

## Learning how ancestral agricultural practices can help to fight food insecurity and climate change



As part of the University of Edinburgh/SRUC Master in Food Security, twenty eight students and four staff (Dr Montse Costa-Font, Dr Faical Akaichi, Dr Luiza Toma and Prof. Cesar Revoredo-Giha) visited Peru from the 24<sup>th</sup> of April to the 3<sup>rd</sup> of May. The trip comprised the cities of Lima (coastal) and Cusco (highlands and part of rainforest).

In Lima, the group visited the International Potato Centre (CIP in Spanish), one of the Consultative Groups of International Agricultural Research (CGIAR), specialised on potato, sweet potato and Andean roots and tubers. At the Centre, the group was hosted by Ms Viviana Infantas, Events and Outreach Specialist.



The group at the CIP in Lima  
Photo credit: CIP

At the CIP, the students learned about the centre activities and had presentations on agrifood systems and biodiversity and their role on mitigation to climate change in the Andes as well as the development, operation and challenges of the potato and tubers genebank and how it supports countries around the world.



Ms Vania Azevedo explaining about the genebank at the CIP.  
Photo credit: CRG

This was followed by a visit to AJE, a carbonated beverage company, where the group was presented by Mr Jorge Lopez Doriga and his team with the details of a current project aiming at producing beverages using highly nutritive Peruvian rainforest fruits (e.g., Camu Camu) in a sustainable way to avoid deforestation.



Soft drink made of camu camu at AJE.  
Photo credit: CRG

In Lima, the group also visited Café Ciclos, a centre for research and tasting of coffee and cocoa, two important Peruvian export products, after which, the group headed to the Ministry of Environment where Mr Jaime Delgado and Mr Tulio Medina presented an overview of how biodiversity could help fight malnourishment and to ensure food security in Peru.


**Perú, país megadiverso, poseedor de una gran riqueza natural y cultural**



En el Perú contamos con numerosos productos de la biodiversidad, de alto valor nutricional que, combinados adecuadamente en una dieta balanceada, culturalmente pertinente y junto con hábitos de higiene adecuados, pueden ser un complemento importante para superar los problemas de malnutrición a nivel nacional, y sostener estos resultados en el tiempo.

Presentation by Mr Jaime Delgado highlighting Peru's biodiversity. Photo credit: Peru's Ministry of Environment.

The group then visited the Engineering Department of the Pontifical Catholic University of Peru (PUCP in Spanish), where they were hosted by Support Group for the Rural Sector (SGR), coordinated by Ms Sandra Vergara. They demonstrated several development projects where they apply scientific research to find appropriate solutions to improve the livelihood of remote rural communities and to ensure environmental conservation.



Students observing a hydro engine at the PUCP. Credit: Peru's Ministry of environment. Photo credit: MCF

From Lima the group flew to Cusco, in the southern Peruvian highlands, where upon arrival they travelled to the Sacred Valley. On their way, they made several visits, being the first one to Chincheros town to learn about a project by Mr Manuel Chalco, an agricultural engineer, who works with 376 registered varieties of native potatoes, and is currently improving the nutritional characteristics of some of these. After an explanation of the research and conservation of Andean tubers such as potato and oca, the group happily tasted several varieties of these potatoes as native-coloured chips and also rustic oven prepared potatoes with a huacatay chilli sauce.



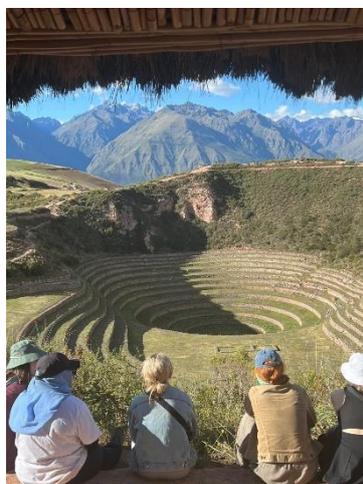
Potato crisps  
made of Manuel  
Chalco's potato  
varieties.  
Photo credit: SR

After a visit of Manuel's crops, the next stop was at Maras and Moray. At the village of Maras, the group visited the Salineras of Maras (i.e., salt ponds), which have been in use since pre-Inca times.



Maras salt ponds  
Photo credit: HW

Moray is an impressive Inca site with rounded terraces built downwards into the hills, where most likely the Incas adjusted crops to the temperatures of the different altitudes.



Moray site.  
Credit: JRT

Another visit in the Sacred Valley was a bee sanctuary where the students were explained about the fundamental ecological function that bees perform as the main pollinators maintaining the environmental balance. In addition, the visit also included a tour identifying plants and their functions, either medicinal or edible.

The next stop was at Mr Mauro Escalante permaculture workshop where he explained and demonstrated how to keep soils healthy by looking after it with minerals. The students learned the different techniques that he uses and what to plant throughout the year. He also explained the function of bacteria and the work of compost in relation to food production.



Artichokes at the Escalante family garden  
Photo credit: LM

From Mauro's farm the group moved to the Urubamba valley. There, the group visited the Living lab Huyro, where Ms. Alcira Cuba explained in a beautiful tea plantation, the history of tea in Peru as well as its farming, processing and trade-offs between economic and social sustainability. The students also had the possibility to see the making of black, white, and green tea and how to create tea blends with medicinal herbs.



Ms. Alcira Cuba, explaining details regarding tea production.  
Photo credit: SL

From the tea experience the group moved to the Muyu Project, which is a self-sustainable ecological farm where the PUCP's SGR group trials in situ its rural development tools. At the farm, the students also reinforced their acquired knowledge

of permaculture and food preservation by participating in different activities such as preparing of soils and planting, growing mushrooms, and drying fruits.



Students learning permaculture in practice at Mayu project.  
Photo credit: MCF

At the outskirts of Cusco City, the group visited to the community of Cuyuni, where the NGO CCaijo has been working with community members to enhance their livelihood and to improve their agriculture, livestock, water use, creation of orchards, guinea pig farms, camelids, and dehydrated mushrooms. The group learned and participated in ancient rituals to thank mountains and the land for providing food.



Monica and Santusa (missing in the photo Luis), our hosts at the Cuyuni community, Cusco.  
Photo credit: KMA

The last day the group visited the San Pedro market, which is a traditional food market, where locals and tourists buy fresh fruit and vegetables as well as meat and other products. In addition, the visit included the new market, next to the San Pedro market, where Cusco's population buys fresh produce.



Peppers, chillies and tomatoes at the new retail market in Cusco city.  
Credit: FA

The last visit was to the Bartolome de las Casas Centre (BDC in Spanish), a research institute that promotes rural development using a participatory agroecological approach. At the BDC, the anthropologist Cecilia Sueiro and her team gave presentation about the centre activities and their approach to improve rural communities.

Overall, the visit exposed the students to a number of topics related to food security, sustainability and rural development such as the importance of local production, the integration of ancestral agricultural practices within modern agriculture, the role of supporting rural communities with participatory training, and how different food supply chains operate.

We would like to finish thanking very much, Ms. Kathy Jarvis from Andean Trails in Scotland and her associated team in Peru: Alejandro, Myrta, Eloy, Octavio and drivers Juan and Carlos, who made the experience smooth and enjoyable. Agradiseyki, anchata yupaychaykuyki to all of them.