



Bioeconomy and
Production Development

Dialogue: opportunities and challenges for bioeconomy

Organized by:



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IICA headquarters Costa Rica

Content of the presentation

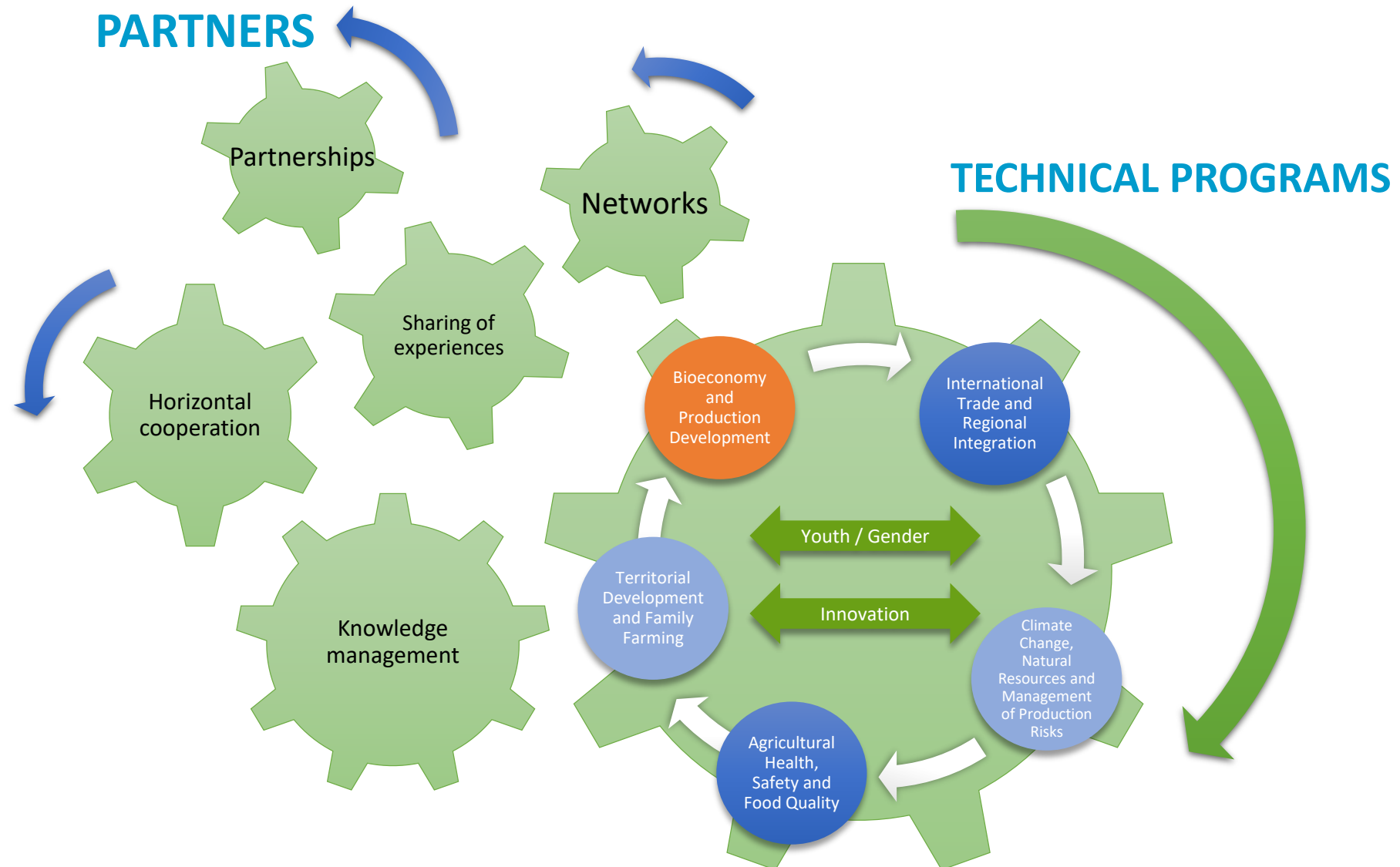
- **Overview of IICA**
- **Unleash the potential for a STI strategy on bioeconomy in LAC**
- **Three very relevant investments in any STI strategy**
 - **AR4D**
 - **Strategic Partnerships**
 - **... and a blind spot!**

IICA Technical Cooperation

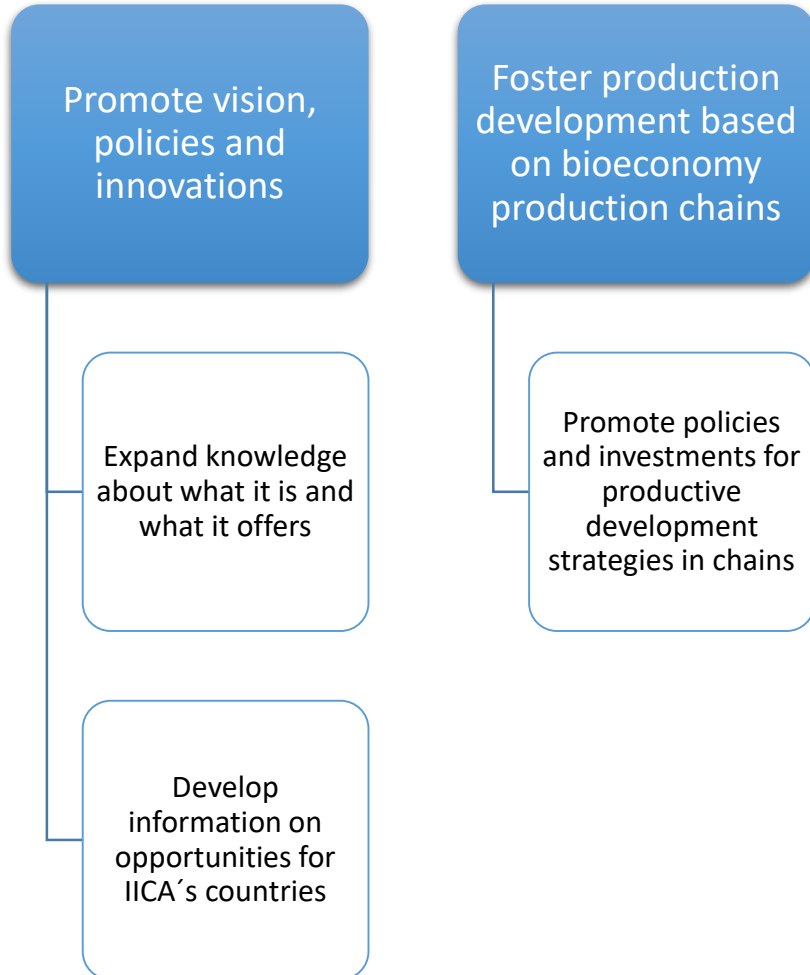
IICA offers to its member states

a set of actions aimed at providing *contextualized and innovative solutions* to the main challenges posed by agricultural and rural development in the Americas. Our cooperation, in addition to being of excellence and added value, seeks to generate significant transformations through shared and collaborative responsibilities with strategic allies, with which IICA acts as a catalyst and articulator

The contribution of IICA in the promotion of the competitiveness and sustainability of agriculture in LAC



IICA Programm BEyPD



“bioeconomy is the production and intensive use of knowledge of resources, processes and biological principles, for sustainable provision”.

First Global Bioeconomy Summit (Berlin, Germany, November 2015)

Interdisciplinary TEAM!!!
(Bioenergies, Biotech, Biosec, IDS, Economy, engineering)

WHAT ARE WE TRYING TO ACHIEVE?

KNOWLEDGE MANAGEMENT OF THE POTENTIAL OF BIOECONOMY



ROADMAPS

for the use of bioeconomy in agricultural value chains and / or in rural territories

POLICY, REGULATORY FRAMEWORKS & MARKET PROMOTION INSTRUMENTS



for viable promotion of new uses of bioeconomy, and ensure sustainability and safety



PUBLIC-PRIVATE ACTORS

in the value chains of agriculture and rural territories of the Americas take advantage of bioeconomy in their business models

Why? What for?

- Need for a more efficient and sustainable world (today – with the COVID-19- more than ever!)
- Path to a more sustainable and eco-efficient economy
- Substitution of fossil resource based products
- Possibility to solve global problems (waste, low productivity, low added value / chain aggregation, environmental impact) and find solutions towards new bioeconomy businesses that use knowledge and technologies, increase productivity, biodiversity recovery, manage waste, aggregate value, bioenergies/biomaterials
- Good news: Maximize the use of biological resources and processes in production – potential in LAC



Unleash the potential for a STI strategy on bioeconomy in the LAC region

- **Relevance** for agriculture (one of the sectors that contributes most to GHG emissions in the region), decarbonization strategy tap into the potential of production and the comprehensive use of biomass in the context of a circular bioeconomy (IICA-CEPAL-FAO 2019)
- **Guide, gives purpose and context**, identify opportunities, provide oversight on what is working and what is needed, attend cross-cutting issues and minimize barriers
- Modernise, sustainability, socio-economic growth, add value to products and services + reach (niche) markets, decrease amount of unused biomass and waste, protect ecosystems
- Requires **leadership, engagement, compromises!** Governance structure with roles & responsibilities, definition of a model that ensures economic and financial sustainability of the process, viable purpose of reaching the market with innovations of the bioeconomy, system of communication, coordination and political dialogue with stakeholders

Bio economy means an opportunity to generate a sustainable productive transformation based on the production and use of the knowledge generated for decades on resources, processes and biological principles

Opportunities come with challenges...

1. AR4D+i

- Digital technologies are changing innovation
- Data (core input for data-driven innovation -OECD 2015-2018)
- Crowdsourcing platforms and hackathons (problem statements + collective solutions)
- Adjustments of organisational structures to become more agile and spur in-house creativity (digital talent, big data analysts, start-ups, etc.)
- Biology-based processes require new technological base, which in turn demands the reorganization of scientific research and development capabilities
- National science, technology and innovation systems support is crucial

Seeds of Gold

Technology

MAXIMISE

Kenneth Njithia, the eHub project coordinator at the Dedan Kimathi University in Nyeri, says social media has enabled farmers project their enterprises in a way never seen before. Through the platforms, people know in real-time what farmers are doing, what helps to encourage others to take up the business. He notes that social media is cost-effective and reaches wider audience making it a better option for start-ups. "Digital exposure helps create a brand and a loyal community, giving you as the brand more visibility and creating lasting relationships that help drive new sales," says Njithia.

How we use social media to grow our farms

Young and ambitious, four top farmers share the secret to how they use social media platforms Instagram, Twitter and Facebook to sell produce, get corporate events and encourage tens of other people to get into agribusiness

Mr. Agriculture @ Rodgers Kirwa

He ventured into farming soon after completing his studies at Egerton University. He grows horticultural crops and keeps poultry and fish in Usain Gishu and mainly uses social media to promote his agribusiness. "Besides farming, I manage client farms in different parts of the country, consults for corporates and markets their produce online and offline. I also train and mentor young farmers on my demo farm."

To him, publishing his activities on social media has cemented his brand. "Social media is a free tool where you are allowed to market yourself and sell your brand alongside your produce. Why not maximise on it?" he poses.

With a following of 65,000 on Twitter, Kirwa has been privileged to not only work with local companies but travel to other countries and secure fellowships abroad, thanks to his tweets.

"Social media is powerful and useful but it all depends on how one leverages on it," he says, adding he has helped encourage many people to take up agribusiness. He sells his produce on social media directly to consumers. "Buyers are all over social media, but the good thing is that they are in one place."

The downside of digital farming, Kirwa notes, is passing off unverified information that misguide those willing to practise farming.

"As a digital farmer, your followers need to see practically what you do offline. This helps to authenticate what we you are posting, which is good for business."



BYIRENE MUGO

To make farming appealing to the youth, make it cool, so goes the phrase that is often repeated at many agricultural forums. Experts have suggested the use of machinery and information and communication technology on the farm to achieve this end. Enter social media and the realisation is that you don't need to use expensive technology to make farming appeal to the youth. Tweets and posts are fast-changing the farming narrative from a preserve of the uneducated and the old to an admired profession done by young people. Social media sites are currently awash with young and cool men and women engaging in different farming activities and making money out of them. Seeds of Gold spoke to four top farmers on social media on how they use the platform to better themselves, their businesses and others.

Social media is a free tool where you are allowed to market yourself and sell your brand alongside your produce. Why not maximise on it?

Rodgers Kirwa

Farmercist @ Caleb Karuga



He runs Wendy Farm in Kiambu, Kiambu County and keeps poultry, fish, dairy goats and grows traditional vegetables. Karuga has over 31,000 followers on Twitter for which he updates daily activities on his farm.

He writes in one post, "During today's morning assembly, I admonished the cocks not to chicken out whenever an opportunity arises." The message that is accompanied by a video generates several questions on poultry from farmers. Karuga says his social media activities have seen him get opportunities to train farmers either on his farm or theirs as well as get hired by corporates to promote farming and agribusiness. A good number of his customers also come through social media, buying his chickens, goat milk and vegetables.

"Social media helps me interact with clients including those in the diaspora, who wait farming start-ups for their parents back home."

As a good measure, Karuga says he posts both his achievements and mistakes in his business to paint a clear picture for his followers that farming is not always easy.

"This helps to wipe out the illusion that farming is all boom or gloom. It also helps to appreciate

hardwork that go through various activities," he narrates. Through social media, he is able to understand market trends. "I readily do market research on social media helping me to forecast future trends and understand the current ones."

Through Twitter, he is also able to understand the demography of his clients and which product are preferred by which gender. "My goat milk that I sell at Shauri Moyo is mainly bought by people with lactose intolerance, parents with young babies who have eczema and those with diseases like HIV/AIDS. I would not be able to know this if I was supplying the milk to retailers for sale. But through social media, buyers contact me directly thus I am able to understand them."

He converses with people mainly on Facebook, gets corporate deals on Twitter and uses Instagram to link with the diaspora.

"Social media has rendered brokers irrelevant because you deal with clients directly." He cautions that over-posting can create consumer fatigue that would translate to losses.

"One needs to know when to sell their produce to avoid viewer fatigue and unappreciation of their work," Karuga concludes.

Jecinta Pierra Nyaruai @Pierrajecy

She farms and supplies mama mbogas (traditional vegetables like terere (aramanth), managu (African Nightshade), collard greens (sukuma wiki), spinach and broccoli) from her farm at Maiti Sali in Nakuru County.

With 6,000 followers on Twitter and thousands of friends on Facebook, Jecinta, who is also a writer, is a farming brand.

"I recommend use of social media a lot because it brings everyone in the value chain in one setting, from the producer, broker, market and consumers," she says, noting that she does not engage brokers.

She started farming after apprenticing on her father's farm soon after finishing secondary education.

"I now farm organically, having started four years ago, pushed by increased demand for safe produce. I

use compost, animal manure and rabbit urine to fertilise and feed my crops as well as keep invasive pests at bay. And this is what I promote on social media."

Social media has put her on the national map and through it, she inspires young girls, showing them that one can be successful by taking up blue collar jobs.

With almost everyone on social media, she says it is easier to access market. "With vegetables, the option is always going for a commodity that does not take long to leave the market and is highly consumed."

To grow one's status on social media, Nyaruai says you have to keep your followers updated by posting your activities consistently. "Also, respond to people's comments and your content should be unique, fresh and original."



2. Strategic Partnerships



GLOBAL
BIOECONOMY
SUMMIT 2018



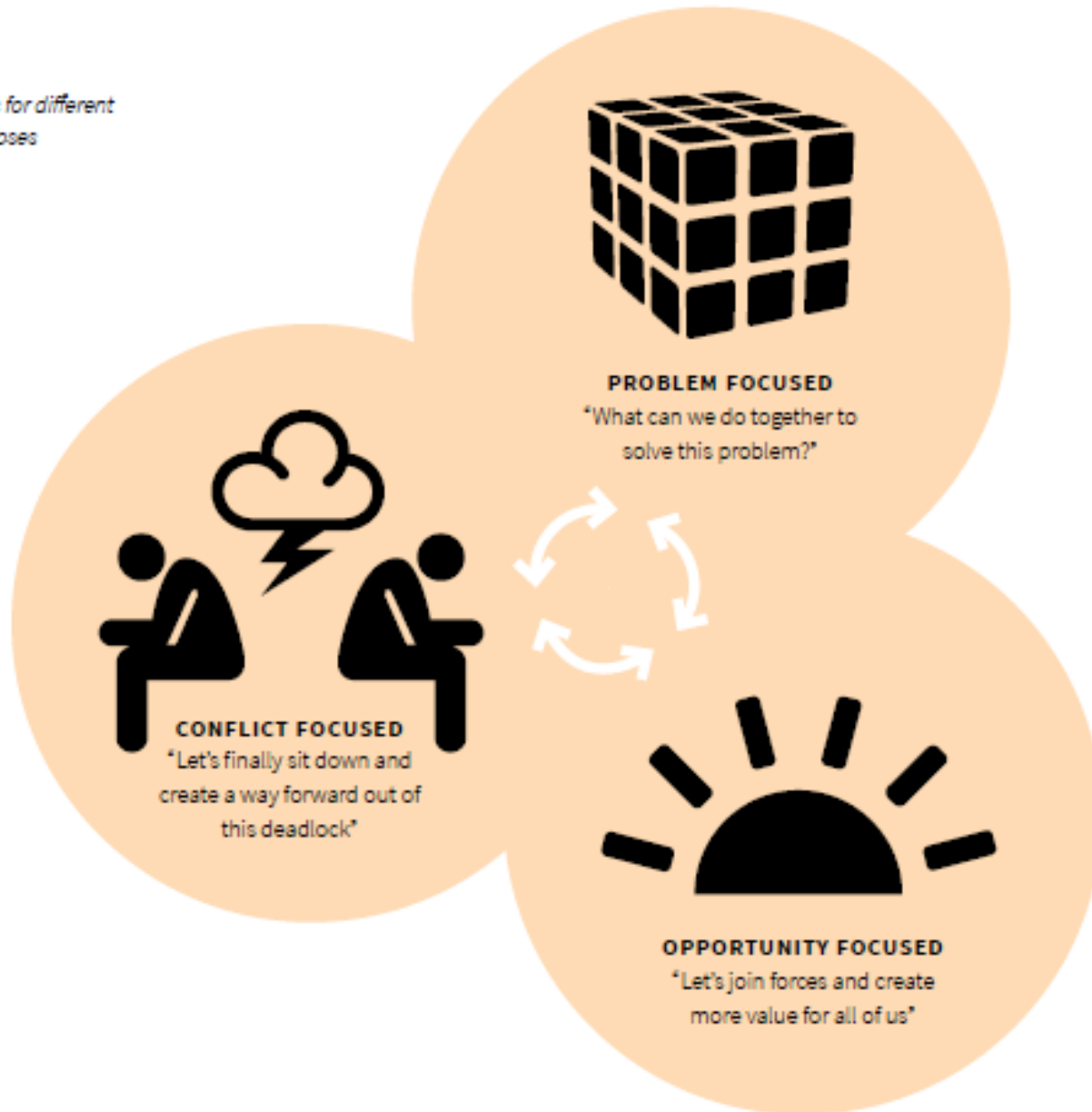
Berkeley
UNIVERSITY OF CALIFORNIA



Food and Agriculture
Organization of the
United Nations



MSPs for different purposes



Public-private partnership (PPPs) or Multi-stakeholder partnerships (MSPs) needed to:

- ✓ De-risk investments
- ✓ Organize the value chains
- ✓ Reach critical mass of this "emerging" sector
- ✓ Counterbalance interests
- ✓ Collaboration for change to happen (more participatory governance)

Source: Brouwer et al. (2015) WUR-Wageningen

Collaborate with others means efforts, do not take it for granted!

- Roadmaps or sectoral plans for key strategic sectors (national-regional-hemispheric) to bring in main public-private stakeholders (including industry stakeholders, partners from the science and research community and civil society)
- Set out long-term visions for sectors, describe the current challenges and opportunities facing them, and define the actions needed to address them.
- Foresight exercises to explore long-term policy challenges linked to the digital transformation. Such exercises involve developing different scenarios used to promote dialogue among stakeholders and jointly identify long-term policy challenges, as well as regulatory barriers and enablers for the diffusion of digital technologies.
- Mapping of policy instruments that support innovation in different sectors in the digital age to identify gaps and new areas for policy action, and ensure policy coherence and efficiency.

1. Why do we exist?
2. Where are we going?
3. How will we conduct ourselves?
4. What will we do?
5. How will we measure our success?
6. What improvements or changes must we make?

**A decision
helper: pros and
cons of MSPs**

Advantages...

- Can address a more complex issue than you can tackle alone
- Partners can access complementary skills and resources from each other
- Results will have broader ownership (more sustainable)
- Learning and collaboration increases chance of systemic change

Limits....

- Requires time and resources to design and implement properly
- Can only work if there is sufficient representation from stakeholders
- Will often not deliver short-term success: patience is required
- Not easy to find funding for processes that are relatively open-ended and the topics of which may evolve over time
- Success is never guaranteed

*Source: Brouwer et al.
(2015) WUR-Wageningen*

3. Blind spot...



|| Youth are integral to shaping the food secure future and we want to connect them with the right networks that can empower them to do so. It is our goal to equip them to develop new solutions leveraging their own perspectives. ||



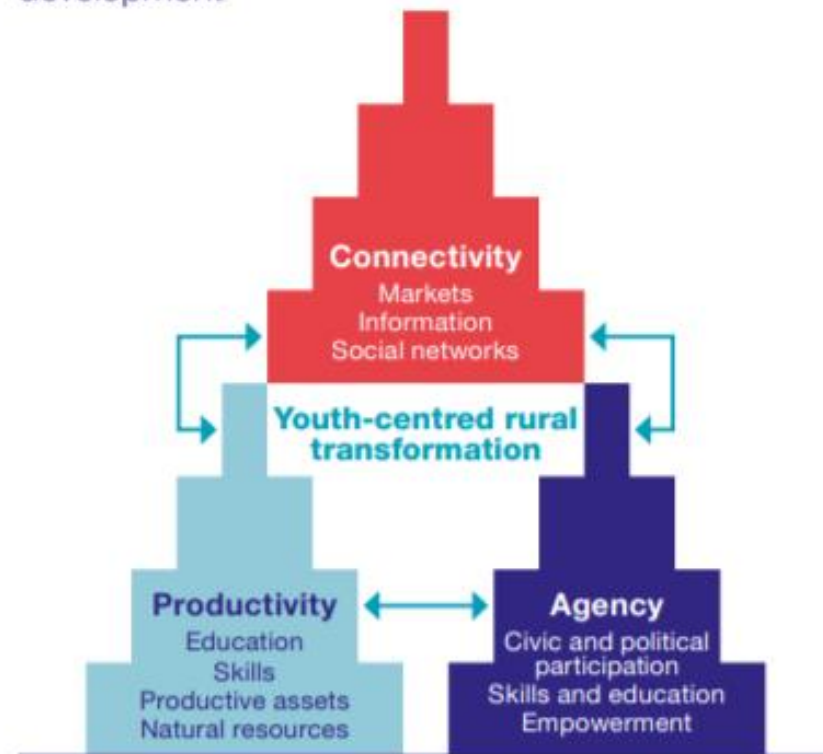
- Brian King, Coordinator of the CGIAR Platform for Big Data in Agriculture



So what about **youth** in these processes?

Why the youth approach is relevant?

FIGURE B Foundations of rural youth development



Source: Authors.

- 100 million people between the ages of 15 and 24 live in Latin America and the Caribbean (IDB 2019)
- Globally, people between the ages of 15 and 24 will represent 14% of the population in 2050

Source: IFAD 2019

A young man with dark hair is looking through black binoculars. He is holding the binoculars with both hands, and his face is partially visible through the lenses. The background is a soft-focus landscape of rolling hills in shades of orange, red, and white, suggesting a sunset or sunrise. The overall mood is contemplative and focused.

¿BIO... QUÉ?

Marcos Ortega
(ARGENTINA)





Bioeconomy and
Production Development

THANK YOU!



@IICA noticias
@GabQuirogaG

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