

TWENTY YEARS OF AGRICULTURAL INNOVATION SYSTEM (AIS) IMPLEMENTATION IN URUGUAY

WHAT HAVE WE LEARNED FROM INIA-UY?

Mario R Pareja

Independent Consultant

**Inter-American Institute for Cooperation in Agriculture
(IICA)**

Session

Role of Research and Technology in AIS

International Workshop on Investing in and Strengthening Agricultural Innovation Systems

World Bank

Washington, DC, May 30-June 1, 2012

WHAT HAVE WE LEARNED FROM INIA?

CONTENTS

- I. Uruguay**
- II. Why am I here today?**
- III. Institutional lessons learned**
- IV. Main other INIA evaluation finding**
- V. Lessons learned from the 20-year evaluation exercise**



URUGUAY

WHAT HAVE WE LEARNED FROM INIA?

I. Uruguay

- ✓ 15 mill ha of agricultural land: 1.8 crop, 1 forest, 1 cultivated pastures, 11.2 grasslands & nat forests
- ✓ Ag-GDP: 13-14% in 80's; 8.9% in 90's
- ✓ Last two decades: Ag-GDP growing at 2.5%



WHAT HAVE WE LEARNED FROM INIA?

II. Why am I here today?

inia

URUGUAY

IICA 
Oficina del IICA en Uruguay

WHAT HAVE WE LEARNED FROM INIA?



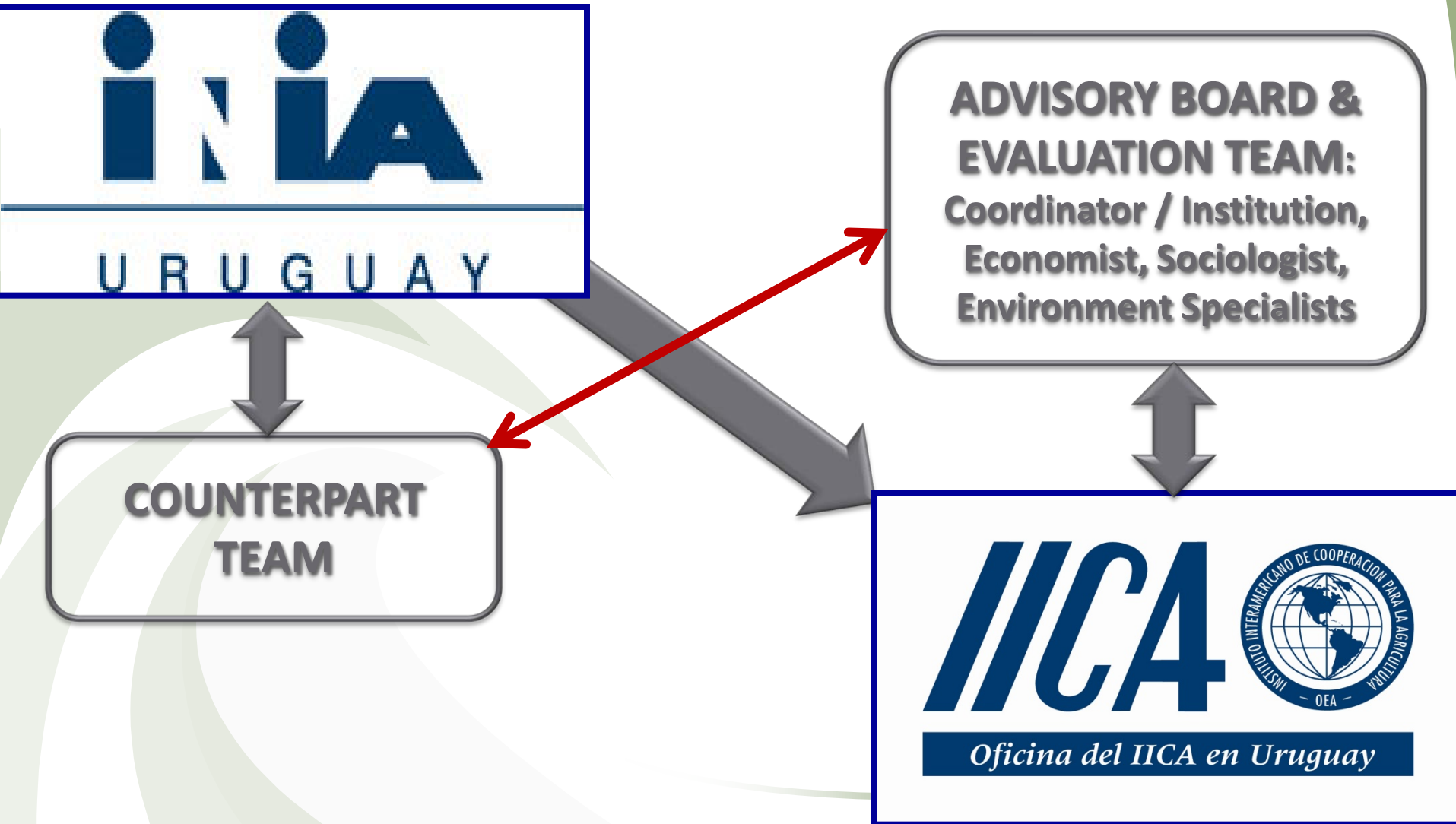
URUGUAY

- National Institute of Agricultural Research
- Board of Directors' decision in its 20th anniversary (2009):

- ✓ External and independent multidimensional (economic, social, environmental & "institutional") impact evaluation of 20 years investment in agricultural R+D+I
- ✓ Retrospective 20 year picture but also prospective view & recommendations

WHAT HAVE WE LEARNED FROM INIA?

- INIA Board of Directors open bid:



WHAT HAVE WE LEARNED FROM INIA?

III. Institutional lessons learned: successes

inia

URUGUAY

WHAT HAVE WE LEARNED FROM INIA?

JURIDICAL
FRAMEWORK:
Per se, an
institutional
innovation



BUDGET FOR R+D+I: assured as a % of Ag-GDP co-financed by producers (levy) & government (matching)

MANDATE: clearly defined as Ag-R+D+I

CO-MANAGEMENT: government & producers

LEGAL FRAMEWORK: public organization (public goods) under private juridical framework

WHAT HAVE WE LEARNED FROM INIA?

MANAGEMENT
STRUCTURES
&
APPROACHES:
Enabling an
environment
for innovations



PARTICIPATION: assured through Board of Directors, Regional Advisory Boards to Research Stations and Working Groups

PRODUCTION/VALUE CHAIN APPROACH: appropriation & implementation involving all stakeholders

R+D+I: demand in stead of offer driven

IPR: Proper management

INNOVATIONS: consequence of all of the above

WHAT HAVE WE LEARNED FROM INIA?

MANAGEMENT
STRUCTURES
&
APPROACHES:
Enhance R+D
and innovation



INSTITUTIONALITY: assured sustainability of innovations

HUMAN CAPITAL: deliberately prioritized & developed during 20 years: post-graduates

SOCIAL CAPITAL: deliberately prioritized & developed: national & international networks

Insertion & coordination with new national innovation system (ANII)

SPIILLS OVER: third party funding through a special mechanism = 10% of budget (FPTA)

WHAT HAVE WE LEARNED FROM INIA?

III. Institutional lessons learned: weaknesses

inia

URUGUAY

WHAT HAVE WE LEARNED FROM INIA?

MANAGEMENT
&
STRUCTURAL
INSTITUTIONAL
ISSUES: That
may limit
innovations

EVALUATION CULTURE: still weak at various levels: institution, programs, projects, human resources...

PLANNING, MONITORING & EVALUATION SYSTEMS: still under development

KNOWLEDGE MANAGEMENT: INIA-UY has much more to offer than what it does today

WHAT HAVE WE LEARNED FROM INIA?

MANAGEMENT
&
STRUCTURAL
INSTITUTIONAL
ISSUES: That
may limit
innovations

SOCIOECONOMICS &
SYSTEMS APPROACH : a
requirement to support R&D
as well as technology transfer

SOCIAL EQUITY &
ENVIRONMENTAL
DIMENSIONS: need full
streamlining (ex-ante planning
& analysis & follow up)

ARTICULATION OF R&D WITH
EXTENSION OR
TECHNOLOGY TRANSFER:
institutional weakness of the
country's sector as a whole

WHAT HAVE WE LEARNED FROM INIA?

IV. Main other INIA evaluation findings

inia

URUGUAY



Oficina del IICA en Uruguay

WHAT HAVE WE LEARNED FROM INIA?

1. ECONOMICALLY:

- **Benefit/Cost Relationship $\geq 20/1$**
- **Ag-GDP w/o INIA $< 11\%$ than achieved**

2. SOCIALLY:

- **60% of livestock producers perceive improvements in living conditions**
- **Dairy farmers perceive improvements in capacity development (learning) & income sustainability**



URUGUAY



Oficina del IICA en Uruguay

WHAT HAVE WE LEARNED FROM INIA?

3. ENVIRONMENTALLY:

- **Highly positive impacts of integrated fruit production**
- **Negative perception of increased livestock stocking rates in dairy production**

4. INSTITUTIONALLY:

- **Positive & sustained impacts through institutionality that resulted from projects: Ultra-thin Merino, integrated production, etc.**
- **Impacts through production & value chain coordination of stakeholders**



URUGUAY



Oficina del IICA en Uruguay

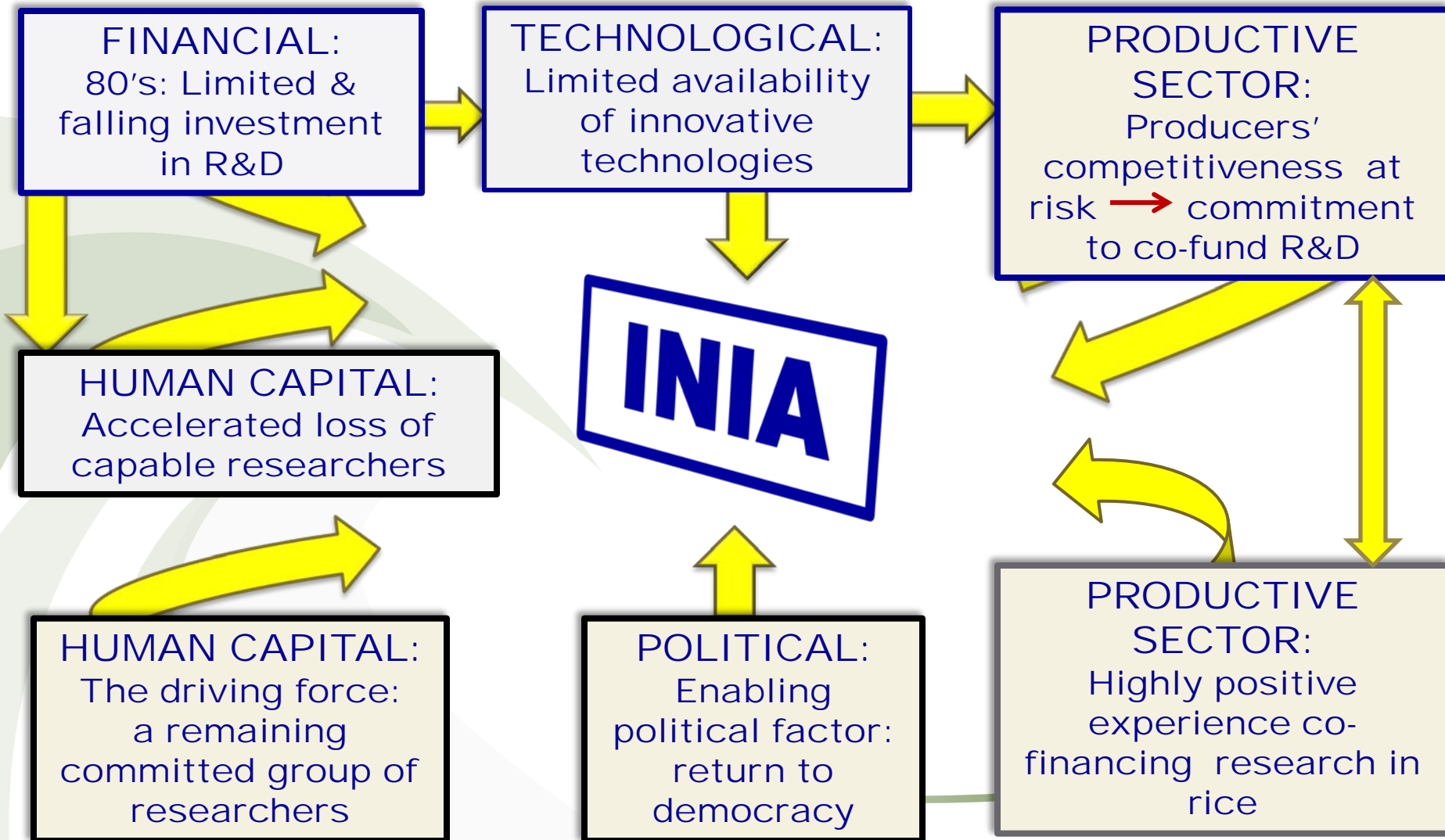
WHAT HAVE WE LEARNED FROM INIA?

ONE SUCCESS STORY: RICE

- **Joint effort (researchers & producers): rice research partly funded by growers: 75% in the 80's**
- **First of the “Technical National Tables”: producers, researches, millers, distributors, buyers (Brazilians)**
- **Innovations: Cultivars & management: quality & yield increases of 67% in 30 years**
- **Average rate of return of R&D in rice: 52%**

WHAT HAVE WE LEARNED FROM INIA?

THE CREATION OF INIA-UY: MULTI-DIMENSIONAL CONTEXT



WHAT HAVE WE LEARNED FROM INIA?

V. Lessons learned from the 20-year impact evaluation exercise

inia

URUGUAY

WHAT HAVE WE LEARNED FROM INIA?

1. NEED TO PROMOTE EVALUATION CULTURE AMONG NARIs: including external and independent evaluations (marketing)
2. IMPROVE BASELINES: **solid biophysical and socioeconomic data is a must as a start point for impact evaluations**



URUGUAY



Oficina del IICA en Uruguay

WHAT HAVE WE LEARNED FROM INIA?

4. **URGENT NEED: Improved methodology for multi-dimensional impact assessment for Ag/R+D+I is required (scientists)**
5. **NEED TO SELL (to donors, producers, governments...) Ag/R+D+I**



URUGUAY



Oficina del IICA en Uruguay

TWENTY YEARS OF AGRICULTURAL INNOVATION SYSTEM (AIS) IMPLEMENTATION IN URUGUAY

WHAT HAVE WE LEARNED FROM INIA?

THANK YOU!

Role of Research and Technology in AIS
International Workshop on Investing in and Strengthening Agricultural
Innovation Systems,
World Bank

Wash