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Policy for Research and Innovation in Latin America

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Latin America (LAC) is renewing efforts to build-up research and innovation (R&I) capacities, guided by policies that consider the need to transform the traditional science system into a more dynamic entity. Policies permitted the generation of new spaces to develop science, strengthen scientific communities, improve university-enterprise linkages, establish common agendas between public and private sectors, earmark special budgets, build new infrastructure, and improve the number and quality of scientific publications. In spite of much progress, LAC lags much behind developed countries, their universities rank lower than their international counterparts, the number of researchers is small and funding is below an appropriate threshold. Some countries have innovated in few economic sectors, while others remain technologically underdeveloped and much of the countries' innovative capacities remain untapped. It is believed that policies still have little influence on social and economic development and there exists dissatisfaction in the academic and entrepreneurial sectors with their quality and relevance or with the political will of governments to execute them. On the other hand, in the past decades, the complexity of innovation systems has increased considerably, and has yet to be taken fully into account in LAC policy definitions. The situation calls for decision makers to shape new framework conditions for R&I in a way that both processes co-evolve and are stimulated and guided on solutions to the major problems of society. Considering the main features of complex systems, self-organization, emergence and non-linearity, R&I policy measures need to be seen as interventions in such a system, as the use of traditional leverage effects used in the past for policy decisions are more and more obsolete. Policies must now use "weak coordination mechanisms," foresight, mission statements, and visions. It is obvious that due to nonlinearities in the system, adaptive political requirements and governance have to replace master plans and long term fixed targets. Policies must include incentives for networking, pilot projects, simulation models, etc. International cooperation is absolutely necessary to generate the new policy framework needed by LAC.