ARGENTINA 2030 - The Challenge of a Green Economy and Food Production for a Equitable Environmental Transition

Opportunities for Collaboration

Enrique Garcia Baumgartner - Sep. 26, 2023
How to lose development in 100 years?
<table>
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<tr>
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ARGENTINA BEGAN THE 20TH CENTURY AS ONE OF THE WEALTHIEST PLACES ON THE PLANET.

IN 1913, IT WAS RICHER THAN FRANCE OR GERMANY, ALMOST TWICE AS PROSPEROUS AS SPAIN, AND ITS PER CAPITA GDP WAS NEARLY AS HIGH AS CANADA.

UNTIL THE 1930S, THE FRENCH USED THE PHRASE "RICHE COMME UN ARGENTIN" TO DESCRIBE THE FOOLISHLY RICH.

THE CENTURY’S GOLDEN BEGINNING WAS FOLLOWED BY FAR LESS PROSPEROUS DECADES.

OVER THE LAST 100 YEARS, ARGENTINA’S PLACE IN THE HIERARCHY OF NATIONS DROPPED PRECIPITOUSLY, FALLING BEHIND NOT ONLY EUROPE BUT ALSO MANY OF THE GROWING COUNTRIES IN ASIA.

WHY DID A NATION DOING SO WELL END UP DOING SO POORLY? ARGENTINA’S MEDIOCRE 20TH-CENTURY PERFORMANCE MATTERS NOT ONLY FOR LATIN AMERICAN ECONOMIC HISTORY STUDENTS. THAT PERFORMANCE STANDS AS A WARNING TO THE WORLD. NO COUNTRY IS TOO RICH TO FAIL.
ARGENTINA’S ECONOMIC HISTORY IN THE 20TH CENTURY IS A GREAT DRAMA FULL OF TRANSCENDENTAL ACTORS AND SEEMingly full of missed opportunities and extreme policy decisions.

For example, there is no doubt that the country erected a set of trade barriers that would prove quite costly to the Argentine economy.

Institutional decay also played an important role.

A succession of Argentine governments and dictators interspersed chose policies that appeared not to be designed to maximize growth.

Part of Argentina’s decline is explained by voters’ beliefs about Argentina’s unproductive elite and how they get rich through corruption and favoritism rather than hard work and creativity.
So .... Why is Argentina an Opportunity Now?
Argentina is Latin America’s third largest economy after Brazil and Mexico, and the fourth in GDP per capita (considering the purchasing power parity). It is estimated that in 2023, its GDP will reach about US$643.80 billion with GDP per capita at US$13,767 (US$27,277 in PPP terms).

Its population is 49 million inhabitants, is the fourth most populated country in Latin America, and occupies 32nd place in the global ranking of inhabitants per country. Most people (about 14.8 million people) live in the Buenos Aires metropolitan area. This represents 32% of the inhabitants of the national territory in only 0.5% of the surface.

Argentina has comparative advantages in agribusiness and technological services, with high penetration in relevant international markets. In addition, the country has “Vaca Muerta,” the second-largest shale gas reserve in the world and the fourth-largest shale oil reserve. It is also worth mentioning the “Lithium Triangle,” shared with Chile and Bolivia, where Argentina has the second-largest lithium reserves in the world.

Argentina’s population is primarily young. 55% of people are under 35 years of age. Regarding education, almost 80% of the population is enrolled at the secondary level. At the tertiary level, the income rate is around 45%. This means that the population between 25 and 59 years of age currently has an average of 11.2 years of schooling, one of Latin America’s highest indicators.
Demographics

Population:
47,327,407 inhabitants

Human Development Index (HDI):
0.842
2nd in Latin America and 47th worldwide

Adult population in the financial system:
98.5%

Urban households with computer and Internet access:
64.2% and 90.4%
88 out of 100 people use mobile phones and 87 out of 100 use the Internet

Tasa de crecimiento de la población:
1.25% (2023)

University completion:
21%

Literacy rate:
99%

Age distribution:
25.48% under 15 years old
64.29% between the ages of 15 and 65
10.23% over 65 years old

Population density:
17 persons per km²

Official language:
Spanish

English proficiency:
High

The Pampa region accounts for 68.1% of the population, 46.2% of which resides in the City and in the Province of Buenos Aires 92% of the population lives in urban areas.
Plan para el Desarrollo Productivo, Industrial y Tecnológico

Documento integrador
Marzo 2023
Argentina Plan ...

- Argentina Productive 2030 seeks to transform the country’s productive framework to improve social, economic, and environmental indicators.

- The plan is organized into 11 priority themes to achieve these goals, all of which have a common structure.

- All are subdivided into thematic axes or projects, share key research and science sectors, production, economy, and technology and are supported by public policies.
MISSION 2

Developing the Green Economy for a Fair Environmental Transition
Developing a Green Economy for a Fair Environmental Transition (*)

Promote a fair environmental transition that will allow progress toward the decarbonization necessary to mitigate climate change and reduce the environmental pressure of productive activities.

<table>
<thead>
<tr>
<th><strong>Project 1</strong></th>
<th>Promote the production of goods and services to increase the share of renewable energy in the energy matrix.</th>
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<tbody>
<tr>
<td><strong>Project 2</strong></td>
<td>Develop modular reactors for nuclear power generation.</td>
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<td><strong>Project 3</strong></td>
<td>Develop the low-emission hydrogen value chain at the local level.</td>
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<tr>
<td><strong>Project 4</strong></td>
<td>Promote the local development of goods and services that increase industrial and residential energy efficiency.</td>
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</table>
Project 5

Incorporation of circular economy logics, from the design of products and processes to recycling and final disposal, in as many sectors as possible.
Adapting Food Production to the Challenges of the 21st Century.
Adapting Food Production to the Challenges of the 21st Century(*)

This Mission aims to address three major challenges: increasing Argentina's agricultural sustainability, promoting healthy food production and increasing the resilience of the agricultural sector.

**CORE 1 – Technologies to more sustainable food production**

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
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<tbody>
<tr>
<td>Project 1</td>
<td>Develop national capacities to provide the technologies that will enable the transition to a more sustainable food production.</td>
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<tr>
<td>Project 2</td>
<td>Increase the sustainability of agricultural production through the development of bio-based inputs (bio-inputs for agriculture and livestock, including animal nutrition and health).</td>
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<td>Project 3</td>
<td>Strengthen agricultural and livestock productivity through the development of biotechnology applied to plant and animal genetic improvement.</td>
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<tr>
<td><strong>Project 4</strong></td>
<td>Promote healthy eating based on innovation and new food technologies (food tech, focusing on additives, new food ingredients and innovative foods).</td>
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## CORE 2 – Increasing Agricultural Resilience for Food Security and Foreign Exchange Generation

<table>
<thead>
<tr>
<th>Project 5</th>
<th>Increase the resilience of agricultural production by adopting irrigation systems with water-efficient technologies.</th>
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<tbody>
<tr>
<td>Project 6</td>
<td>Avoiding soil depletion through increased soil fertilization.</td>
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About the M.O.U. with Aapresid...
The Argentine No-till Farmers Association (Aapresid) is an NGO comprised of farmers and agronomists. It has 30 years of history, 1800 members, and an influence across more than 11 million hectares using the best technology. Aapresid is present in Argentina, South America, and Africa, and participates in international forums. Over 900 producers leading R&D projects in their own properties, on over 20 different topics.
To promote **sustainable food, fibers, and energy production.**

**HOW DO WE DO IT?**

- Developing **systems that optimize production with lower environmental impact.**
- Promoting **innovation in networks.**
Aapresid’s Regional Groups

This program leads 40 Regional Groups in Argentina and overseas. Each Regional Group gathers farmers and specialists who exchange information, experiences and production technologies locally.

¿How do we do it?
- Workshops in fields called “A farmer in Action”
- Providing Training
- Technology Testing Networks
- Campaign Analysis per crop
- Digital Platform about production data.
A small sample of some projects...

**Gran Chaco “Chacra” (farm):** How to achieve a smaller C footprint taking care of vulnerable landscapes?

**Services Crops Network:** How to improve its handling?

**Systems Study Network:** How to measure the sustainability and which practices allow its improvement?

**Pergamino Chacra:** How to shorten productive gaps with a lower environmental impact?

**América Chacra:** How to optimize the production handling in flood saline environments?

**Carbon Gap Network:** Which is the highest possible level of C sequestration in agricultural soils and how to reach it?

**VINPA Chacra:** Is it possible to transform the North Patagonic desert in an production development area?
Pest Management Network

¿What is it?
It is a Network of farmers, advisers, institutions, and companies to generate and exchange information regarding pest, weeds, insects and diseases management.

¿How do we do it?
- New resistance alerts system
- Local pest maps
- Creation and dissemination of integrated management
Prospective Program

The Prospective Program is an AAPRESID program dedicated to identifying and responding to future demands on sustainable production systems through integration, communication and quality content management.
What is it?
Program to develop an institutional framework, strategic alliances and actions to position the no-till system and our country as a reference in the sustainable production of food, fiber and energy at the international level.

How do we do it?
- Strategic alliances and actions with multiple institutions, farmers associations, diplomatic representations and international organizations.
- Support in the development of No Till Systems in other countries.
- Agronomic technical tours for foreign visitors in Argentina: farmers, official delegations and/or representatives of international organizations.
UTK - AAPRESID partnership

- Exchanges and technical visits of professors, researchers, students, technicians, specialists and farmers
- Joint research activities and exchange of research and educational materials, publications and academic information
- Organization and participation in seminars, conferences and academic meetings
- Technical assistance
1. The president of Aapresid, Marcelo Torres, will be visiting St. Louis, USA, from October 17 to 19, 2023. This could be an excellent opportunity to include a visit to the University on the agenda.

2. Aapresid publishes a magazine every month, and we would like to invite UTK to submit technical articles to be included in this magazine.

3. It would also be interesting to organize virtual instances of discussion/exchange on topics that UTK and Aapresid R&D program are working on, such as soil microbiology, quality, carbon, renewable energy in agriculture, water conservation, biomass, etc.

4. Two/three-day workshop in Knoxville with specific topics to be discussed to look for opportunities and concrete collaborative projects (soil microbiology, quality, carbon, renewable energy in agriculture, water conservation, biomass, etc.).

5. Participation of an Aapresid delegation in the international symposium themed on "Food-Energy-Water Bioeconomies for Net Zero Transition" on March 18-20, 2024 in Knoxville,
Thank you very much.

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Enrique.gb@byontek.com