FiBL
EXCELLENCE FOR SUSTAINABILITY

Research Institute of Organic Agriculture
Forschungsinstitut für biologischen Landbau
Institut de recherche de l'agriculture biologique






Welcome and introduction to objectives and process

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IFOAM TECHNOLOGY INNOVATION PLATFORM TIPI

BIOFACH2017
into organic

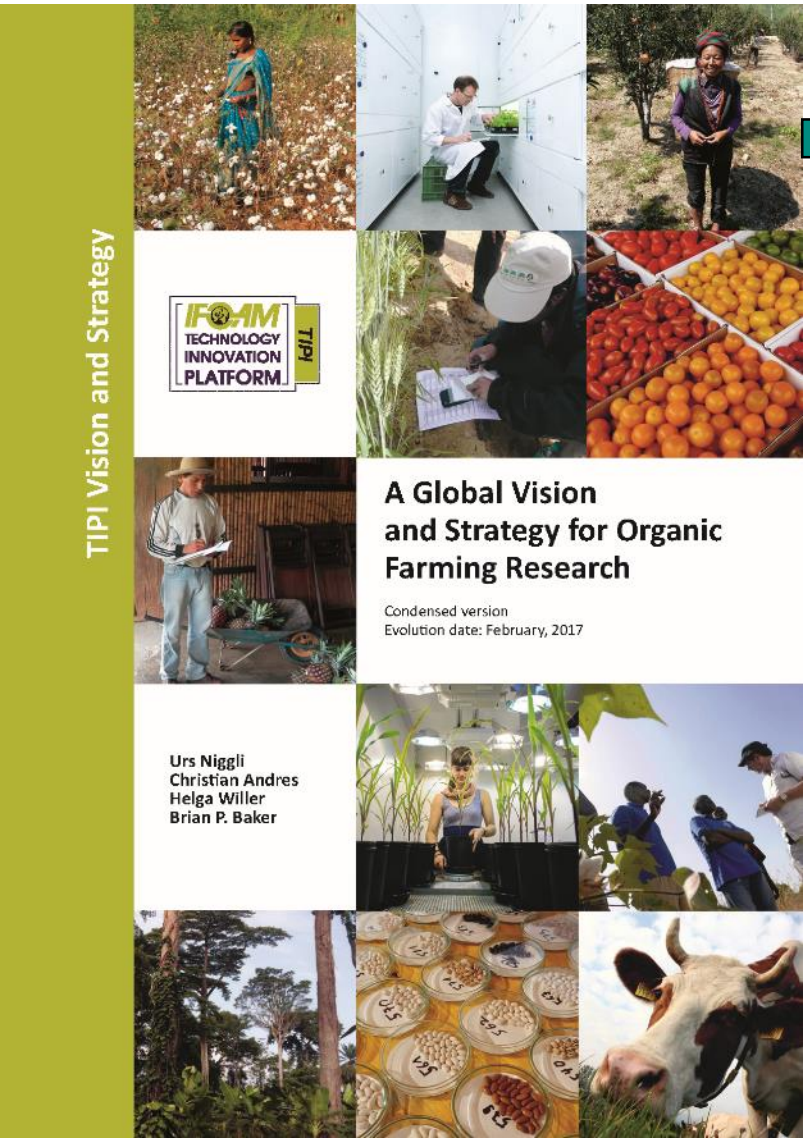
Science Day – TIPI part (afternoon)
Nuremberg, Germany
17th February 2017

Why are we all here today?

"100 questions to be addressed by novel organic food and farming systems"

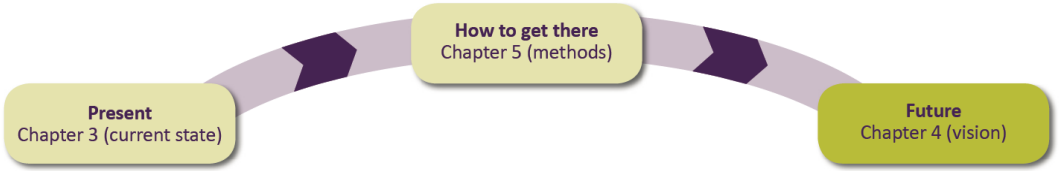
Strategic research agenda

Towards implementation of vision & strategy (process)



2. Strategic research agenda

3. Implementation action plan



1. Vision & Strategy (incl. str. action plan)

Why all this?

Raise profile of research on OFFS in international cooperation through writing of successful proposals to (inter-)national funding bodies

Time plan

- 13:30 – 13:50 ***Urs Niggli***

  The most important knowledge gaps in organic food and farming systems

- 13:50 – 14:10 ***David Gould***

  How to effectively advocate for organic food and farming systems research?

- 14:10 – 14:20 Introduction workshop ***Christian Andres***

- 14:20 – 16:20 Workshop breakout sessions (World Café)
- 16:20 – 16:50 Workshop plenary session (conclusion)

- 16:50 – 17:00 Closing remarks ***Urs Niggli***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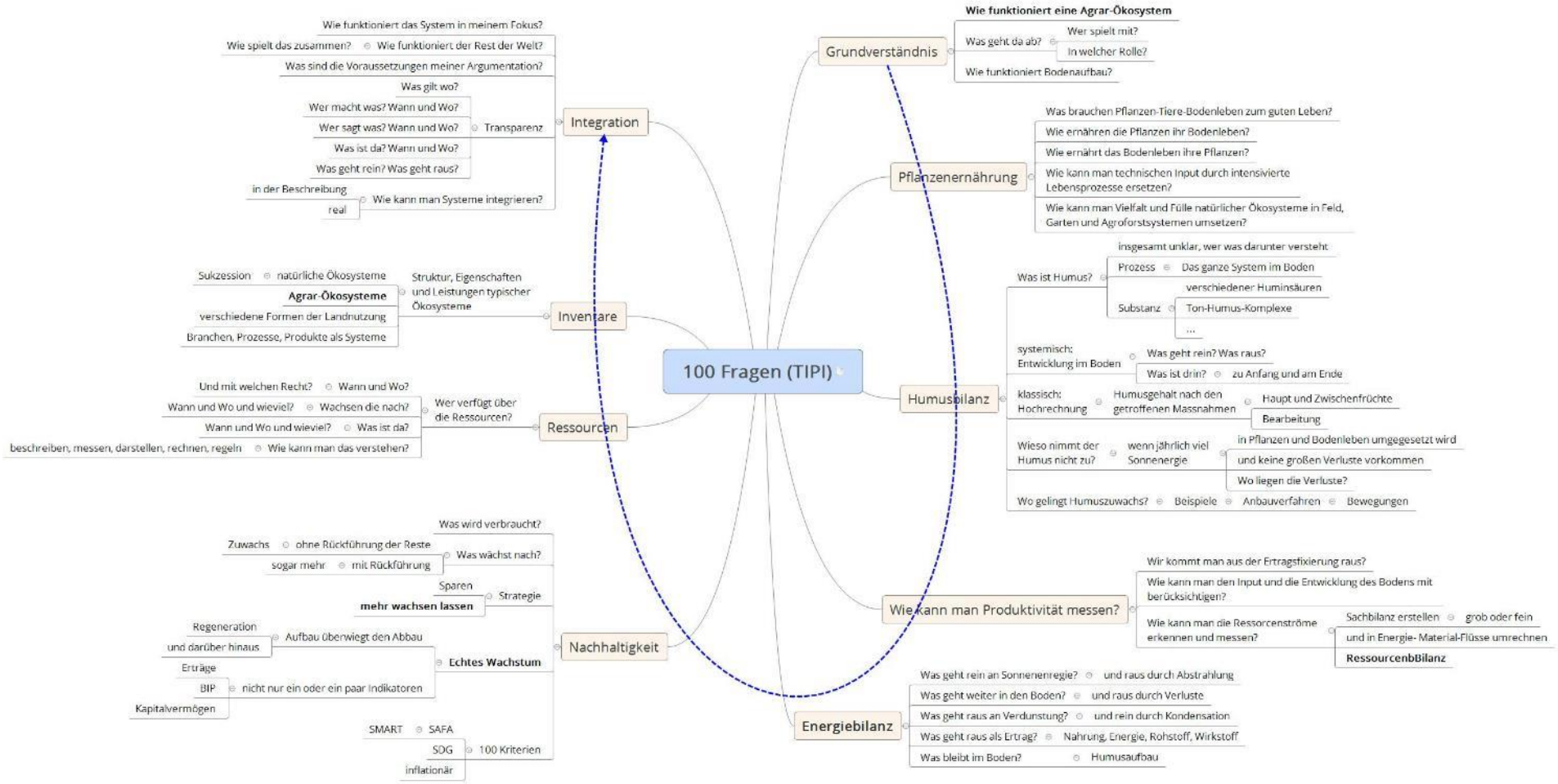
Objectives of today

"100 questions to be addressed by novel organic food and farming systems"



Objectives of today (cont.)

1. Which thematic fields should be priorit. in different regions *(continents)* ***to start working on the need for evidence?***

(100 questions)

Regional workshops

100 questions

TIPI Vision & Strategy

- Different policies and challenges for organic farming research in tropical and temperate zones

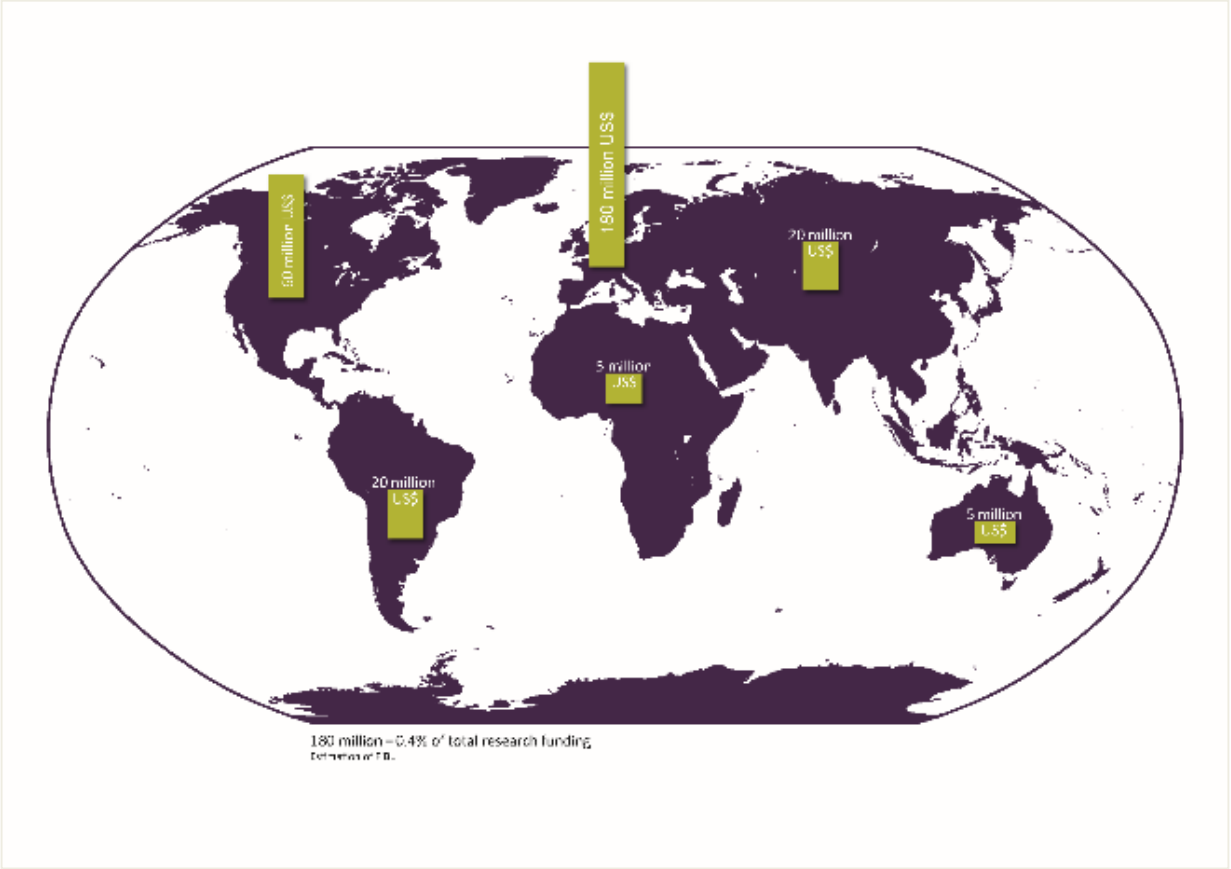
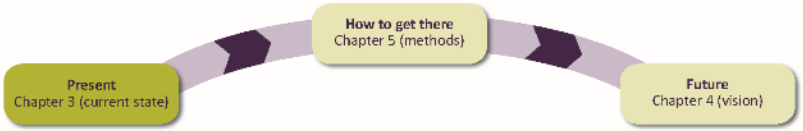


Figure: Annual spending on organic food and farming system research

www.organic-research.net/tipi.html

3 The current state of organic farming research



The next three chapters address the current state of organic farming research (chapter 3), TIPI's vision for the future development of organic farming until 2030 (chapter 4), and the strategy to move from the current state to the future (chapter 5).

3.1 Global overview

Agriculture faces the challenge of feeding a rapidly growing population while maintaining the capacity to provide for future generations. Future food production is jeopardized by unsustainable practices that lead to climate change, depletion of non-renewable resources, and water pollution. Holistic farming systems that ensure high productivity by making use of locally available resources and ecological processes are more suitable to meet these challenges than reductionist approaches whose focus is on maximum productivity alone [82]. Sustainable agricultural systems also rely on the traditional knowledge and entrepreneurial skills of farmers [70], and include both organic farming and agro-ecological methods.

International cooperation has the potential to uplift research on organic food and farming systems, which in turn may raise organic agriculture's productivity, improve livelihoods, preserve local cultures, maintain environmental services, and enhance the quality of rural areas. Organic food and farming systems can help smallholders in low-income countries diversifying and becoming locally self-sufficient in food, which may mitigate the adverse effects of exposure to price fluctuations on global markets of internationally traded commodity crops. Because results obtained in temperate zones cannot be readily transferred to (sub-)tropical and (semi-)arid zones, organic farming systems need to be adapted to local contexts and the associated socio-ecological trade-offs for sustainable agricultural intensification need to be studied.

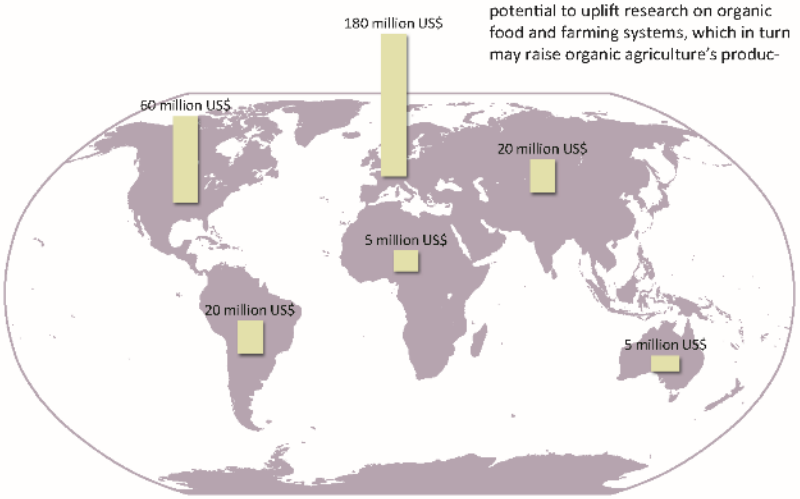


Figure 1: Annual spending on organic food and farming systems research, disaggregated by continents. 180 million = 0.4% of total research funding (estimations of FiBL).

Organic agriculture is based on IFOAM – Organic International's principles of health, ecology, fairness, and care [81]. Standards for organic production were developed from these principles to protect what it means in the marketplace. The integrity of organic food is verified by third-party certification and participatory guarantee systems (PGSs). To meet the growing demand for organic food and develop technologies that are consistent with organic principles, institutions around the world have built the capacity to conduct research on organic farming systems. However, those capacities are not evenly distributed, leading to research gaps, limited access to published results, and lags in technology transfer.

The highest annual spending on organic food and farming systems' research occurs in Europe and North America (Figure 1). Research is mostly carried out in a national context, but international coordination and collaborative efforts are increasing. However, only a few countries provide data on their funding for organic farming research.

Table 1: Evaluation of key indicators describing the performance of the organic sector worldwide.

Continent	Research (million US$)	Extension	Networks	Farmland (million hectares)	Share of total farmland (%)	Markets (billion US$)	Challenges
Africa	~ 5	poor	poor	1.7	0.1	<0.1	big, poorly addressed
Asia	~ 20	poor	insufficient	4.0	0.2	6.9	big, poorly addressed
Europe	~ 180	moderate	mocerate	12.7	2.5	33.0	adcressec with some progress
Latin America	~ 20	insufficient	mocerate	6.7	0.9	<0.1	big, poorly addressed
North America	~ 60	insufficient	mocerate	3.0	0.7	42.8	addressed, but insufficient
Oceania	~ 5	poor	poor	22.8	5.4	1.2	big, poorly addressed
World	~ 290	poor	poor	50.9	1.1	84.0	big, poorly addressed

Colour code:

moderate | insufficient | poor

Sources: Research, Extension, Networks and Challenges: FiBL estimates.
Farmland and market data are figures for 2015 [82].

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3.2 Continental comparisons

The first private research institutes working on organic food and farming systems emerged in Europe and North America in the 1950s and proliferated in the 1970s and 1980s. Government funding in Europe started around 1990. However, with less than one percent of the budget for food and farming systems research spent on organic (Figure 1), research on organic systems is still marginal today[54-56]. There is a huge gap between countries leading research on organic food and farming systems and those where this is not a priority, which underlines the great scope for mutual learning between the two country groups. Table 1 shows the performance of the organic sector worldwide by evaluating certain key indicators.

3.2.1 Africa

The African Union recognizes that organic food and farming can play a positive role in the continent's development by generating foreign exchange through export-oriented organic agriculture[83]. However, policy makers often ignore the broader benefits of organic farming. In contrast to a general lack of governmental support for organic agriculture, subsidies for synthetic fertilizers and pesticides decrease the competitiveness of organic agriculture. In 2011, IFOAM – Organics International launched the 'IFOAM Organic Alternative for Africa' (TOFA) campaign aiming to build a united continental approach to advocating organic agriculture and its multiple benefits, and ensuring that Ecological Organic Agriculture (EOA) is included in national development policies.

The African Organic Network (AfroNet), complemented by the Network for Organic Agriculture Research in Africa (NOARA), is developing a research agenda for EOA[84-85]. EOA was the first high-profile political endorsement of organic farming in Africa. The Mediterranean Organic Agriculture Network (MOAN) is the most important network in North Africa[86].

Box 1: African organic agriculture facts, 2015 [82].

- Total organic agricultural area:
- 1.7 million hectares (0.1% of Africa's agricultural area, 3% of the world's organic agricultural area)
- 719'000 producers (most of them in Ethiopia, Uganda, and Tanzania)
- Leading country by area: Ethiopia (almost 0.3 million hectares, 0.5% of total agricultural area)
- Markets: The majority of certified organic products are for export markets
- Key products: Coffee, oilseeds, olives, cocoa, and textile crops

The limited evidence about the productivity and profitability of organic agriculture under African conditions presents a challenge for advising policy based on sound science. Limited access to organic seeds, equipment, bio-pesticides and other inputs, as well as access to information and technology transfer are obstacles for farmers who want to transition to organic. The extreme nature of many African soils, from highly acidic to highly alkaline, leads to low nutrient availabilities for plants, particularly phosphorous. Closing nutrient cycles is a challenge in many countries, especially where crop and livestock production are separated by social structures (i.e., different ethnic groups). Pest and diseases of both crops and livestock develop much more rapidly in tropical conditions, and their prevention and biological control are major issues. More breeding efforts are needed to develop varieties and landraces suitable for organic production in Africa. Finally, the strong export orientation presents a big challenge for the development of sustainable food systems, as the production of the cash crops presented in Box 1 is of higher environmental concern than the staple crops, and because of the high dependency on world markets.

African farmers need suitable crop varieties and livestock races for organic production. Photo: IFOAM

3.2.2 Asia

Most governments have policies to promote food production without little regard for quality, food safety, and environmental impacts. With a few exceptions, organic farming is not a priority. In 2013, IFOAM Asia initiated the Asian Local Governments for Organic Agriculture (ALGOA) with the aim to foster dialogue and cooperation among local Asian governments for the development of organic agriculture and its related industries. Despite having a large number of producers, the Asian organic movement is not well organized. Organic regulations have been implemented in 23 countries[87].

The Asian Network for Sustainable Organic Farming Technology (ANSOFT) facilitates information exchange and strengthens the organic sector by generating scientific evidence. The Asian Research Network of Organic Agriculture (ARNOA) is a network of individual researchers scattered in 17 Asian countries. The Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and Southeast Asia (SATNET) facilitates knowledge transfer through the development of a portfolio of best practices on sustainable agriculture, trade facilitation, and innovative knowledge sharing. IFOAM Asia was established in 2012 and currently has more than 100 members. National networks include the Bangladesh Organic Agriculture Network (BOAN), the Korean Society of Organic Agriculture, and the Iranian Scientific Society of Agroecology (ISSA).

Box 2: Asian organic agriculture facts, 2015[82].

- Total organic agricultural area: 4 million hectares (0.2% of Asia's agricultural area, 8% of the world's organic agricultural area)
- 851'000 producers, mostly in India
- Leading countries by area: China (1.6 million hectares, 0.3% of total agricultural area) and India (1.2 million hectares, 0.7% of total agricultural area)
- Markets: Continual growth. Sales of organic products in China: 4.7 billion Euros (world's fourth biggest market for organic products)
- Key products: Cereals, oilseeds, textile crops, coconut, and coffee

Asia needs more long-term research programmes and extension services for farmers. Photo: Paul van den Berge

The most important challenge for organic food and farming systems in Asia is the limited number of long-term research programmes. The severe shortage of extension services presents a critical problem for farmers.

3.2.4 Latin America and the Caribbean

Most countries have a third party certification system, but Participatory Guarantee Systems (PGS) are commonly used in local markets in several countries. The Inter-American Commission for Organic Agriculture (ICOA), composed of the region's ministers of agriculture and the USDA, contributes to the development of the organic sector and facilitates trade.

The Latin America Society for Agroecology (SOCLA) is the main regional network that promotes research, communication, and collaboration between farmers and researchers throughout Latin America. SOCLA works with national universities and the Spanish Society for Ecological Agriculture (SEAE). The Iberoamerican Agroecology Network for the Development of Climate Change Resilient Agricultural Systems (REDAGRES) was developed by SOCLA and SEAE. The Latin American Meeting on Organic Agriculture, 'Encuentro Latinoamericano de Agricultura Orgánica' (ELAO), promotes farmers' research in organic production through conferences in which 70% of speakers are farmers, sharing their results with 30% researchers and technicians. Highly active national networks, such as the Mexican Society of Sustainable Agriculture (SOMAS), organize national conferences and keep a record of publications.

A top research priority is defining appropriate indicators to measure the performance of agro-ecological systems. Research networks working on resilient agro-ecological systems should be consolidated, and more inter- and transdisciplinary research should be conducted. Research in the following areas should be promoted: livestock, seeds and fruits, waste management, post-harvest storage, losses and processing, nutrition and marketing. In addition, more nutrient efficient agroforestry systems and fair marketing strategies should be promoted to farmers and traders, respectively. Technical challenges include weed management in organic agriculture and the development of equipment suitable for smallholders in hilly areas. Finally, the consumption of organic products in family farming systems should be enhanced.

Box 4: Latin American organic agriculture facts, 2015 [82].

- Total organic agricultural area: 6.7 million hectares (0.9% of Latin America's agricultural area, 13% of the world's organic agricultural area)
- 450'000 producers (most of them in Mexico)
- Leading countries by area: Argentina (3.1 million hectares, 2.1% of total agricultural area), Uruguay (1.3 million hectares, 9.0% of total agricultural area) and Brazil (0.8 million hectares, 0.3% of total agricultural area , 2014 data)
- Markets: The majority of certified organic products are for export markets. However, the domestic organic market is developing in Brazil and Peru.
- Key products: Coffee, cocoa, tropical fruits, and cereals

Latin America needs sound indicators to measure agro-ecological systems' performance. Photo: Christian Andres

Objectives of today (cont.)

2. ***Who should set research priorities, and how*** *(i.e., how much should research priorities and innovations be farmer-, researcher-policy-, market- or funder-driven)****?***

3. ***How can the organic community and its constituents effectively advocate for OFFS research?***

Time plan

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(100 questions)

Regional workshops

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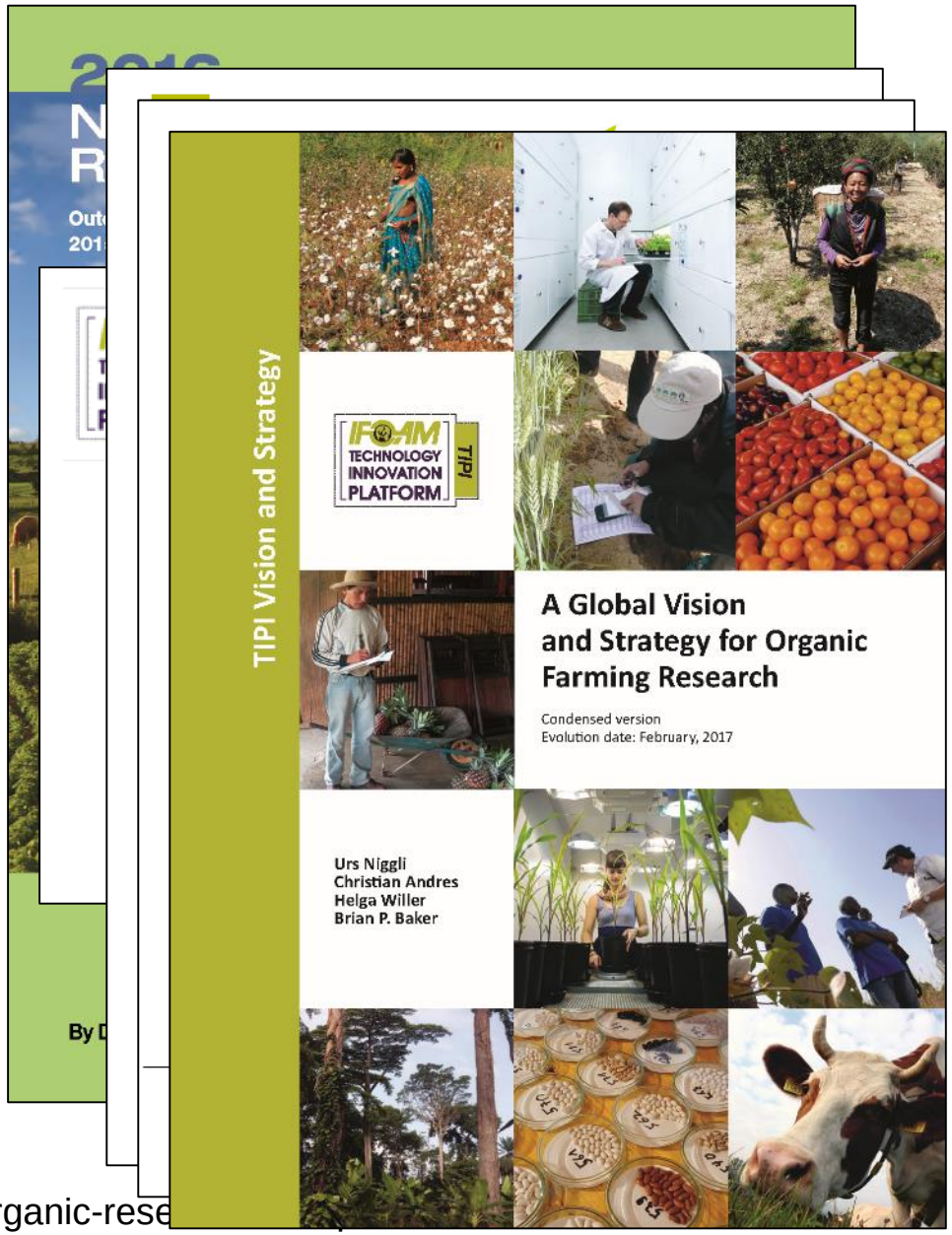
Resources to be considered



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Inputs to be considered

(Questions 1 & 2)

Q1

- ***Basic vs. applied sciences*** (farm-/region-/value-chain-/system-specific)
- ***How to consider whole FOOD SYSTEM incl. consumer, and strengthen social and societal perspectives?***

Q2

- ***Context-specificity, role of science***
- ***Value systems (goal societal welfare?)***

Q3

- ***Try to void dogmas, focus on increased sustainability of global agriculture***

World Café

1. ***Thematic fields in different regions***

   Dora Drexler

2. ***Who sets research priorities, and how?***

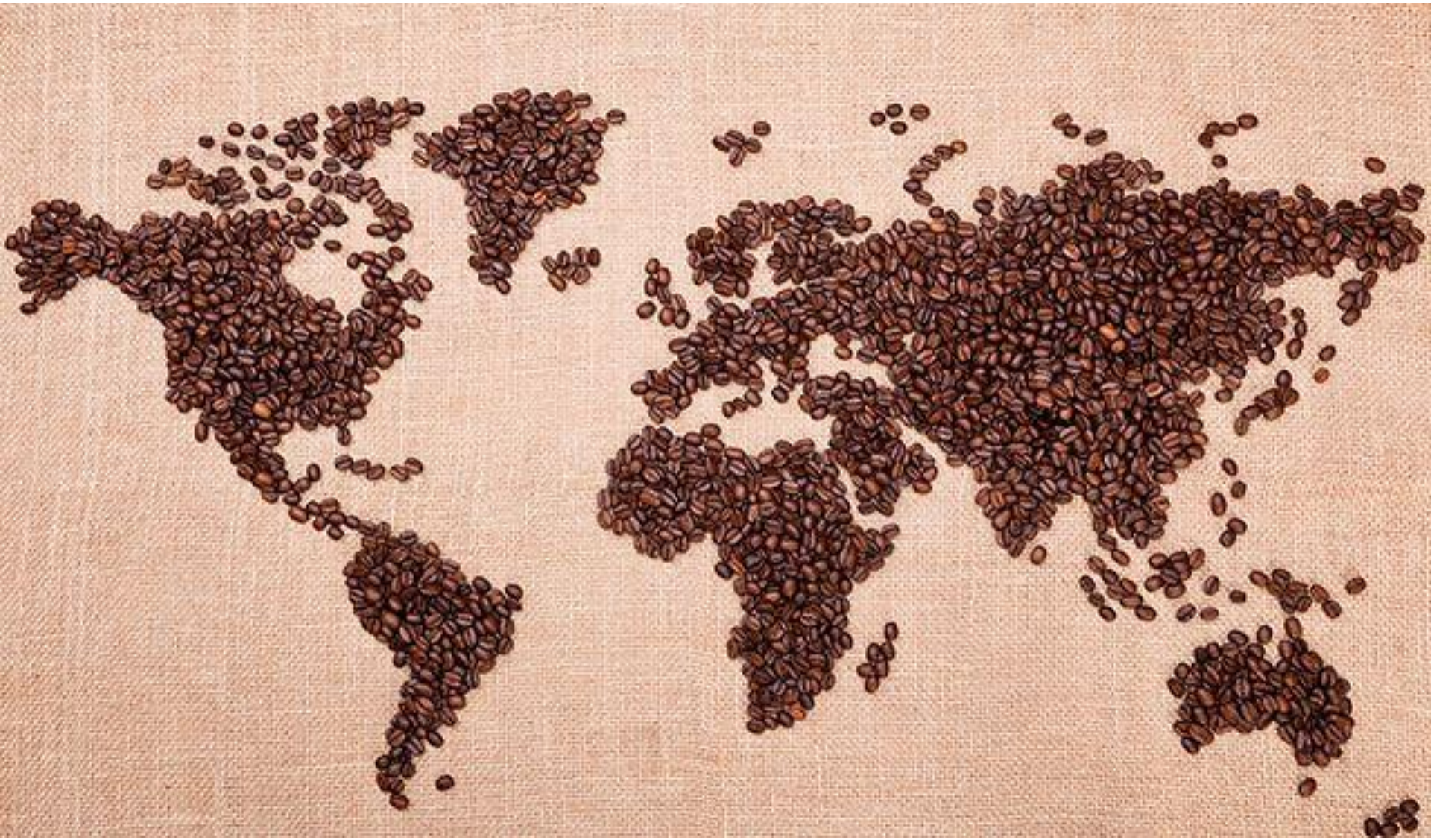
   Sabine Zikeli

3. ***Effective advocacy***

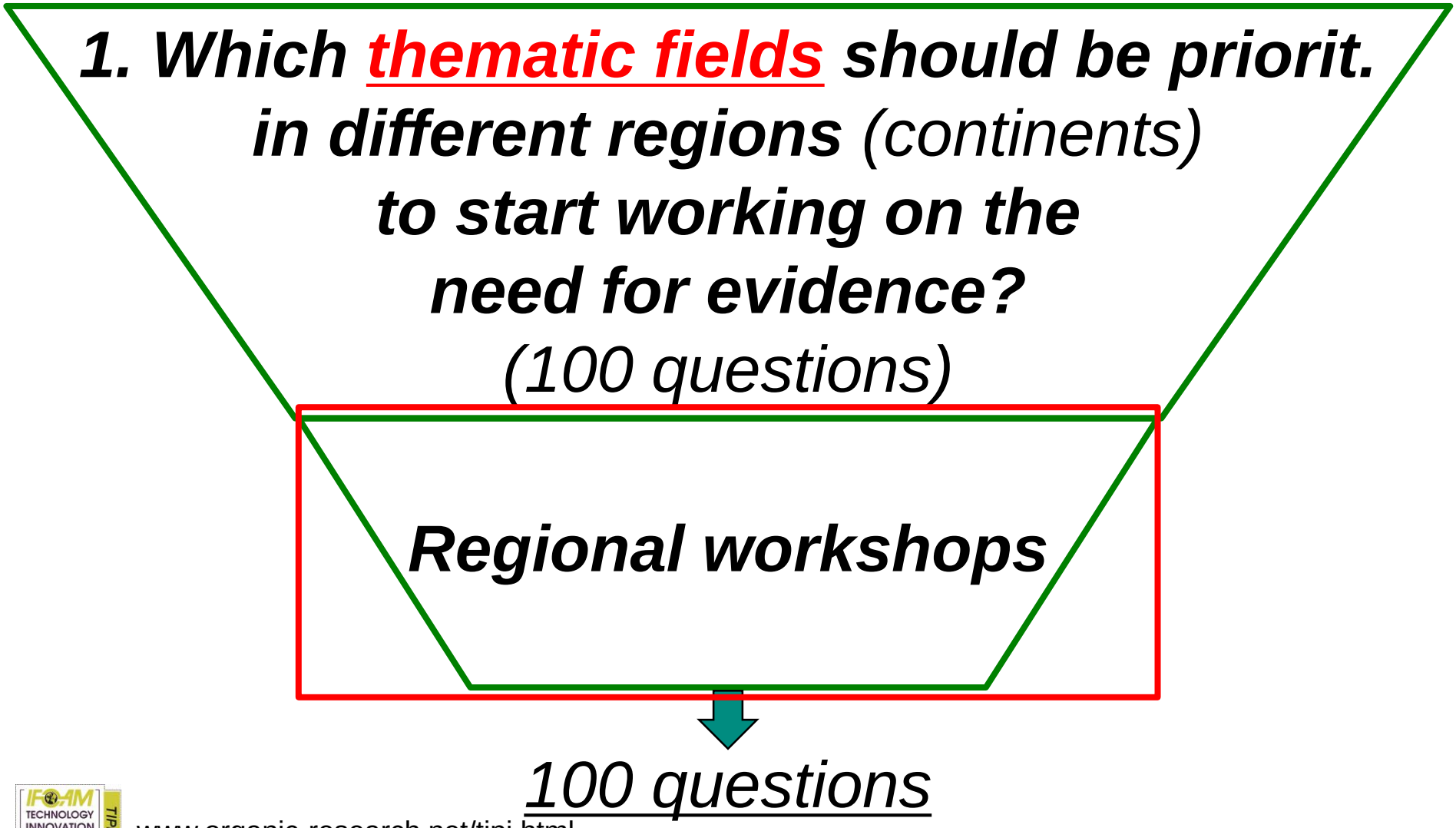
   David Gould

World Café (cont.)

- Build groups of max. 10 people (preferably around 7), optimally not more than 6 groups in total
- Go to one table, the moderator will explain what to do
- Change the table after approximately 20 min
  (Christian will alert the moderators)
- Upon arrival at another table, moderator will summarize previous discussions, then you take it from there
- Moderators document discussions and report back to the plenum in the concluding session
- Once you are completely empty, and all your words are on some flipcharts, you may settle for a coffee
- Be back by 16:20, refreshed and ready for the plenary



And now?



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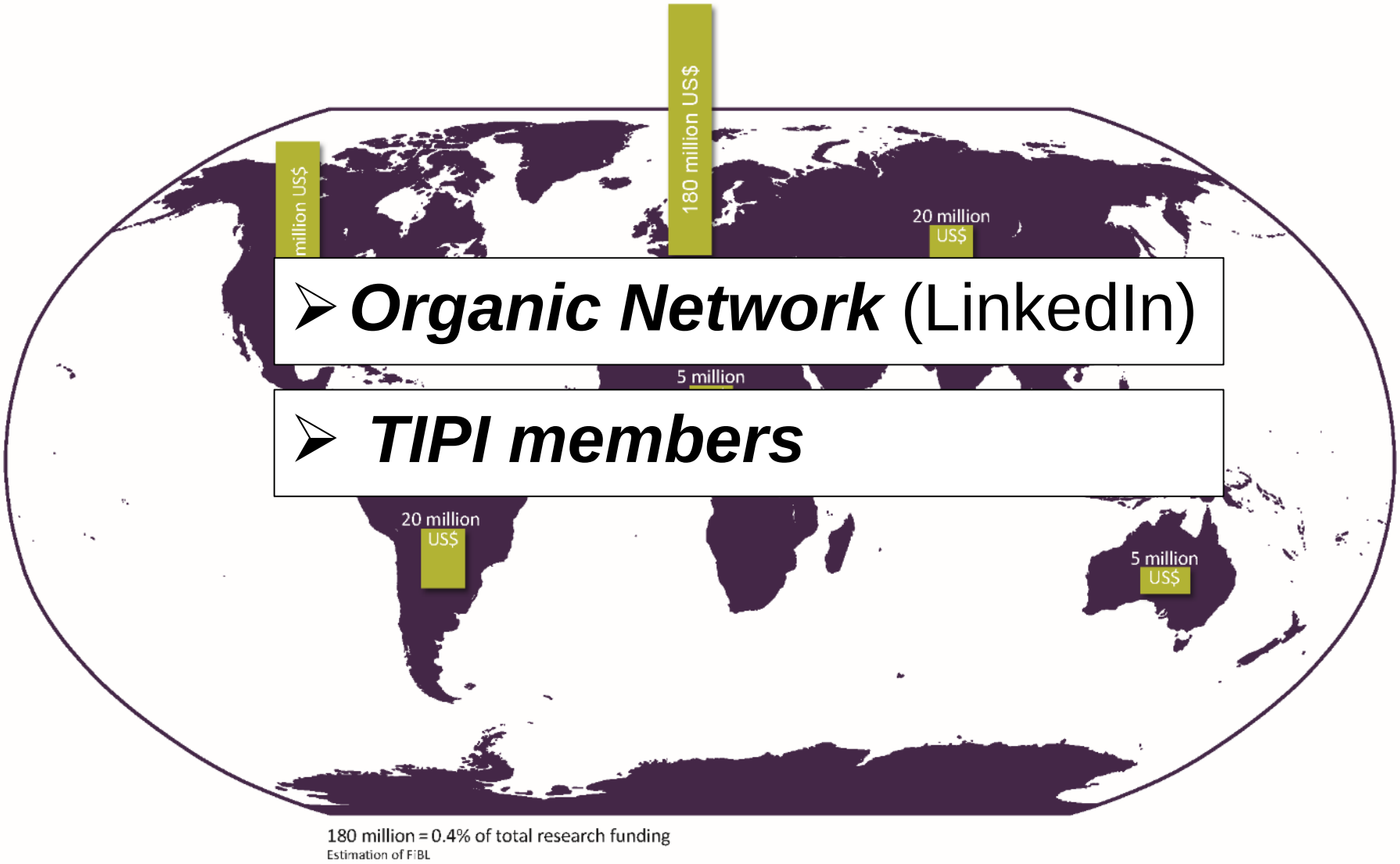
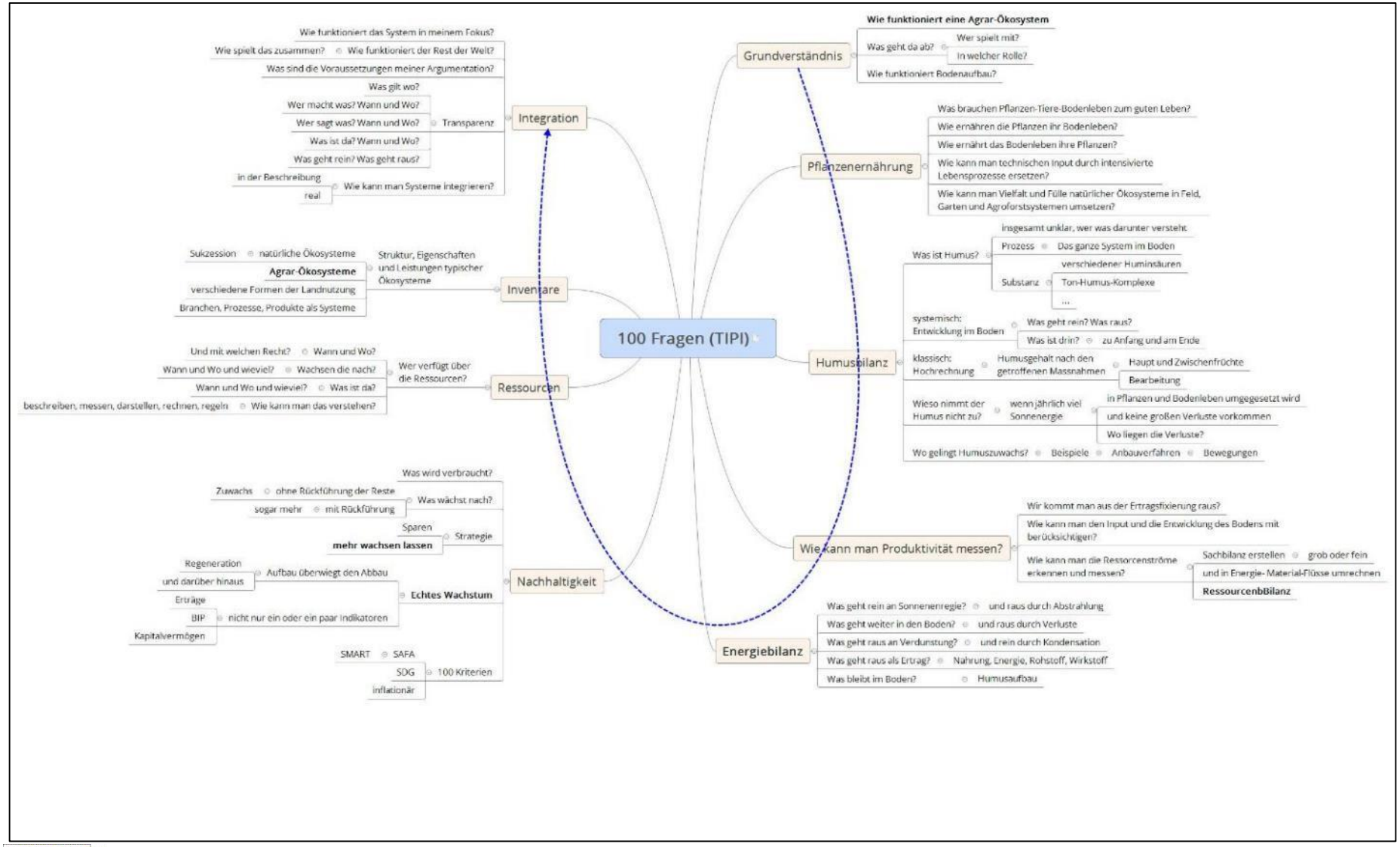
TPorganics

European Technology Platform



180 million = 0.4% of total research funding
Estimation of FiBL

“100 questions”



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Consolidation workshop at OWC 2017

“An Organic World through an Organic India”

- 9th – 11th November 2017, New Delhi, India

- Publication of scientific paper with 100 questions in 2018

Main organizers:

Patronage

IFOAM ORGANICS INTERNATIONAL

Organic Farming Association of India OFAI

PDA trade fairs

सत्यमेव जयते

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