Towards a 'Great Transition' of Food & Health Systems

Rethinking the key role of sustainable agricultures for healthy societies

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Outline

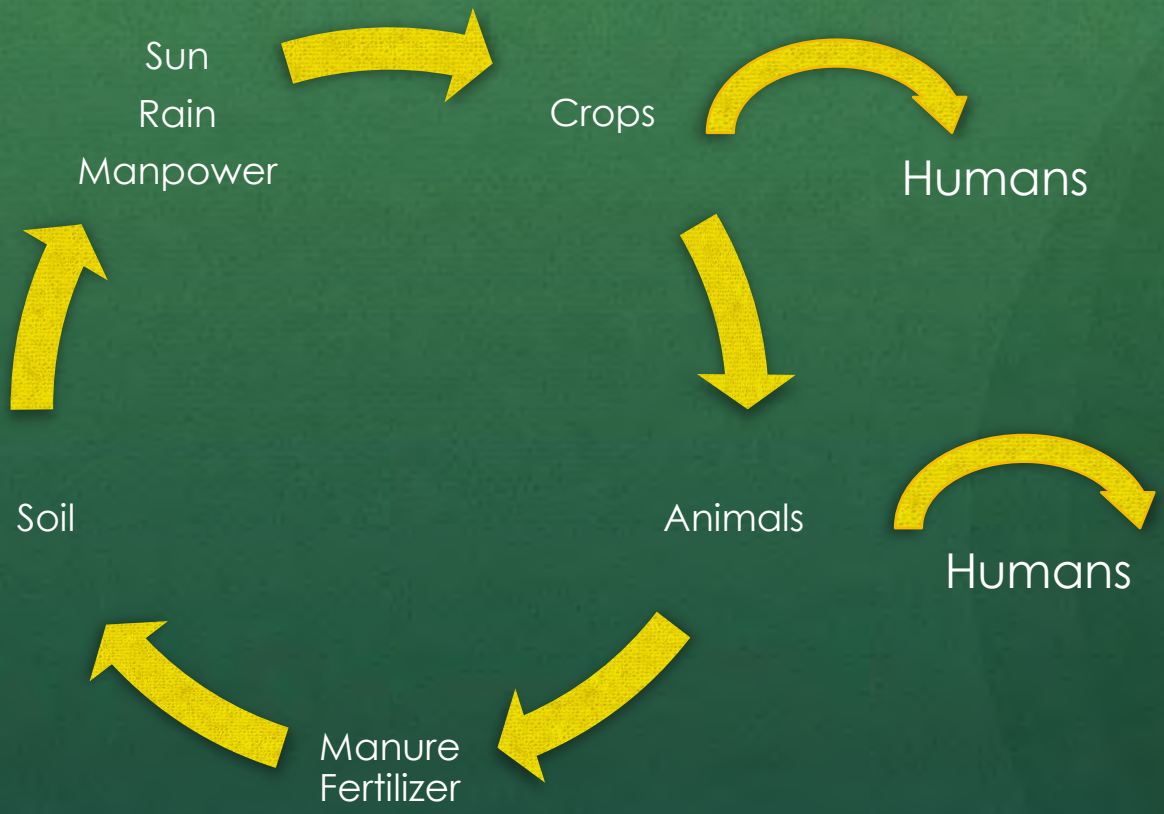
I. Industrialization of agricultures and food: A historical glimpse

II. The food & health nexus

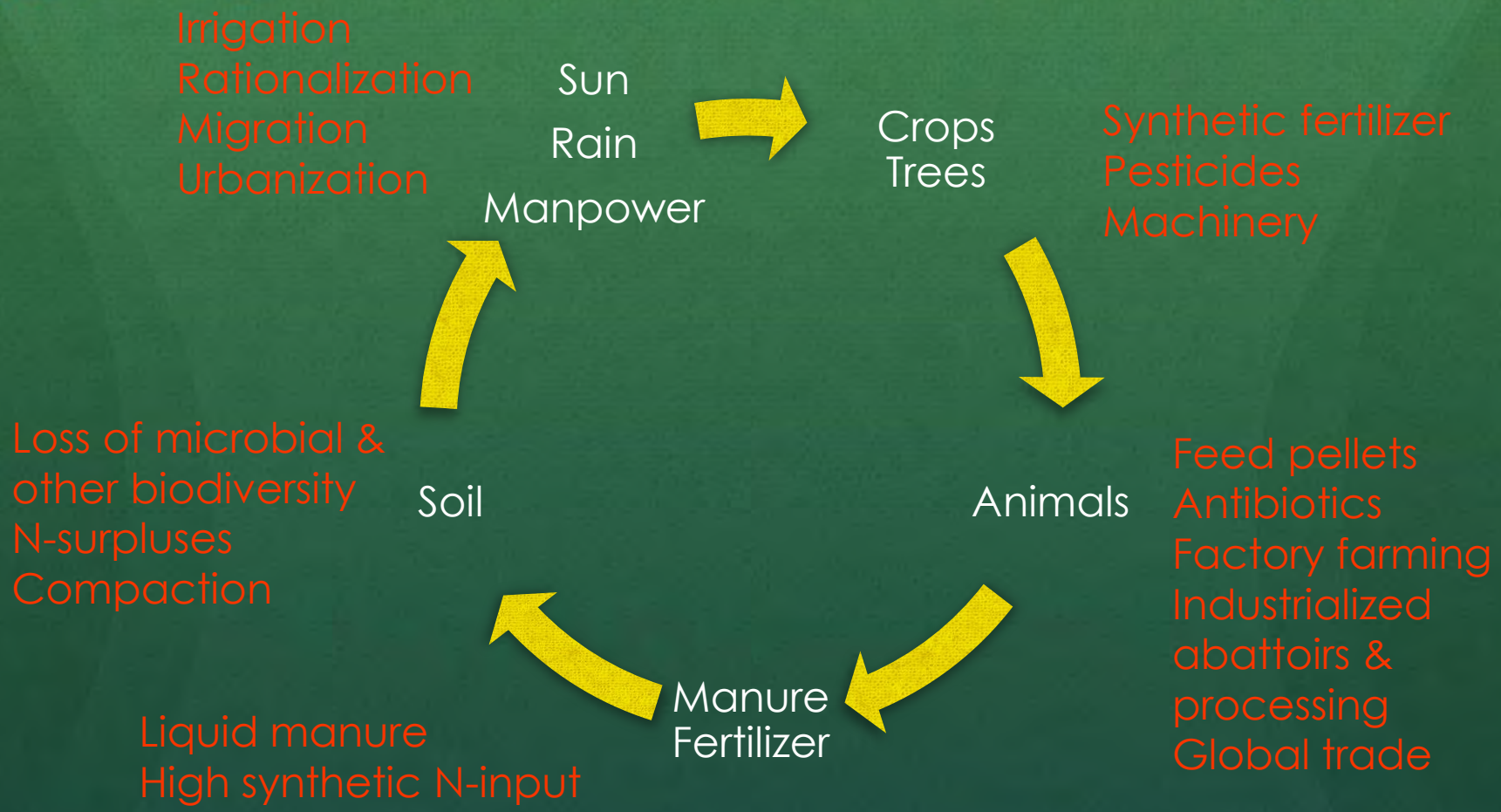
III. What a 'Great Transition' means for food from soil to fork

IV. Conceptual reflections on the assessment of the food & health nexus

I. Industrialization of agricultures and food: A historical glimpse



I. Industrialization of agricultures and food: A historical glimpse [2]



I. Industrialization of agricultures and food: A historical glimpse [3]

Key elements:

- Spatial separation of production & processing of plants as well as of animals
- Cultural & practical alienation of the (urban) population from production and processing of food
- Agricultural thread mill: Technological progress results in ever lower producer prices and vice versa
- Externalization of damages of common goods, e.g. soils, freshwater, clean air, forests

I. Industrialization of agricultures and food: A historical glimpse [4]

Key elements:

- Monocultural farming and large-scale livestock farming (poultry, pigs, cattle) implies ever growing use of pesticides and antibiotics
- Global animal epidemics and zoonoses
- Loss of essential micronutrients through breeding, cultivation regimes, feeding and processing
- Nutrition transition: The industrial adjustment of mankind's earliest cornerstone of sovereignty

I. Industrialization of agricultures and food: A historical glimpse [5]

Key elements:

- Millionfold destruction of family farms, ever greater concentration of land ownership
- Dependence from input-, machine-, and other industries
- Expansion of vertical integrated global agro-food corporations
- Increasing concentration of knowledge on seeds & breeding in private businesses → IPRs
- Decreasing role of public research

II. The food & health nexus

- "Human beings are essential what they eat." (Ludwig Feuerbach, German philosopher, 1850)
- Human Right to Food
- There is no healthy life without permanent access to enough, safe, healthy & diverse food: Lack of food as well as superfluity makes people sick
- Long-term rise of cardio-vascular diseases, obesity, type II diabetes, and other diet-related syndromes

II. The food & health nexus [2]

- 20 -25% of adults in Europe & North America are clinically obese
- Rising obesity in developing countries with high incidence of malnutrition & hunger
- Meals are cornerstones of communities of all sorts
- Food has a strong spiritual aspect, e.g. the Lord's Supper or the last meal

III. What a 'Great Transition' means for food from soil to fork

Key principles of 'Great Transitions':

>> Occur in a co-evolutionary manner, rely on a great number of changes in different socio-technical (sub)systems, and take place at local, national and global action levels.

>> Include both the development of (niche) innovations as well as their selection on the part of the users, and their social embedding through markets, regulations, infrastructures and new social guiding principles.

III. What a 'Great Transition' means for food from soil to fork [2]

Key principles of 'Great Transitions', cont.:

>> Influenced by a large number of political, scientific, economic and civil social actors and consumers.

>> Ultimately, they are radical processes with regard to their impact and range; may, however, sometimes take place very slowly over several decades.

III. What a 'Great Transition' means for food from soil to fork [3]

Key principles for sustainable agriculture:

(i) **Integrate biological and ecological processes such as nutrient cycling, nitrogen fixation, soil regeneration,** allelopathy, competition, predation and parasitism into food production processes,

(ii) **minimize the use of those non-renewable inputs that cause harm to the environment or to the health of farmers and consumers,**

(iii) **make productive use of the knowledge and skills of farmers,** thus improving their self-reliance and substituting human capital for costly external inputs, and

(iv) **make productive use of people's collective capacities to work together to solve common agricultural and natural resource problems,** such as for pest, watershed, irrigation, forest and credit management.

III. What a 'Great Transition' means for food from soil to fork [4]

Key principles of sustainability:

1. **Persistence:** the capacity to continue to deliver desired outputs over long periods of time (human generations);

2. **Resilience:** the capacity to absorb, utilise or even benefit from perturbations (shocks and stresses);

3. **Autarchy:** the capacity to deliver desired outputs from inputs and resources (factors of production) acquired from within key system boundaries;

4. **Benevolence:** the capacity to produce desired outputs (food, fibre, fuel, oil) while sustaining the functioning of ecosystem services and not causing depletion of natural capital (e.g. minerals, biodiversity, soil, clean water).

III. What a 'Great Transition' means for food from soil to fork [5]

- Sustainability science, occupational training & education
- New balance between rural & urban areas
- New criteria and benchmarks for good life *(buon vivír)*, health, prosperity & wealth
- Appreciation for natural sources of individual & community life, e.g. soil, freshwater, food, fishing grounds, forests

III. What a 'Great Transition' means for food from soil to fork [6]

- Sound local & regional cycles throughout the agricultural and other value chains, e.g. zero waste
- New balance between cultivation, processing, cooking & consuming of food
- New international cooperation and exchange structures along the principles:
  - Human rights first
  - Justice
  - Fair reciprocity

IV. Conceptual reflections

- Sustainability (SD) is umbrella & core of public policies & institutions, not only one of many possible policy & polity choices
- TA is part of the Great Transition towards SD
- Natural sources (e.g. soils, water, forests, fishing grounds) are the very fundament of all social & economic opportunities of action
- Use of natural sources along intra- and inter-generational justice

IV. Conceptual reflections [2]

IV. Conceptual reflections [3]

- From Technology- to Integrated Inter-systems Assessment (IISA):
  - Cooperative design with CSO & other stakeholders;
  - All SD is bound to place & time;
  - Development and use of technology is embedded in these contexts (the way forward-backwards from greed to need);
  - Innovations first of all social & political processes
  - Interfaces & trade-offs important
  - IISA as experimental stations for SD

Thanks for your attention

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