using small double-bottom containers to produce vegetables on the veranda of her house
- Two innovations by Ms Catherine Nghah:
 - Domestication of snails, a non-timber forest product, in order to provide animal protein and generate income for the family
 - Feeding red cocoyam leaves to snails.

Among those five innovations by women, two were developed further in a PID process and shared with other farmers: cutting the upper third of the shallot seed before planting and feeding red cocoyam leaves to snails. These cases illustrate how local women innovate. Another innovation of making 2–4 seeds out of one shallot was developed by Ms Ngonon during the PID process. The women have also decided to keep their shallot harvest as seeds for the next season in order to increase their production. An example of an innovation supported of which the benefits are controlled by a woman is Ms Nghah’s snail farming in Ekoumdouma. When rotten avocados became scarce for feeding the snails, she started using cocoyam leaves and faced high snail mortality. She then used red cocoyam leaves and resolved the problem of mortality. During the PID process, the external partners suggested that she use papaya leaves. She was initially not very keen about this idea, but now she has recognised that this is another alternative after rotten avocados and red cocoyam leaves.

A total of 18 innovations have been identified, validated and documented since the beginning of the Proli-FaNS project. Nine of those innovations are by seven women, two of whom each developed two innovations. Another innovation (reducing bitterness in chocolate) was developed by a man and his wife.

b) Women innovators recognised and awarded from relevant government bodies at community or higher level

No award was given to women during Year 3.

Objective 3: Subregional ProInnova platforms support national CPs to develop capacity for collective learning, mobilising resources and effective policy dialogue.

One of the two indicators of the objective is that “CP ensures a flow of financial and in-kind support from public agencies to help farmers develop their innovative ideas”.

The CP submitted three concept notes/proposals, the first one in response to a call for proposals from the European Delegation in Yaoundé and the second to the French Embassy initiative for civil society organisation coalition actors (PISCCA). The third concept note was accepted by the “Active Citizenship Strengthening Programme”, which is co-funded by the Government of Cameroon and the European Union under the 11th European Development Fund. The full project proposal was submitted in early July, and notification is awaited.

3.2 Current status of implementation of activities and generation of outputs

The status of implementation of activities since the beginning of the Proli-FaNS project is presented in the following table:

Activity	Status	Outputs	Unachieved activities
<i>Refining and contextualising the project plans</i>	Completed	Work plans, reports and others with <i>Comité Local de Groupement (CLG)</i> of Nkométou	None
<i>Launching the project at national & local level</i>	Completed	At least 200 farmers attended the 2016 IFID at Nkométou	None
<i>Training in PID and other topics</i>	Completed	1 specific PID training, PID and other topics were themes of the 20 other meetings organised	None
<i>Developing guidelines on LISFs and MSPs</i>	Completed	Guideline for functioning of the CP	None
<i>Forming a core team to coordinate the CP work</i>	Completed	Core team to coordinate CP work	None
<i>Choosing learning sites</i>	Completed	Nkométou and Lekie neighbourhoods	None
<i>Identification and documentation of local innovations</i>	Completed	18 local innovations identified, validated and documented in 2 brochures; 1 roll-up; 4 local innovations documented in 7 documents	2 local innovations not identified and documented (to reach target of 20)
<i>Promoting local innovation processes</i>	Completed	20 meetings and a training session have been organised to promote local innovations	None
<i>Facilitating PID</i>	Completed	4 PID cases have been implemented; 2 with Maroua University; 1 with Yaoundé 1 and Maroua; 1 with Dschang University; 1 with ISAGO. ACEFA (project of Ministries of Agriculture and Livestock) took part in all the PID cases.	One of the 5 targeted PID cases not implemented

<i>Organising national policy-dialogue fora</i>	Not done	Not done	Insufficient funds; waiting for more and more diverse documentation before implementing this
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Scheduled activities were all implemented, but the targets were not fully attained for some activities. Reasons for the underachievement are various, such as lack of funds and unfavourable political and administrative environment for recognising local innovation and for inclusive and participative processes. All the available outputs have been shared with the target groups. The last sharing sessions were organised at the same time as the FGDs.

3.3 Unintended effects

During implementation of this project, we faced high expectations of farmer innovators. Their major ambitions are to create companies and they are disappointed at the limited funding available through Prolinnova. Sometimes, some potential innovators have stopped being involved in network activities after attending two meetings, such as someone in Nkométou who was processing cassava. The decision by Ms Rachel Ngonu and the women in the AETA group to keep all harvested shallots to use as seeds in the next season is a result of these ambitions. In the case of Ms Ngah, she applied for support through the LISF to build a more sturdy enclosure for testing the feeding of other leaves like papaya to the snails, but the enclosure she proposed was five times bigger than the one she had. Her motivation was to greatly increase the quantity of snails she is producing.

3.4 Risks and/or unexpected opportunities

The major risk so far is the possibility of disbandment of the CLG in Nkométou. People in the forest area prefer individual rather than collective ownership. Most innovations identified, validated and documented were developed by individuals, even if they are members of common initiative groups. Collective initiatives generally intervene promptly for social situations such as a wedding or funeral. Conflict between two group members arose toward the end of Year 3. This has affected attendance at the CLG's monthly meetings. The transfer of the ACEFA adviser Ms Ngambia from Nkométou to Yaoundé did not favour finding a solution quickly, but Mr Ntankeu, the new zone adviser, is trying to find a solution. Fortunately, the conflict did not concern the internal functioning of the CLG, though two group members ended their friendship. We tried to avoid being seen as supporting any one involved in the conflict and are discretely following the evolution. The possibility that such a situation would arise was predictable, which is why the area covered by the project at Lekié was not extended beyond Nkométou.

4.0 CONCLUSIONS AND LESSONS LEARNT

In total, 90% of the target was achieved in the process of identifying, validating, documenting and sharing farmer innovations. Of this, 30% was realised during Year 3. In joint research in cooperation with universities, two cases of PID were carried out in the year, reaching 80% of the target. Except for awards to women innovators by relevant government bodies, most of the targets of the Proli-FaNS project had been achieved in Cameroon.

Prolinnova–Cameroon has learned several lessons during this third year of implementing the Proli-FaNS project:

- Recognition of farmers as researchers by other actors in agricultural research and development needs to be advocated further. The farmers' initiatives are sometimes being further developed inside educational institutes and laboratories without the farmers' involvement, often shifting the farmers' initial aims of their innovation.
- It is important to find out but also to make clear the farmers' interests before starting PID. The farmers always have great expectations, which can lead to disappointment if they are not fulfilled.
- Joint fieldwork between the partners involved, and the ideas and information shared during stakeholder exchanges, have immediate effects in farmers' work and can already improve livelihood conditions if the interactions are well facilitated.
- Farmer innovation in sectors or value chains in which national demand is higher than supply, such as honey production, seem to present interesting opportunities, especially for young people or recent immigrants to an area.
- Partnerships in innovation development involving farmers and other stakeholders in the rural sector still need considerable strengthening.
- Participatory approaches that are based on local innovation and continuously take farmers' perspectives into account seem to provide a breeding ground for effective improvement of people's living conditions.

With regard to M&E, objectives and indicators should be based on what is in the responsibility of the project management team, but also according to some other factors such as the existing local administration in the target area and the status of previous activities. Farmers are sometimes shy to expose their innovations; their self-confidence needs to be built. Moreover, they usually refuse to give recognition to another person in their vicinity. Obtaining the exact number of farmers who adopted or adapted a local innovation will be difficult, especially when the sharing process is through public presentation. Asking a government body to give awards to women innovators could be difficult in a state where no recognition has previously been given to farmer innovators.