1.0 BRIEF DESCRIPTION OF HOW THE REPORT WAS PREPARED

This report was generated in collaboration with the National and Local Steering Committees, local implementing partners in the two project implementation sites (Rural Development Initiative in Kisumu and Inades–Formation in Makueni) and the host organisation (World Neighbors) who were all actively involved in onsite activities and reporting. The final collation was done by the Prolinnova–Kenya (PK) Coordinator. The report is a reflection of the activities implemented and data collected in the project sites. This report outlines the achievements and progress made during this reporting period from August 2018 to July 2019.
2.0 CHANGES IN THE PROJECT CONTEXT DURING THE 12-MONTH REPORTING PERIOD

During this reporting period, PK expanded its membership and those of National and Local Steering Committees. Three academia institutions (University of Nairobi, Jomo Kenyatta University of Science & Technology, University of Embu) were incorporated as members of PK and each of these will identify a representative to the National Steering Committee (NSC). This is projected to usher in a paradigm shift in researchers’ involvement in PK’s activities. In the Makueni site, the County Department of Administration has been incorporated into the Local Steering Committee (LSC), a membership represented by the Ward Administrator. This expansion has boosted the implementation and coordination of the project.

The level of adoption and adoption of local innovations among the local innovators and by the community members in the project’s action-learning sites have immensely improved. Exceptional cases include:

i. The innovators on the sack garden irrigation kit and hanging gardens have both adopted and adapted each other’s innovation. Each has separately combined the two local innovations, thereby solving both water and land scarcity challenges at a go. This has enabled them to improve their vegetable and tomato production.

ii. The innovators of the two-in-one energy-saving jiko and the improved fish smoker are sharing and learning from each other’s innovation.

iii. The innovators of the plastic chicken brooder, local poultry medicine (*Ajujo manyasi*) and egg viability detector are adopting and adapting these innovations to combine all these innovations and thus have developed an integrated chicken production system.

iv. In the Makueni site, the innovators of the relay hatching and poultry medicine using croton seeds and *Aloe vera* are applying each other’s innovation.

v. The innovators on organic tobacco-based pesticide and rabbit urine as foliar fertiliser are adopting and adapting each other’s innovation, experimenting on how to further improve their innovations.

vi. The innovators on organic fruit fly trap and organic ant killer are learning from each other to further improve their innovations and thus improve their fruit production.

These cases plus other adoption and adaptation practices by the community members have changed the socio-economic status of the action-learning sites, as some innovators earn from their innovations. Also, the interaction and engagement among the community members as they consult and share information and experiences on local innovations have improved. This has to some extent strengthened the intra-community ties.

These changes have equally altered the perception of the communities on local innovation. For instance, John Musumbi, an innovator of a bio-pesticide dubbed organic tobacco pesticide narrates that initially people regarded his innovations as witchcraft, a factor that kept community members interested in the innovation away out of fear. This perception has since been changed, as the community is now well versed with the local innovation concept and is embracing it. The levels of appreciation and embracing are evident in the number of new local innovations identified across the two action-learning sites.

The described changes collectively added positive energy to project implementation and achievement of the project objectives, particularly to strengthening the innovative capacity of rural communities to effectively improve food and nutrition security. This is because these changes have influenced communal participation, with women forming the majority.
3.0 IMPLEMENTING THE PROJECT AND ACHIEVING ITS OBJECTIVES

3.1 To what extent are the project objectives being achieved?

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

By the end of the reporting period, 41 local innovations have been identified, documented and comprehensively discussed in a catalogue, which is available both in soft and hard copies (booklet). The catalogue has been posted on the Prolinnova website. Eleven (7 in Kisumu and 4 in Makueni) of the 41 local innovations identified were studied in joint experimentation (JE) and a catalogue describing the process was separately developed. The documentation was done according to the guidelines developed by the coordinator of the Proli-FaNS project.

Most of these local innovations emerge from farmers’ attempts to adapt to climate change so as to improve their agricultural production and hence their food and nutrition security. This capacity has been boosted as shown above by the number of new innovations and attempts to experiment and innovate being witnessed in the action-learning sites. This is directly attributed to recognition of local innovators and the just concluded JE exercises in the learning sites, which has motivated farmers to engage more in local experimentation. Through this project, particularly the JE as evidenced by the monitoring and evaluation (M&E) and focus group discussion (FGD) exercises, innovators have fully realised and recognise their ingenuity and are utilising it to adapt to various challenges in their respective sites. This has shown some improvements in food and nutrition security and food/diet diversity at the household level. The change is evidenced by the data from M&E and FGD showing that the communities are currently engaged in crop diversification with additional high value crops like coriander (dhania), capsicum and watermelon. Also, the production has been improved from a seasonal to all-year production.

Also, the 41 local innovations identified have been shared with over 1000 men and women during the International Farmer Innovation Day and Farmer Innovation Fairs; and through the printed and soft-copy catalogue of local innovations and local radio stations (pre-recorded audio on various local innovations).

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

Women, by virtue of being the key players in family diet and nutritional needs, go through a lot to ensure family dietary needs are maintained. Therefore, they must be innovative enough to juggle their usual domestic chores and also attain the family’s dietary needs. Despite these efforts, in most cases, women don’t receive befitting recognition by the community. They work hard but seldom have a say over the resources or benefits accrued from the work. For instance, women mostly provide manual labour in the farms but, after harvest, they have little say on how the proceeds are used. The project in its design aimed at recognising this special group as innovators and supporting them to develop their innovations with full authority to control benefits that come with such innovations. During this reporting period, this objective was achieved in the following ways:
21 innovations developed by women have been documented and shared.

5 local innovations developed by women and subjected to JE have been documented and shared.

15 women innovators have participated in farmer innovation fairs, agricultural shows and exhibitions and the International Farmer Innovation Day across the two action-learning sites.

3 women (2 female LSC members, one from each site, and 1 female farmer innovator) were trained on mainstreaming gender in farmer-led research.

15 women innovators have been recognised and awarded with certificates of recognition by the County Department of Agriculture, Livestock and Fisheries in both Kisumu and Makueni for contributing to food and nutrition security.

In conclusion, the recognition of these women innovators has motivated them to participate in local innovation processes. In addition, this has attracted other women who were initially not direct participants to come out and share their innovations. This was witnessed during the International Farmer Innovation Day held on 29 November 2019 in the Kisumu action-learning site.

Objective 3: Sub-regional Prolinnova platforms support national CPs to develop capacity for collective learning, mobilising resources and effective policy dialogue.

The Eastern & Southern Africa Prolinnova Platform (ESAPP) was very supportive in various ways. These were:

Completion and submission of Southern and Eastern Africa Sustainable Food Systems and Healthy Diets Transition (AFRIDIETS) Lab proposal, which targeted Kenya, South Africa, Tanzania and Uganda. It was however not successful.

Development of FGD guideline and development of both local innovation classification and activity dissemination templates. The Sub-Regional Coordinator also played a major role in reviews of various success stories, box text cases and other documentation, which was very useful not only in improving visibility of PK but also in achieving other Proli-FaNS aims such as advocacy.

3.2 Current status of implementation of activities and generation of outputs

Joint experimentation (JE): All the 11 local innovations that underwent JE were successfully completed. Data were captured and the information was organised into a catalogue of JE cases. The dissemination of the outcomes has continually been in progress through various platforms, e.g. the International Farmer Innovation Day, the Makueni Agricultural Society of Kenya show and the catalogues of local innovations and JE cases.

International Farmer Innovation Day: The event was conducted on 29 November 2019 at Obambo Chief’s camp in Kisumu West sub County of Kisumu County and brought together various stakeholders. The day’s theme was “Promoting Indigenous Technical Knowledge in Farmer-Led Research for Enhanced Livelihoods.” The innovators showcased their innovations during the event that attracted 303 participants mainly drawn from Kisumu and Makueni Counties. The event was graced by Hon. Gilchrist Fulbert O Okuom, the Kisumu County’s Executive Committee Member (County Minister) for Agriculture Food, Livestock and Fisheries. The County Ministry through the County Minister awarded 24 innovators (13
men and 11 women) participating in the Proli-FaNS project with certificates of recognition. A total of 20 local innovations showcased were categorised in five themes:

1. Crop and livestock production
2. Energy use and conservation
3. Pest and disease control
4. Feed formulation
5. Food processing and value addition.

The event created awareness and appreciation of farmer innovators and provided a platform to urge community members to share their innovations and adopt and adapt local innovations to improve food and nutrition security.

Documentation: PK has maintained a continuous documentation of local innovations as they were identified in the two action-learning sites. This includes innovators’ own documentation (farmer-led documentation). A catalogue of all the identified local innovations has been made. A documentation of 37 local innovations has been printed as a booklet and shared in soft copy. The booklet has been uploaded on Prolinnova’s website for wider sharing. These booklets have been shared in various platforms, e.g. during the International Partners’ Workshop / African CPs annual meeting in Senegal in May 2018, and at an agro-ecology meeting that brought together various organisations from southern Africa held in Lusaka, Zambia. Others have also been shared locally through members of the LSC, NSC, the innovators and other stakeholders.

Identification of local innovations: In collaboration with the LSCs and partner organisations such as the Rural Development Initiative (RUDI) in Kisumu and Inades–Formation in Makueni, PK identified six new local innovations in Year 3 of the project. In total, 41 local innovations have been identified since 2016. The new local innovations are:

1. Egg viability detector (Breakthrough Ohobore), in Kisumu. The innovation is by Vincent Oloo. He places eggs in water and observes their settling posture and behaviour to determine highly viable eggs for hatching.
2. Controlling striga weed using dried leafy onions, in Kisumu. The innovation is by Jack Onege. He plants maize seeds together with a handful of dried onion leaves in the same hill (planting hole) to suppress the growth or sprouting of striga weed.
3. Hot water in a jerrican to provide heat in a brooder, in Makueni. The innovation is by Joel Tete. The innovator pours boiled water in a 20-litre jerrican. The jerrican is wrapped with a piece of cloth and placed at the centre of the brooder to provide warmth to chicks.
4. Making chapatti from indigenous crops and wheat flour, in Makueni. The innovation is by David Mutua. The innovator makes dough, using flour from indigenous crops such as pumpkins, sweet potatoes, green grams and dolichos, each mixed separately with wheat flour. The dough is then used for making chapatti (round flat unleavened bread). This makes the chapatti nutritionally diversified compared to conventional chapattis.
5. Fireless cooker and improved traditional hot pot, in Makueni. The innovation is by Ms Damaris Munyao. The fireless cooker is made of a woven basket with its interior completely covered using aluminium foil (which can be replaced by any shiny material). The cooker and its contents (food to be cooked) are placed in the sun for heat. Food that is not served immediately is kept and fully enclosed in a woven basket to keep it warm. The basket has its interior made of black linen material with sawdust between the linen and the
basket. This warmer is christened “improved traditional hot pot” and is locally referred to as *kiinga*. The hot pot can keep food warm for up to 8 hours.

6. **Crossbreeding of eggplant, in Makueni.** The innovation is by Isack Nganda. He plants two varieties of eggplants in a sequence so as to allow for natural cross-pollination. The final product is a new variety that is bigger and has a different colour. This has enabled him to successfully compete in the market owing to the uniqueness of his products. He also hints that the new variety is relatively nutritious compared to the original varieties.

7. **Pawpaw seed sex detection, in Kisumu.** This innovation is by Ms Eunice Odoyo. She came up with the innovation as a way of salvaging her perennial pawpaw production failure. This was due to unintentionally planting mono-sex pawpaw, thus without adequate cross-pollination. To ensure planting of both male and female plants, she identifies male and female seeds by placing fresh pawpaw seeds in clean water. The male pawpaw seeds will float while the female ones sink.

**Steering Committee meetings:** Two NSC meetings were convened during this reporting period, in June and in July 2019. These meetings ventilated a number of issues on Proli-FaNS progress, resource mobilisation, NSC leadership, membership expansion and strengthening, and intellectual property rights, among other agenda items on network sustenance matters. To ensure effective planning and monitoring of various activities and proper project implementation, PK convened six LSC meetings (3 per action-learning site). An additional special meeting was conducted in the Kisumu site to plan for the International Farmer Innovation Day in November 2019. This special meeting included members of the LSC, representatives of the Kisumu South West member of the County Assembly, the County Department of Agriculture, innovators and the local administration.

**African CPs annual meeting/International Partners Workshop (IPW):** PK was represented by Chris Macoloo (Prolinnova Oversight Group/POG Co-chair), Vincent Mariadho (PK Coordinator) and Joe Ouko (POG member) in this event held at the Centre Mampuya in Toubab Dialaw, Senegal, on 13–17 May 2019. The event was split into two sections, one focusing on the Proli-FaNS project to discuss the achievements, status and progress of the project and the other being the IPW, which provided a forum for experience sharing among the CPs. At total of 22 participants drawn from 12 African CPs and POG members took part in the event, which was preceded by a POG meeting held on 12 May 2019.

**Workshop on gender mainstreaming in farmer-led research.** A workshop to orient facilitators on gender mainstreaming in farmer-led research was conducted on 29 October to 2 November 2019 at the Methodist Resort and Conference Centre, hosted by World Neighbors in collaboration with the Royal Tropical Institute (KIT) with support from the Food and Agriculture Organization (FAO). The workshop participants were drawn from agricultural research and development stakeholders with diverse institutional affiliations from the Proli-FaNS action-learning sites (Kisumu and Makueni). Franklin Avornyo from the Animal Research Institute in Ghana and a member of the Prolinnova–Ghana platform also participated in the workshop. The workshop was facilitated by Chesha Wettasinha and Mona Dhamankar of KIT.

The objectives of the workshop were:

- To orient the participants on the guidelines for making local innovation and farmer-led joint research more gender responsive;
• To build capacities for identifying, analysing and documenting local innovation and farmer-led research using a gender lens;
• To elicit feedback from participants to revise and improve the guidelines for effective operationalisation.

The workshop programme included presentations, topical group discussions and a field trip to the Makueni action-learning site. The trip was meant to expose the participants to the practical aspects of the workshop lessons.

3.3 Unintended effects

The project aimed at strengthening the innovative capacity of rural communities, especially women, so as to promote food and nutrition security. Besides pursuing this objective, the M&E and FGD results revealed that the project also played a key role in changing people’s perceptions of local innovation. For instance, initially many local people related local innovation to witchcraft; the situation has since changed, with the majority embracing local innovation. Furthermore, some research specialists also initially dismissed local innovation as a process involving no technical expertise, founded on trial and error with no substantial backup. This has also changed, and research and academic institutions are showing interest in joining and participating in the PK network.

Additionally, International Farmer Innovation Days and Farmer Innovation Fairs have also contributed to integration of community members. This has resulted in harmonious coexistence. The exchange visits among the people from the two action-learning sites with different cultural practices (Luos and Kambas) and from different agro-ecological zones have also enhanced appreciation of cultural diversity and enhanced sharing and learning.

3.4 Risks and/or unexpected opportunities

Delayed disbursement of funds: This reporting period was the most affected in terms of delayed fund disbursement, which slightly delayed implementation of activities. However, PK endeavoured to recover the lost time. In addition, the project has limited funds compared to the work and efforts required to attain the project goals. This created a risk to sustainability and wide spread of the local innovation concept. This is due to the fact that funds available were strictly for implementation of Proli-FaNS activities. This limited the operation and execution of other activities of the platform covering other areas of the country, especially continuing to support areas where PK worked before through other projects, such as in Baringo, Mwingi, Busia and Nyando.

3.5 Project evaluation

An M&E exercise was conducted in both action-learning sites. The main objective was to assess the extent to which the project’s planned objectives and goal were achieved.

The specific objectives of the M&E exercise were to examine the implementation of the local innovation processes and to assess the impact of the project on households’/local community’s food security and dietary diversity. The exercise was led by the Kenya Agricultural and Livestock Research Organisation (KALRO), PK’s focal M&E organisation. In total, 18 local innovators, 12 LSC members and 10 community members were interviewed.

In the case of the local innovators, the interviews focused on various aspects of their innovations that included what the innovation was about, reasons for coming up with the
innovation, how they shared the innovation and whether they have adopted other innovations. They also described how the innovations have changed the household diets and the effect of climate change on innovation development and challenges faced. The LSCs were interviewed on the timing of PID trainings offered, roles and participation of partners, impact of local innovation on food and nutrition security, and perception of the stakeholders in ensuring the effectiveness of the project.

Discussion sessions with randomly selected community members revealed a good level of achievement of the project’s objectives. This was a door-to-door visit that aimed to establish the level of adoption and adaptation of local innovations as well as the level of appreciation of the project by the community members who had not been identified as local innovators. The community recommended the organisation of various fora that promote mutual learning and sharing of experiences such as the International Farmer Innovation day, Farmer Innovation Fairs, shows and exhibitions. Furthermore, they requested an expansion of the project to cover a wider geographical zone.

**General outputs and impacts of Proli-FaNS**

LSC members elaborated on various outputs that have led to a number of observable impacts on food and nutrition security in the project areas. A major output mentioned was creation of awareness by the project on the role and benefits of local innovation. Before the project, community members used to consider local innovations casually and often dismissed them as desperate attempts to do what was impossible with no technical expertise. Often, any person who used his/her time in developing local innovations was considered lazy and even backward. As stated above, in some extreme cases, some innovators were considered to be practising witchcraft. An example is the organic pesticide innovator who mixed several ingredients which some considered as odd because of the local perceptions and norms with respective to their use. With the awareness created, more community members began to readily accept the local innovations as useful and beneficial to the community as a whole. Specific impacts include increase in income as a result of improved agricultural production to facilitate paying school fees and buying household essentials such as clothing and meeting other domestic needs. There has also been improvement in the quality of food produced such as vegetables through use of organic pesticides rather than conventional inorganic pesticides.

**4.0 CONCLUSIONS**

In general, the project provided a good learning experience, especially through sharing and learning through exchange of information and knowledge. The experiences also played a key role in building and strengthening the innovative capacity of communities in Kisumu and Makueni, especially the capacity of women to innovate and adapt to climate change to improve their agricultural production. This ensured increased household food and nutrition security and communal diet and food diversity. An expression of the need for more expansion and implementation of similar projects and commercialisation of the local innovations appeared key to the local innovators, LSCs and the communities of Kisumu and Makueni.
## Acronyms

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<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>FGD</td>
<td>focus group discussion</td>
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<tr>
<td>IPW</td>
<td>International Partners Workshop</td>
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<td>JE</td>
<td>joint experimentation</td>
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<td>KIT</td>
<td>Royal Tropical Institute</td>
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<td>LSC</td>
<td>Local Steering Committee</td>
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<td>M&amp;E</td>
<td>monitoring and evaluation</td>
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<td>NRM</td>
<td>natural resource management</td>
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<td>NSC</td>
<td>National Steering Committee</td>
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<td>PK</td>
<td>Prolinnova–Kenya</td>
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<td>POG</td>
<td>Prolinnova Oversight Group</td>
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<td>Proli-FaNS</td>
<td>Promoting local innovation in Food and Nutrition Security</td>
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