

Globelics and the Anthropocene

An editorial note for the 'Globelics Working Papers'¹

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With this note the editors want to invite papers that contribute to a critical rethinking of sustainable development in the present phase of development, the so-called Anthropocene. We call for papers that address the question of how and to what extent technical and institutional innovation can meet the great challenges of our time. We want to stimulate a discussion in the Globelics community of how to make studies on learning and innovation more attuned to and focused on sustainability problems. Basically this means that we welcome papers that tackle the fundamental problem of how to keep development on the safe side of planetary boundaries for human activity on planet Earth.² These issues are not only crucially important but also very difficult to handle. We think that they require a rethinking of the notion of sustainable development as well as an interdisciplinary and systemic approach. Because of the many different political, economic and social aspects of the challenges they require methodological and theoretical pluralism. One would think that all this also means that they fit very well into the Globelics agenda and are well suited for researchers in the Globelics network. Unfortunately, researchers in the Globelics community have not yet responded effectively to these challenges, at least not in terms of contributions to the Globelics conferences (see Lema et al. 2014:95-96). Our hope is that the Globelics Working Paper Series can become an instrument within the Globelics community for drawing attention to the great challenges of our times.

Has the Globelics research profile become too narrow?

Globelics stands for "Global Network for Economics of Learning, Innovation and Capacity building Systems". On its homepage Globelics is described as "an open and diverse community of scholars working on innovation and competence building in the context of economic development. ... It is a global network of scholars who apply the concept of 'Learning, Innovation, and Competence Building System' (Lics) as their analytical framework. ...The network's core field of study remains the role of innovation and of innovation systems as complexes of institutions that mold and support innovation in countries at different levels of industrialization."

This is a quite broad and general description of a research agenda. More specifically it may be described by a set 15 standard themes that serves as a point of departure for the formulation of the actual themes for the yearly Globelics international conferences:

1. Indigenous knowledge, informal sector, innovation and development
2. Work organization, education and economic development

¹ The background and motivation for this editorial note are presented in our short paper "[Research on innovation and development in the Anthropocene](#)" (Johnson, Lema, and Villumsen 2017). This note should be read as a follow up of the discussions in that paper.

² See [Johnson, Lema and Villumsen \(2017\)](#) for a definition and discussion of these challenges.

3. Inclusive innovation, gender and development
4. Science, technology and innovation policy and politics
5. Innovation, sustainable development and energy in the South
6. Financial institutions, intellectual property rights, innovation and development
7. National and regional innovation systems
8. Technological infrastructure and technological capabilities
9. Sectoral innovation systems, industrial policy and development
10. Technological systems, creativity, learning and innovation
11. Trade, FDI, value chains and innovation networks
12. Innovation, growth and catching-up
13. Government policy for innovation-based development
14. Organisational learning, firm capabilities, innovation and development
15. Innovation management and entrepreneurship

This research agenda has been quite stable over time and it reflects the priorities and conceptual/theoretical approaches that motivated the formation of the Globelics network from its beginning in 2002. These may be summarized in the following way:

- A double and integrated focus on the South and North as well as on South/North relations
- Recognition of the importance of and the need to study the relations between learning, innovation, growth and development
- A systemic view on innovation in which institutions are important
- Innovation seen as a process feeding on learning and competence development
- Recognition of the necessity to study innovation at the level of the firm as well as the sector, national and global levels
- The importance of both direct innovation policy and the ways other types of policy, like education policy, employment policy and labor market policy, affects innovation.

It is difficult to object to the importance of these themes and to the adequacy of the conceptual and theoretical approaches. Furthermore, it may be regarded as a quite ambitious agenda that amounts to something close to a rethinking of development from a learning and innovation perspective. But the world changes and some important issues now increasingly stand out as more or less absent from the Globelics agenda.

Even if the issues of “sustainability” and “social inclusion” have come a bit more in focus since the Globelics secretariat started to publish “Thematic Reports in 2012 and also occasionally have been highlighted in keynotes and special sessions, they still get surprisingly little attention in the Globelics research agenda. This has been documented in a bibliometric analysis of the 742 conference papers from 2011 to 2014 by Shagufta Haneef (2015). After carefully harmonizing the shifting conference themes she finds that 6% of the papers can be placed under “Innovation, sustainable development and energy in the South” and 5% can be placed under the theme “Agriculture, natural resources and innovation: implications for development outcomes”. However, only a minor part of this last group deals with sustainability issues. Finally 6% of the papers can be placed under the theme “Inclusive innovation, gender and development”. It would in our opinion be an exaggeration to claim that these issues have been highly prioritized in the conference papers.

An alternative way to illustrate the Globelics profile by looking at the conference papers is to search for specific words in the titles and abstracts. This, however, doesn't change the picture very much. Of the 900 papers presented since 2011 a search for "sustainability" and variants of the word gives a hit in only 3% of the papers. Concepts such as 'climate', 'planet*', 'biodiversity', 'carrying capacity', 'grand challenges' or 'global warming' are almost absent from the abstracts. Only "environmental" pops up in a minor part of the papers (3%) and within this group environmental problem is the main topic in very few papers.

Simply formulated, we think that the most important crucial challenges of present times are connected to a necessity of keeping the world system within a safe operating space that can be described by planetary boundaries regarding climate change, biodiversity loss, land-system change, altered biogeochemical cycles (for example the carbon cycle and phosphorous cycle), and so on. A better understanding of these challenges requires a rethinking of the notion of sustainability and what sustainable development amounts to in the Anthropocene.³

The suspicion that the sustainability of the present paths of economic development in the North as well as in the South is threatened, nationally as well as globally, is becoming stronger and stronger. This is expressed in several ways, by the UN Framework on Climate Change (UNFCCC), the COP conferences, the UN Sustainable Development Goals, in the EU Framework Programme for Research and Innovation - Horizon 2020, to name some of the most well-known. More and more often it is argued in these contexts that sustainable development requires social inclusion to mobilize support for the vast number of minor as well as major technical and institutional innovations on every level from the local to the global that seems to be necessary.

A renewed research agenda?

Every main area of research - natural science, engineering, social science, and humanities - is challenged by the grand challenges of our time. Our more limited point here is that a fairly multidisciplinary network of researchers operating in the intersection between innovation studies and development studies should be very well positioned to tackle some of the new sustainability challenges. But as demonstrated above this has not yet been done. The editors of the Globelics Working Paper Series want to participate in a renewal of the Globelics research agenda by calling for papers along the lines described here. In the admittedly limited perspective of the Globelics Working Paper Series the challenge is to stimulate research about how learning and innovation can help meeting the grand challenges of our time and support sustainable development in the Anthropocene. We do not primarily think about broad conceptual discussions addressing sustainability in the Anthropocene (even if that also is important in the present situation where traditional notions of sustainable development turn out to be inadequate) but more specifically on contributions, which utilize the existing research capabilities in the Globelics network. Contributions could address the following topics:

- Innovation and the UN Sustainable Development Goals
- Innovation and planetary boundaries

³ The notions of planetary boundaries and the Anthropocene are briefly discussed and defined in (Steffen et al. 2015).

- The relations between nature, natural resources, natural environment and technological change
- Inclusive innovation and sustainable development
- Limits to growth revisited (including the notion of degrowth)
- Geoengineering approaches to sustainable development
- Critical rethinking of the notions of sustainability and sustainable development
- Innovation, sustainable development and the global policy agenda
- Innovation and sustainable development at sector level, for example in agriculture
- Innovation, urbanization and sustainability
- Sustainability, innovation and the circular economy
- Global value chains, global innovation systems and sustainable development
- Innovation and environmental ethics, for example in terms of imagined communication between present and coming generations about innovation and sustainable development.

Papers could, of course, also relate to more than one of these topics. For example:

- Innovation and policies for meeting the UN Sustainable Development Goals and for restructuring to keep economic development within the planetary boundaries. What innovation policies, strategies and capabilities are needed?
- The relationship between environmentally sustainable development and inclusive innovation. What are the potential tradeoffs between the two and how may learning and competence-building turn tradeoff into mutual reinforcement?

Many of the topics listed above are not only crucially important but also very difficult to tackle. However, students of innovation and development are imaginative, we believe, and we look forward to include contributions to the issues we have sketched above in the Globelics Working Papers Series.

Finally, and to avoid misunderstandings: We don't imagine drastic short-term changes in the Globelics research agenda. Papers within the already established research agenda are of course still very welcome. But we firmly believe that the Globelics network has a role to play in meeting some of the massive new research challenges of sustainable development in the Anthropocene.

References

- Haneef, Shagufta. 2015. "Innovation and Development – A Bibliometric Analysis of Themes and Geographies in Globelics Conference Papers."
- Johnson, Bjørn, Rasmus Lema, and Gert Villumsen. 2017. "Research on Innovation and Development in the Anthropocene." Globelics Working Paper Series 2017-01.
- Lema, Rasmus, Bjørn Johnson, Allan Dahl Andersen, Bengt-Åke Lundvall, and Ankur Chaudhary. 2014. *Low-Carbon Innovation and Development. Globelics Thematic Review*. doi:10.5278/VBN/MISC/LCID.
- Steffen, Will, Katherine Richardson, Johan Rockström, Sarah E Cornell, Ingo Fetzer, Elena M Bennett, Reinette Biggs, et al. 2015. "Planetary Boundaries: Guiding Human Development on a Changing Planet." *Science* 347 (6223): 736. doi:10.1126/science.1259855.