Pathways towards resilient urban food systems
Innovation and collaboration for the resilience of the food system in Lima: the partnership between CGIAR and Incubagraria

A collaboration between the CGIAR Resilient Cities initiative and Incubagraria, the business incubator of the National Agrarian University La Molina of Lima (UNALM), is supporting start-ups to develop and prototype innovative products geared towards tackling food system challenges faced by rapidly growing cities.

The city of Lima was chosen as one of the five implementing cities of the CGIAR Resilient Cities initiative due to multiple challenges, such as rapid expansion and growth, increasing loss of agricultural land due to urbanisation, limited availability of water (since it is located in a desert), and high rates of urban poverty, malnutrition and anaemia, particularly in children.

Such challenges in emerging cities like Lima mean it is necessary to complement traditional research processes with more innovative approaches, and to collaborate with other stakeholders. Under the component on strengthening research and innovation capacities, the Resilient Cities initiative has been developing activities in collaboration with Incubagraria. The aim of these activities has been to develop entrepreneurship and innovation programmes aimed at scientists and students, to boost innovation capabilities and promote scientific and technological-based business ideas in the areas of agricultural, food and environmental sciences.

Business incubators are organisations that seek to promote the growth and success of start-ups. Incubators typically offer training programmes, mentoring, support and even financing at a seed capital level for entrepreneurs with innovative business ideas. Since 2014, all licensed universities in Peru have been required to establish their own business incubator.

Incubagraria started in 2017 and is specialised in the incubation of ‘bio’ businesses – that is, business models that use biodiversity resources and promote both environmental and social sustainability. Due to UNALM’s limited public budget, this incubator has successfully sought external financing, from national and international sources, to provide its training services. Additionally, thanks to funds from the Peruvian Ministry of Education, Incubagraria boasts a prototyping laboratory for entrepreneurs to build and test their innovations.

In 2023, the International Potato Center (CIP), part of CGIAR, established an agreement with Incubagraria to strengthen its training programmes on innovation and entrepreneurship, with the objective of promoting innovative ideas that contribute to the objectives of the Resilient Cities initiative in Lima. Thanks to this partnership, several activities have been implemented in 2023.

By the end of 2023, 235 people will have been trained (of which 123 women), a result achieved thanks to the provision of resources – both human and financial – by both Incubagraria and CIP.

Thanks to the contribution of CIP, the training programmes to enable the best entrepreneurial teams to build their prototypes were expanded, with the addition of a programme focused on food tech. The focus on food tech business models was enabled by the collaboration and support of UNALM’s Food Industries faculty.

Featured Innovations and Startups

Among the innovations resulting from these programmes, the following stand out.

Three Power Yogurt

Functional yoghurt with three high sources of protein and iron: spirulina, cushuro (Andean seaweed) and bovine blood. The ingredients are encapsulated and introduced into the yoghurt to allow the correct assimilation of nutrients and probiotics.

The objective of this innovation is to contribute to combating anemia and malnutrition in children from vulnerable populations in Lima, as well as contributing to brain development, providing better assimilation of nutrients, and enriching the intestinal microbiota.

State of innovation: prototype developed to be tested with the target audience.

Nutripizza prototype

Pizza made from broccoli stem flour, malt bran by-products of the food industry, and other cereal and legume flours, with high protein and functional content.

The objective of this innovation is to provide healthy fast food for young people and adults who are looking for a healthy alternative to conventional pizzas.

State of innovation: prototype developed to be tested with the target audience.

Biofertilure

Bio made from horse manure and cushuro, which provides high-value nutrients to crops and protects them from pests and diseases.

The objective of this innovation is to provide vulnerable populations in Lima with organic liquid fertilizer, at an affordable price and free of agrochemicals to develop urban agriculture focused on short-term crops, counteracting pests, and diseases.

State of innovation: prototype, being tested with various crops.

Opening of “Made in Agraria 2023” pre-incubation programme, May 2023
Future expectations

In 2024, the Resilient Cities initiative plans to continue supporting training programmes in entrepreneurship and innovation in collaboration with Incubagraria, and to develop an innovation challenge focused on addressing specific issues that have been identified in Lima.

There are plans to expand the scope of activities under the collaboration with the UNALM, which is currently building a technological and innovation park for agriculture that will host an Innovation Hub for the agricultural, food, and environmental sciences. It is expected that the park will foster partnerships between the private sector, related industries, research centres specialised in agriculture, such as CIP, following the logic of the triple helix innovation model (that is, interactions between academia, industry and government to foster economic and social development).

The presence of CSGAR here will be a great opportunity to strengthen applied research and promote the generation of products with commercial value that contribute to the Sustainable Development Goals, especially in the field of agriculture and food security.

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One of Incubagraria’s most notable startups is Bioflash, which participated in the incubation programme in 2018 and subsequently won an innovation contest in Mexico.

Bioflash’s product is a liquid microbial accelerator that facilitates the decomposition of organic waste and converts it into compost in 30 days. This product quickly degrades forestry and agricultural waste, prepared foods, fats, animal manure, and crop remains, converting it into organic compost. It is also used in the purification of wastewater, so that it can be used in the agricultural sector. The product is highly efficient: Each litre of Bioflash can treat between 5 to 10 tons of organic waste and between 5 to 8 m³ of wastewater.

The Bioflash project started in mid-2018 and the product has been on the market for 5 years. Bioflash has obtained various achievements such as: being the winner of the Startup Peru 7G in 2019, where it won seed capital for 55,000 soles (USD 14,000); being recognized among the 500 best green Latin American startups in the 2023 Green Awards; and being the winner of the 2023 Sustainable Agriculture Challenge carried out by the Monterrey Technology Institute in Mexico and the Pacific Alliance, where it won a fund of USD 20,000.

An interview with Brenda Costas, Manager of Incubagraria

How do you view the development of innovation processes and startups focused on urban food systems?

Business incubators have traditionally focused on technological business ideas, information technology and digital applications. Other types of business ideas have not been considered equally important, including ideas for food, agricultural products, or environmental management. In recent years this has started to change, and businesses are increasingly becoming a priority due to the current crises and climate change, and the need to use our natural resources in a more sustainable way.

In the next 30 years, one of the main challenges will be availability of food, as the population will likely be growing and urbanising fast. In a context of climate change and high competition for resources such as water and land, access to quality food will be critical.

The National Agrarian University La Molina has a fundamental role in addressing this challenge, especially considering that we have Faculties of Food Industries and Agronomy. Therefore, together with other organizations, we must think about the nutritional quality and safety of food and develop agricultural policies that ensure sufficient supply of food for a growing population. Likewise, Incubagraria has positioned itself as an incubator specialized in business, with most innovations based on food and business models, all developed under the premise of triple impact – environmental, social, and economic.

How was the experience of working with CIPI 2023? What are the main outcomes from this collaboration?

We consider that CIPI and Incubagraarias are two leading entities on the subject, and that we have aligned objectives to generate innovation and ventures with impact and that provide solutions to the main challenges at a national and global level.

This year we have managed to work with future promoters who will make decisions about how to face these challenges in the future – they are students who are trained in our university classrooms. Working with undergraduate students and encouraging them to propose their innovative ideas to face these challenges has been enriching, due to the predisposition, creativity, and awareness that the students have.

In less than a year we have managed to execute an innovation challenge, “Made in Agraria”, a pre-incubation programme, “Food Design”; and a programme for the development of prototypes. Next, we will run an incubation programme. We are really showing that with effort and when the objectives coincide, things can be achieved.

What opportunities and challenges do you see in agri-food business models in urban sectors?

Regarding the challenges, I look to the sustainability of agri-food business models. To serve a population in a state of vulnerability, one of which could be CIP, with whom we have been working for years through a strategic alliance with UNALM.
RUAF, in collaboration with the European Forum on Urban Agriculture (EFUA), invites proposals to contribute to the 41th issue of Urban Agriculture Magazine (UAM) on the topic of Next Practices & Future Policies for Urban Agriculture.

The EFUA project is entering its final year! This four-year project, funded by the EU Horizon 2020 programme, has been unlocking the potentials of urban agriculture (UA) by mapping best practices and policies, and enabling networks in and outside of Europe. The forthcoming issue of UAM will include a dedicated EFUA section that outlines some of the key lessons, reflections and recommendations that came out of the project. Moreover, EFUA also intends to take a glance into the future, beyond the end of the project. What challenges and opportunities lie ahead of us?

To this end, RUAF and EFUA invite contributions from UA practitioners and experts around the globe. We welcome proposals for articles on future pathways for UA development, as well as on promising policy approaches that help valorise the multiple benefits of UA.

Contributions analysing effective support strategies and networks for UA are also welcomed. Please send a short abstract of your proposed contribution (max 500 words) to j.halliday@ruaf.org and s.smaal@aeres.org by February 18th.

Call for contributions: Urban Agriculture Magazine 41
(Summer 2024)