

I. EXECUTIVE SUMMARY

Upon initiating a Dialogue with the European Commission's Directorate-General for Regional and Urban Policy (DG REGIO), Peruvian authorities expressed an interest in developing an initial study on "Strengthening Regional Innovation Systems in Peru: Policy Lessons" with institutional support from the Peruvian Ministry of Foreign Affairs and the regional governments of Cusco and Tacna.

This study, funded by the European Commission and carried out by a team of European and Latin American experts from the Spanish foundation CIDEAL, has allowed a collaboration with the DG REGIO in the field of regional policy and innovation to begin building on the experiences and good practices of the European Union in this area.

The study aims to conduct a strategic assessment of the Regional Innovation Systems (RIS) in the Peruvian regions of Cusco and Tacna, identifying the main actors within each region's system: regional government, universities, research centers and enterprises, as well as identifying their level of cooperation and coordination in order to encourage further development of innovation strategies and joint projects.

The work is based largely on the "Regional Innovation Strategy" (RIS) methodology and its updated version (RIS3) on "Innovation Strategy for Smart Specialization" designed and used by the EC. This proposes an analysis of the R&D carried out by academic and research institutions as well as the demands for innovation made by the business sector, analyzing their possible interaction and coordination, with the support of policies and instruments designed by regional authorities. We have also taken into account the recent experience of developing regional innovation strategies in regions of Chile (Proyecto RED), co-funded by the EC.

The study began in August 2013 with a period of preparatory work (existing documentation, contacts with public institutions, agencies, experts from the region, etc.) followed by fieldwork carried out during the month of September in Cusco, Tacna and Lima, which serves as base for most national institutions dedicated to research, development and innovation (R&D&I). We subsequently developed the analyses which make up the chapters of this study and maintained interactive contact with regional actors via videoconferencing, e-mail and other means, allowing for a participatory follow-up to the study.

In both regions activities were carried out to inform, raise awareness, and to train and mobilize stakeholders: meetings with leaders from the regional government; seminars in universities, research centers and business sectors; workshops on R&D&I, interviews with entrepreneurs, leadership from universities, technological institutes and research centers; and participation in technology trade fairs.

In Lima meetings were held with the Multisectoral Working Group organized by the Peruvian Ministry of Foreign Affairs, which convened major state agencies as well as representatives from academic institutions and the business world responsible for creating innovation policy and tools at a national level.

As part of the study we also contributed to the organization and content of the International Seminar on Innovation and Territorial Development, held December 11-13 in Lima and organized jointly by the Ministry of Foreign Affairs and the EU.

At the same time a video was created on the process of preparing the study and the participation of stakeholders from Cusco and Tacna.

We would like to highlight the following key results from the study:

- 1.** The strong growth of the Peruvian economy in recent decades has not been accompanied by an improvement in competitiveness and productivity on the whole, or by the diversification of economic activities toward higher added-value exports and products guaranteeing the sustainability of growth. The design and implementation of public policies, as well as a greater investment in human resources and knowledge assets at both national and regional levels, would help maintain the growth momentum. This is an urgent task for public policy, as obtaining returns from this type of investment takes time, and helps determine the future competitive edge of the business sector.
- 2.** In the Cusco and Tacna regions there is little mutual understanding among key innovation actors: regional governments, academia and business sectors. There is a certain distrust along with lack of dialogue and communication between them, and almost non-existent interrelations. Therefore, neither of these regions have developed innovation systems capable of producing knowledge that is propitious to innovation. However, there is a discussion forum in Cusco devoted to R&D&I, and in Tacna paths toward inter-institutional communication are beginning to be forged.
- 3.** Both regions show interest in working toward the institutional strengthening of a still-incipient regional R&D&I governance. For some years Cusco has had a Regional Science and Technology Council (CORCYTEC) led by the regional government (GORE), made up of representatives of that government as well as leading academic, research and business organizations; there has been a certain degree of enthusiasm and some experiences in the implementation of joint activities, but the Council lacks the human and financial resources to ensure its permanent institutional sustainability.
- 4.** Tacna has not yet institutionalized CORCYTEC, but it is recommended that it do so as soon as possible. To date the degree of cooperation which exists in Cusco is not present in Tacna, except for the offer by the Jorge Basadre Grohmann National University to further an emerging collaboration through a joint forum on R&D&I, with participation from the Chamber of Commerce and the regional government.
- 5.** Cusco has a Regional Competitiveness Plan 2011-2021 in which it defines its development vision and sets its objectives, policies and activities for different areas, specifically in R&D&I. However, there is no monitoring or evaluation of the Plan. Tacna does not have a Competitiveness Plan to date, and the Plan Basadre—in which aspects of research and innovation play a secondary role—is still in its development stages.
- 6.** It is necessary to strengthen the collaborative ties between regional actors as well as national institutions and agencies behind R&D&I policies and tools in order to develop, adapt and implement better-determined policies and tools for benefitting the region. It is essential to establish a joint dialogue between the Multisectoral Group (piloted by the Ministry of Foreign Affairs) and the representatives of CORCYTEC in Cusco and the Tacna Forum in order to share study results and identify policies and tools for support and joint collaboration.
- 7.** Cusco's regional government has an organized institutional structure in which the Economic Development Bureau plays an important role in supporting the actions of R&D&I of CORCYTEC, but it is limited by its multiple responsibilities as well as by its lack of human and financial resources. Tacna's GORE has a fragile structure in which the only relevant political role is played by the Vice President, and it lacks human or financial resources and follow-up of its proposals.

- 8.** Both regions are characterized by a high level of informality in their business sectors, exceeding 50-60% (no reliable statistics). It should be noted that while informality is not necessarily a condition that is incompatible with innovation and entrepreneurship, it is incompatible with the implementation and development of a regional system of innovation. This structural element is a fundamental challenge for public policies of R&D&I in Peru.
- 9.** Another important feature of business in both regions is that it basically consists of micro-enterprises and, to a lesser extent, of SMEs. We have found that in Micro and Small Enterprises (MSE), innovation is not integrated into management as a systemic process, and therefore as a key growth and company-expansion factor.
- 10.** Both regions show a high concentration of formal production activity in very few provinces. A regional strategy of innovation should be formulated so as to reverse the territorial inequality that currently exists. Therefore it is recommended that it actively include local governance.
- 11.** The companies interviewed in Cusco and Tacna have interesting profiles in terms of innovation. Virtually all entrepreneurs state that during the last three years they made innovations in products and, to a lesser extent, in processes and marketing. Their justifications for making these innovations were mainly to improve the quality of the products and/or services, increase the flexibility of processes, and reduce costs.
- 12.** The main problems faced by the entrepreneurs interviewed in developing innovations are the lack of information about the R&D&I supply, financial capacity, the lack of qualified human resources, the lack of specialized suppliers, and, finally, the lack of public aid.
- 13.** It is important to note that the majority of the interviewed entrepreneurs did not know that universities could potentially support them in the development of possible innovations. They know of their educational role but not about their role in the field of research. However the vast majority of entrepreneurs would agree to work with universities.
- 14.** ICT—Information and Communications Technologies —should be incorporated as a fundamental pillar of promoting competitiveness and innovation in the regions. We have found that employers are unaware of the benefits of the use of ICT in their businesses.
- 15.** Public universities, San Antonio Abad of Cusco and Tacna's Jorge Basadre Grohmann, play an important role in academic education, providing an important supply of human resources development in the respective regions.
- 16.** However, the research being carried out by both universities is still minimal given the financial resources they have received from the Canon Act. Legal provisions enormously limit the normal use of these funds. This is compounded by the need to improve universities' management tools.
- 17.** Cusco and Tacna have university departments and public research centers that undertake important research projects in areas of food, agriculture and human health. They participate in a degree of knowledge transfer to small farmers and peasant organizations. However there is no link between research and the business

sector working in these fields. This is due to both parties' lack of knowledge as well as the absence of interface mechanisms for connecting and adapting the research process to the demands of the business sector.

18. There are specific possibilities for developing some pilot experiences linking research institutions, promoting the development of medium-range technologies, and business activities that can contribute to key innovative processes for the regions. Examples include the improvement of alpaca fiber for the textile industry in Cusco and the production of oregano for export to European markets in Tacna. Both regions could also boost development of the tourism sector.

19. We recommend:

- A.** Working intensively to strengthen institutions and to build management and innovation capacities in order to ensure sustainability in the construction of Regional Innovation Systems of Cusco and Tacna.
- B.** Developing the regional capacities of government, academia and business sector to produce and promote regional innovation agendas and policies in the medium and long term that are not at the mercy of political change.
- C.** Investing in the training and development of qualified human capital that can nourish the regional and local private sector's skills in technology, organization, management and promotion of innovation, etc.
- D.** Building capacity of the regional and local agencies charged with managing resources—either their own or decentralized—applied to R&D&I programs.
- E.** Strongly encouraging linkages between academia and business, with emphasis on applied research to contribute to resolving local businesses' medium to long-term problems. Public policies can serve as catalyst for collaborative projects of innovation, as well as being a tool for identifying and expressing businesses' demands.
- F.** Increasing public incentives for private financing of investments in R&D&I at a national and regional level.
- G.** Strengthening EU cooperation in innovation, as—given the good practices and experiences in European regions—it can contribute to the development of regional innovation strategies, support the design of public policies, and open channels of cooperation between European and Peruvian regions, as well as between the main regional stakeholders (universities, research centers and companies).