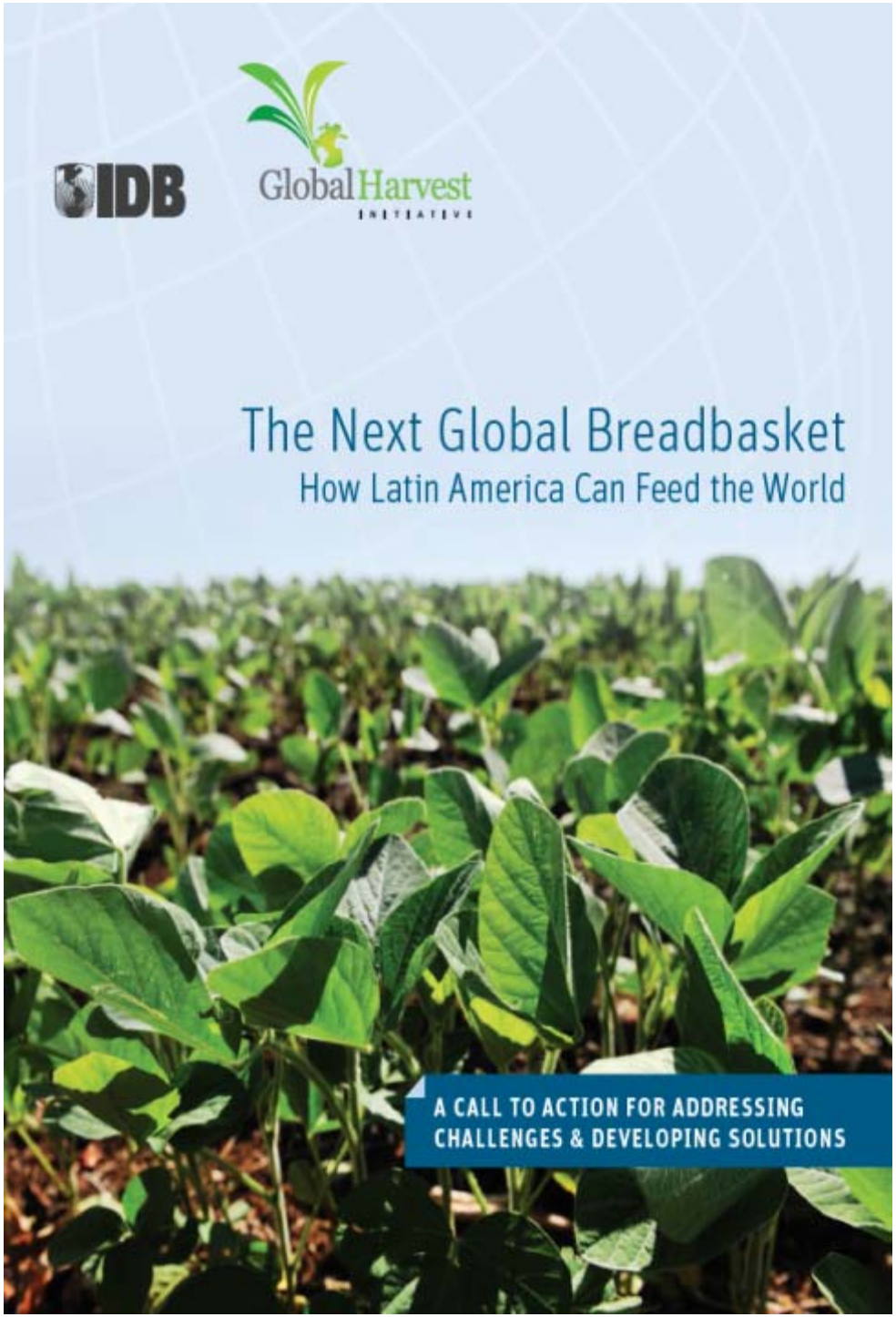
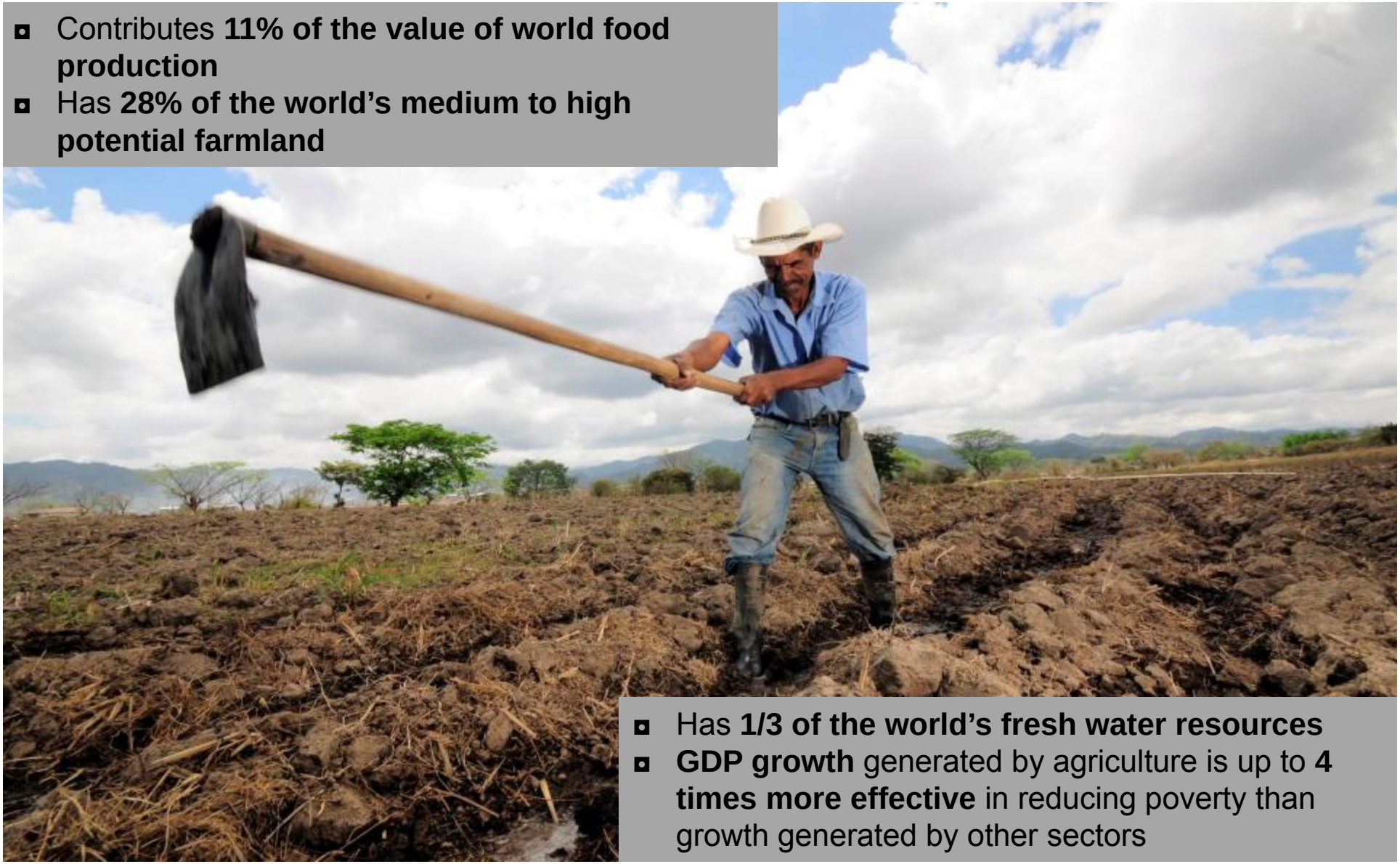


Association for International Agriculture and Rural Development (AIARD)
50th Annual Meeting

Ginya Truitt Nakata
Inter-American Development Bank (IDB)

Latin America's contribution to global food security

- Contributes **11% of the value of world food production**
- Has **28% of the world's medium to high potential farmland**



- Has **1/3 of the world's fresh water resources**
- **GDP growth** generated by agriculture is up to **4 times more effective** in reducing poverty than growth generated by other sectors

Agricultural Productivity in LAC: enormous potential

The region has increased its share of global agricultural output over the last 50 years:

Challenges

- **Poor infrastructure**: roads, ports, and storage facilities.
- The region has **lost 40% of its original forest.**
- LAC contributed **32.6%** of additional farmland from 1960 to 2000, while global food production only increased **14.3%**
- In the region, for **every $100 in goods produced** by the agricultural sector there is **only $1.10 invested in agricultural research.**
- Internal food insecurity remains critical in Central America and Caribbean, with **food imports of over 75% of the caloric food supply.**

Small and medium sized farmers

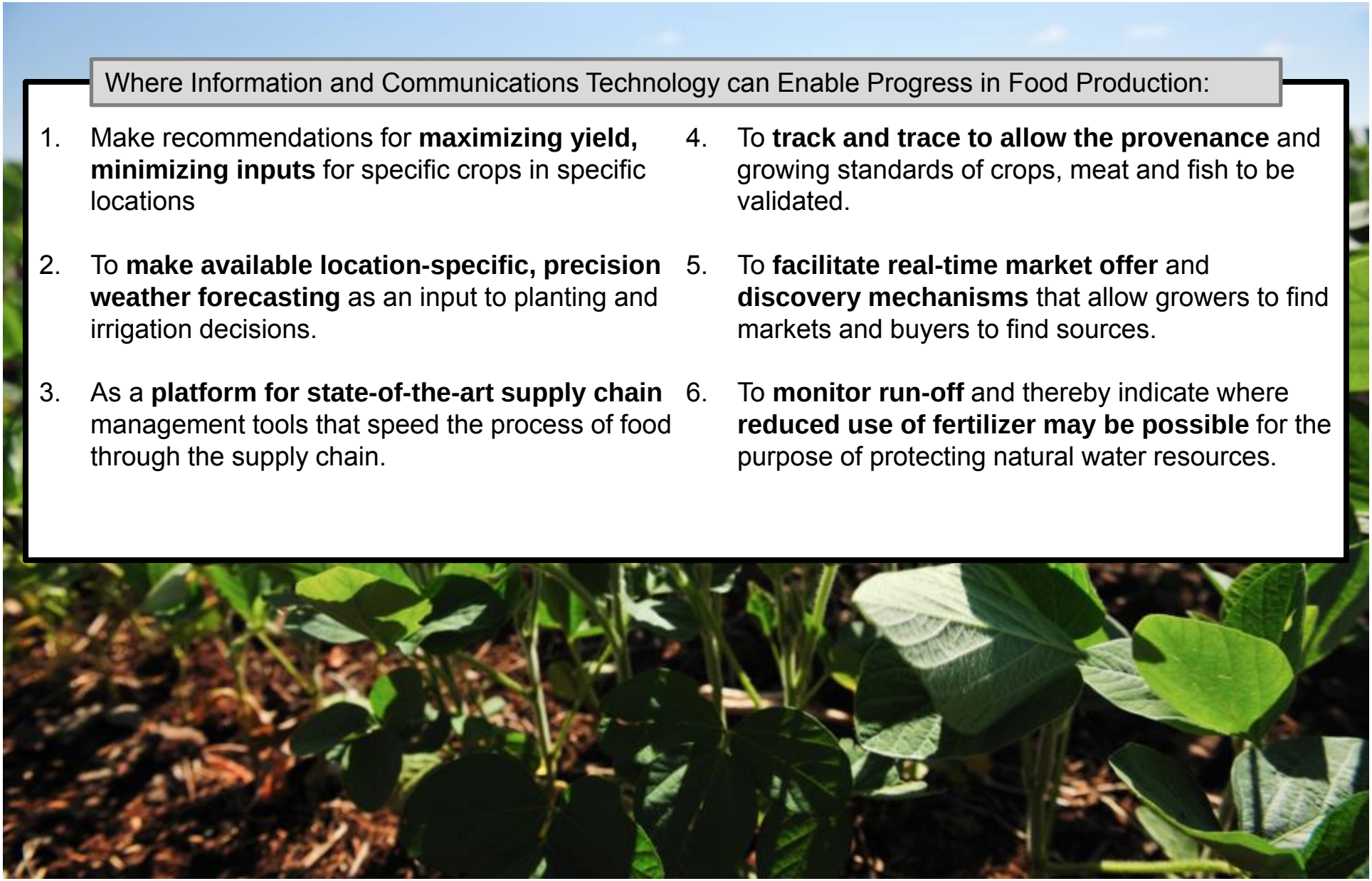
Small and medium sized farms are **the largest investors in developing country agriculture** and must be **central to any strategy for increasing investment in the sector**

More than half of the food produced in LAC comes from the region's 14 million smallholders

- They account for **80% of the farms**
- They generate **64% of agricultural employment**
- They occupy **35% of farmland**

From a smallholder perspective the agriculture sector in the region is underinvested.

Innovation technology/mobile phones:



Where Information and Communications Technology can Enable Progress in Food Production:

1. Make recommendations for **maximizing yield, minimizing inputs** for specific crops in specific locations
2. To **make available location-specific, precision weather forecasting** as an input to planting and irrigation decisions.
3. As a **platform for state-of-the-art supply chain** management tools that speed the process of food through the supply chain.
4. To **track and trace to allow the provenance** and growing standards of crops, meat and fish to be validated.
5. To **facilitate real-time market offer** and **discovery mechanisms** that allow growers to find markets and buyers to find sources.
6. To **monitor run-off** and thereby indicate where **reduced use of fertilizer may be possible** for the purpose of protecting natural water resources.

Adoption of technologies/Mechanization

QUINOA FARMING

Before:

Grains processed manually:

- **6 hours of labor/12kg of grain**
- Painstaking and debilitating task
- Traditionally **performed by women**

After:

A small machine that:

- Processes the same amount of grain in about **7 minutes**
- Can preserve **more of the nutritional value** of the quinoa.
- Incorporates **women** into the **value chain**

Quinoa farm families in the Altiplano region of Southern Bolivia

Environmental sustainability

Almost **70% of the planet's** extracted freshwater **is used for agriculture**

About **1/3 of the total** human induced warming effect due to GHGs **comes from agriculture and land-use change**.

Without adopting climate smart agriculture, Latin America may **suffer impact and mitigation costs of up to 137% of its current GDP** by the end of the century

A key goal is **to invest in farmers' capacity** to increase production **while preserving the land, water** and other aspects of the natural environment.

Example

IN BRAZIL: NEW TOOLS IN THE GOVERNMENT'S EFFORT TO REDUCE DEFORESTATION

The Nature Conservancy (TNC) and the government of Brazil have created Rural Environmental Registry (CAR — Cadastro Ambiental Rural)

- Maps generated through CAR **show topography, soil composition** and other information that is used to monitor property-owner compliance with the Forest Code
- The CAR has become a **cost effective tool for integrating food production** and conservation objectives.
- TNC helped over **650 landowners** register their properties, **the Paragominas municipality went from 23 to 83% registration in a little under a year.**

Paragominas now benefits from **preferential credit programs for low-carbon agriculture**, and **has become the model for the state of *Para's Green Municipalities* program**.

The report recommendations represent a multi-stakeholder approach to sustainable solutions:

Report recommendations:

- Increasing public investments in agricultural research and development.
- Reinvigorating agricultural extension services.
- Modernizing rural infrastructure.
- Increasing efficiency in irrigation and water management and promoting greater adoption of mechanized agriculture.
- Eliminating import and export barriers to agricultural trade and productivity.
- Advancing agricultural financing and investment opportunities for smallholder farmers.
- Strengthening producer associations and cooperatives.
- Preventing post-harvest losses.

www.iadb.org/foodsecuritystudy

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