

Progress in post-pandemic Peruvian forestry education

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- Peru is located along the central-west coast of South America.
- Territory: 1 285 216 km²
- Population: 32 million people
- Its capital, Lima, has about 9 million people.



Yes, we are the
Country of
Machu Picchu!!

Peru has three major natural regions: the arid coast, the semi-arid Andes Mountains and the humid Amazon rainforest.



Its climate is strongly influenced by the Andes Mountains and the Humboldt Current in the Pacific Ocean. These two natural features produce a large number of different ecosystems throughout the country.


The 69.8 million hectares of the Peruvian Amazonia represent 54% of the national area. It is the second largest area of Amazon rainforest after the Brazilian Amazon.

UNIVERSIDAD NACIONAL AGRARIA LA MOLINA
LIMA – PERU
UNALM





UNALM was founded in 1901. It is currently considered one of the five best universities in the country, and the first in the field of natural resources management.

A photograph of a university campus featuring a modern, light-colored building on the left and a paved walkway on the right. In the background, a large hill is visible under a clear blue sky. A semi-transparent red rectangular box is overlaid on the center of the image, containing white text. The text provides statistics about the university's faculties, students, and staff.

UNALM has eight faculties and only 12 professional careers. It has about 5,700 undergraduate students, 1,200 graduate students, 500 professors and 780 administrative staff.



FACULTY OF FORESTRY SCIENCES



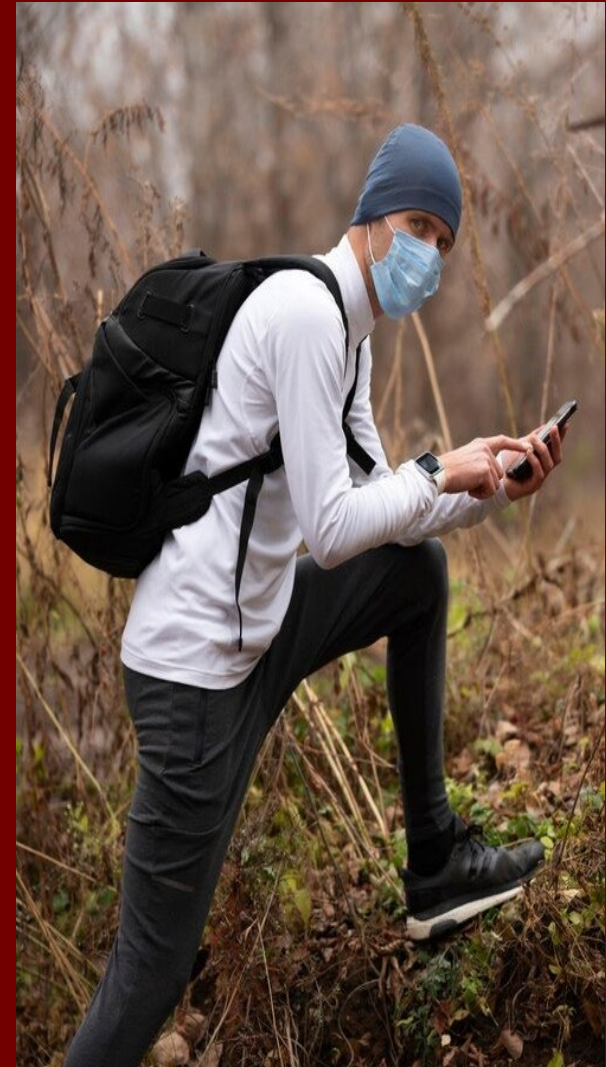
The Faculty offers academic training in the management and harvesting of timber and non-timber forest products in natural forests, forest plantations and other forest ecosystems in a sustainable manner. It seeks to promote the conservation and sustainable use of renewable natural resources, particularly forest and wildlife resources.



Nearing its 60th anniversary, the Faculty has more than 400 students and three master's degrees. It is preparing to start the first PhD in forestry sciences in Peru.

How did the COVID-19 pandemic affect forestry education in Peru?

- The pandemic led to a reduction in student attendance at universities, which affected education in general, including forestry education.
- Online forestry education has been an alternative to continue with educational activities, but the lack of access to technology and internet connectivity, especially for low-income students, has been a drawback for many of them.



- In the years 2020 - 2021 practically all forestry courses will be taught virtually, drastically reducing field exercises.
- The majority of teachers point out that the lack of field work has affected the training of professionals, which the students themselves agree with, and they now demand more time in the field.
- A low number of teachers and students say that the virtual modality is more convenient. Universities have opted for a total return to face-to-face teaching.



- One of the major criticisms of virtual education has been the drawbacks of homogeneous assessment of students. This is accentuated by the growth of AI, which has led to the elimination of some forms of assessment, such as essays and literature searches.
- Research fieldwork during the pandemic was significantly delayed, affecting their schedules and complicating reporting.



Forestry situation in Peru

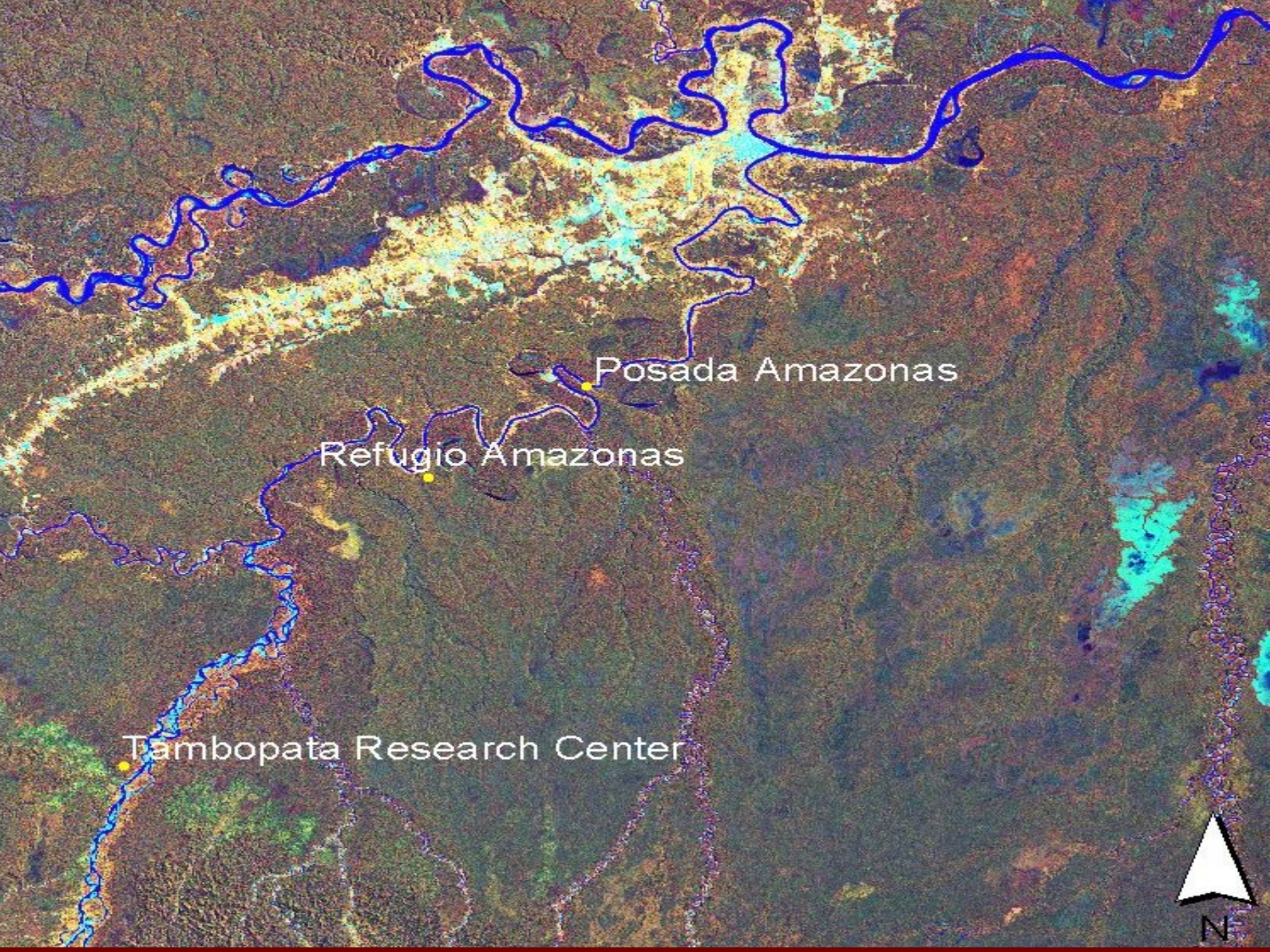
The country's forestry faculties must provide the country with professionals trained to sustainably manage forest and wildlife resources. In this sense, forestry professionals should be able to make decisions and act in the face of problems affecting this sector, its natural resources and the environment associated with them.

■ Land tenure

Historically, in Peru it has been difficult to establish plantations or manage natural forests due to the lack of incentives to promote investment and the undefined and conflictive land ownership situation in potential areas for reforestation. The new Forestry and Wildlife Law is attempting to reverse this situation by prioritising the use of forest land through three mechanisms: concessions, permits and authorisations.

■ Deforestation

Deforestation is an ongoing problem in the country, with an estimated annual rate of 250,000 hectares of forest destroyed. Forest replenishment is minimal compared to the existing loss. Migratory agriculture and illegal mining have been identified as major causes of deforestation. While the world is seeking to exercise adequate controls to minimise illegal logging, in Peru, weak institutions are overwhelmed by illegality. To date, plans to reverse the country's deforestation situation are minimal, both from the government and the private sector. A mistake made by Peruvian professionals is that they have failed to demonstrate to society the value of the forest and its management.



Posada Amazonas

Refugio Amazonas

Tambopata Research Center



■ **Timber harvesting**

Timber harvesting has been carried out without prior planning and without forest management plans that guarantee the orderly occupation and replenishment of the forest. In South America, Peru is the least competitive in terms of forestry plantations and the timber industry. Many timber companies have opted to remain in the field of illegality.

■ **Forest plantations**

One of the main debts of the forestry sector to the country is the low number of commercial forestry plantations in Peru. There are more than 10 million hectares with potential for forest plantations and there are only 90,000 hectares. The lack of competitiveness of the sector due to the absence of forestry plantations is one of the main causes of the current drop in Peruvian exports compared to other South American countries. In the other countries, exports are the product of plantations, while in Peru the extraction is made from natural forests.

■ **Regulations and state presence**

Various sources point out that for many entrepreneurs and local populations, state regulations and presence have been synonymous with repression and control, and therefore a source of conflict. There is a weak regulatory framework of the Peruvian state and little planning. In addition, corruption, bureaucratic barriers and the interests of certain power groups have closed the doors to the international market, resulting in a reduction in the flow of exports.

■ **Formal education of forestry professionals**

At present, forestry science professionals are trained in 15 universities (14 public and one private), almost half of them combined with environmental engineering, with approximately 5,000 students in this field in Peru. Considering the extent of forests and areas of forestry potential, this is very low.

Some proposals from academia in Peruvian post-pandemic forestry education.

- Overcoming the fieldwork time of forestry students. Exceeding pre-pandemic levels. Currently students are in the field, as part of their courses, four months during their degree. The hope is to double those times. Both La Molina and inland universities should develop their forest spaces for student work and forestry research.
- Strengthen the Research Circles, which are teacher-student associations working in a particular field of forestry. At the moment we have 12, with a minimum of 12 students per circle, researching and developing activities as diverse as wild birds, dry forests, plantations, bamboo and pulp and paper.

- Strengthen alliances with the private sector to develop pre-professional internships. Unfortunately the state has set many conditions for students to do internships in companies, e.g. minimum wages and long hours, but they are becoming convinced that this is the best option for qualified professionals.
- Although most teachers believe that face-to-face classes are more effective, the virtual resource should be used for certain lectures, especially from well-known people in the sector, working in different locations in the country and abroad.

- Students should recognise that natural forests should continue to fulfil their role as producers of ecosystem services, while sustainable timber production should come from plantation forests located in different parts of the country.
- It is recognised that in the Peruvian academic sector there is an alarming lack of professors in the fields of forest management, plantations, forest ecology and forest genetics. We must focus on strengthening these areas.



- Given the increasing restrictions in Europe and North America against buying timber from deforestation, students should become familiar with traceability and the use of new techniques such as environmental molecular markers, microchips and barcodes.
- Students should be trained in the design and implementation of public policies”, for which an understanding of the new institutional economy is key. Many of the young graduates enter ministries and are not aware of these aspects of national planning.
- The Faculty of Forestry at UNALM is the one with the greatest possibilities for academic growth, but there should not be such a big gap with the faculties in the interior of the country.

Finally...

- La Molina has scheduled for next year the start of the first doctorate in forestry sciences in the country. It is inexplicable how so far there are no forestry PhDs programs in Peru.
- Initial contacts have been made with North Carolina State University, the University of Exeter in England, Agroparistech in France and the Federal University of Paraná in Brazil, as well as involving three Peruvian Amazonian universities.
- It will be a pleasure to talk with representatives of the Assembly to work with you in the development of this new doctorate, which will focus on forest management and climate change.