



Zentrum für Entwicklungsforschung  
Center for Development Research  
University of Bonn

# ZEF STRATEGY 2015 - 2020



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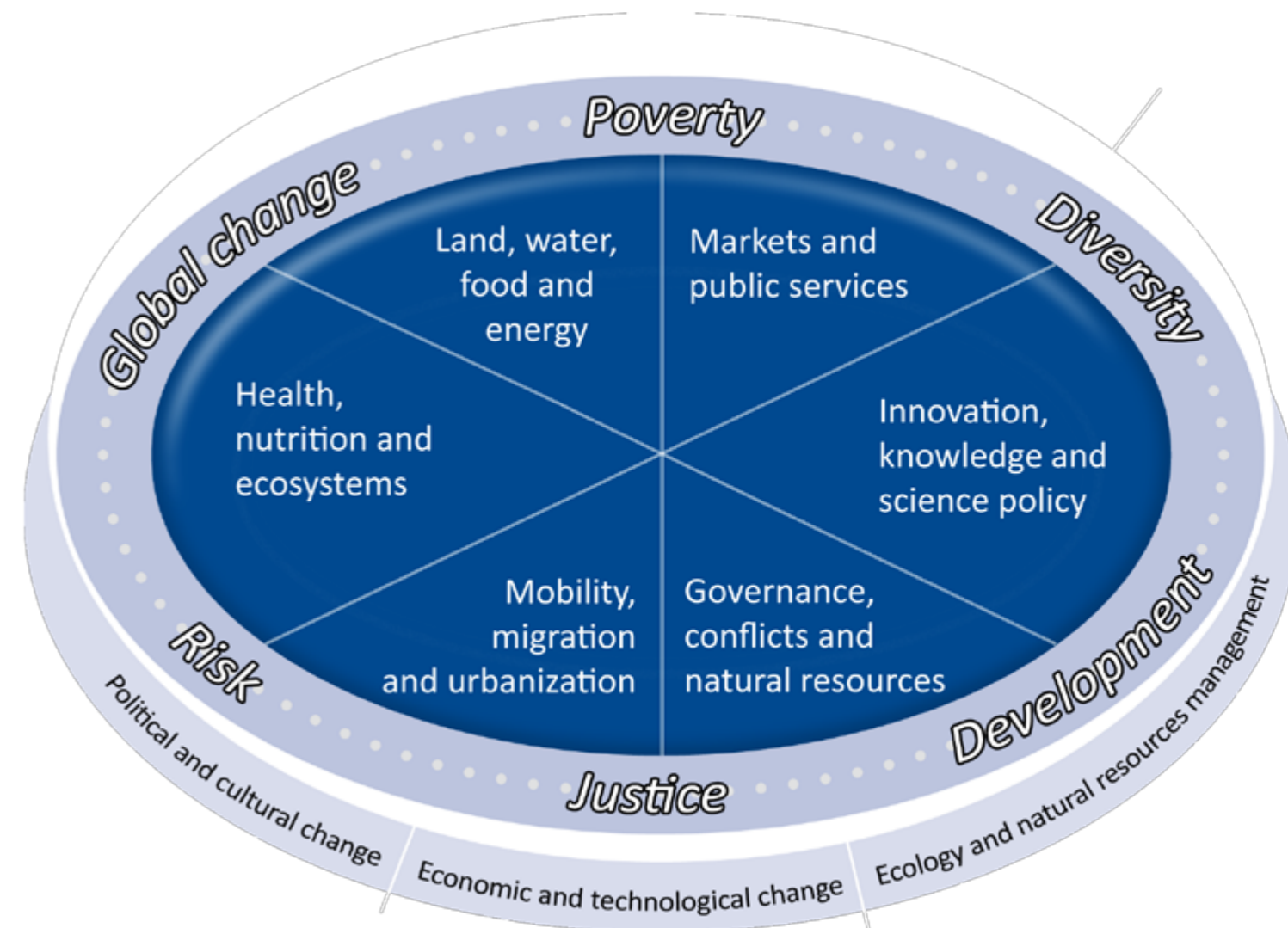
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ZEF is dedicated to development research in its different and interlinked components. The Center's core research areas are based on the disciplinary strengths of our three departments, as well as on our interdisciplinary expertise. In addition, we aim to ensure transdisciplinary stakeholder involvement across all research activities, i.e. in the definition of research topics and the perception of scientific findings at different levels with a view to their technical, political and societal implementation.

ZEF's six core research areas take the emerging United Nations post-2015 agenda into account which is succeeding the 2000-2015 Millennium Development Goals. In this regard, the six core research areas ensure the full thematic integration of ZEF's science program and contribute in a sustainable way to the Center's global Research and Development objectives which focus on global change, poverty reduction, justice, maintaining diversity, and risk management. ZEF's objectives are to be implemented via inter- and transdisciplinary research, emphasizing gender issues.

The manifold aspects of global change such as continued human population growth, climate change and geopolitical developments build an overarching frame under which the research agenda has been developed. As such, each of the six core research areas relates to the overall sustainable development agenda, while accentuating a specific bundle of topics on which a particular focus is set. All areas are closely interlinked and sometimes overlap thematically, also allowing for the continuous amplification of thematic arrangements beyond the given frame of the individual research area.



## 1. LAND, WATER, FOOD AND ENERGY

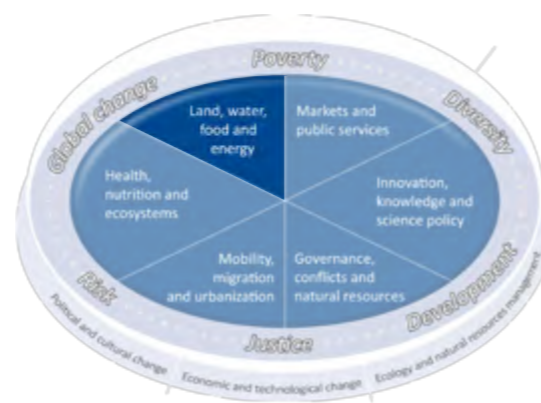


Research on land, water, food and energy is broadly based on new nexus thinking. Water and food security, the most basic human demands, are the central elements from which many other development demands derive. In our globalized world, these problems cannot be solved using purely national or regional approaches. We need to consider the sustainability of growth and the use of land and water for competing purposes. In parallel to the pivotal challenge facing human kind of reducing hunger and extreme poverty, the need to create and expand efficient systems of energy supply and use in emerging economies highlights the need for research on alternative forms of energy use, in particular the role of biomass.

We thus need to know more about trade-offs between biomass uses, such as food, fibers, and bioenergy production and between competing claims on inputs (including land), as well as about the social and environmental impacts of biomass production. Relevant related research topics include the application and actor-driven institutionalization of sustainable land use, the management of irrigation systems, enhancing crop yields, maintaining and improving soil

quality, reducing post-harvest losses, upgrading and diversifying value chains, and developing a more holistic view on agricultural production systems, particularly vis-à-vis their response to climate change and climate variability and their interactions with regulatory ecosystem services.

These aspects have major implications for rural development. In view of the projected human population growth rates in many developing countries, sound scientific data will have to be collected and analyzed regarding the allocation of land, fertilizers, water, technical equipment, innovation actions, knowledge, processing, and labor across these different types of use in order to assure food security and to facilitate sustainable development.



## 2. HEALTH, NUTRITION AND ECOSYSTEMS



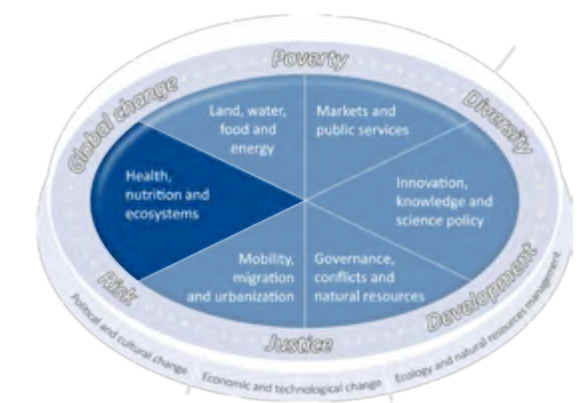
Health, nutrition, and ecosystems represent different but interconnected angles of a holistic view on development from a socio-ecological perspective, where the social and ecological systems are regarded as a single entity.

These items hold an intrinsic and instrumental value in this regard. Research on indicators for the resilience of socio-ecological systems is therefore crucial to a better understanding of the sustainability of such systems. This also includes research on agro-ecosystems and agricultural technologies and their linkages to human and ecosystem health.

The „One Health“ concept derives from the close interlinkages between human, animal, plant and environmental health. Of particular interest here are emerging infectious diseases that are often linked to global change, for instance in the case of land use change and its impact on pastoralism and the spread of zoonotic diseases. Nutrition constitutes another critical aspect of One Health, as under-nourishment in developing countries is often not only caused by a mere lack of food, but by insufficient access to micronutrients and unbalanced diets (hidden hunger). Functioning ecosystems

represent a vital precondition for the provision of ecosystem services on which human society depends, either directly or indirectly.

Understanding ecosystems and their components, as well as their biodiversity and intrinsic complexity, is key to the socio-ecological interface at which health and nutrition-related questions emerge, and to designing sustainable development strategies. Moreover, the ecosystem-environment-society relationship is a conjoint element that is also relevant in all other aspects of research on sustainable development.



### 3. GOVERNANCE, CONFLICTS AND NATURAL RESOURCES



Collective decision-making and governance as well as the absence of appropriate governance structures have a tremendous impact on development processes.

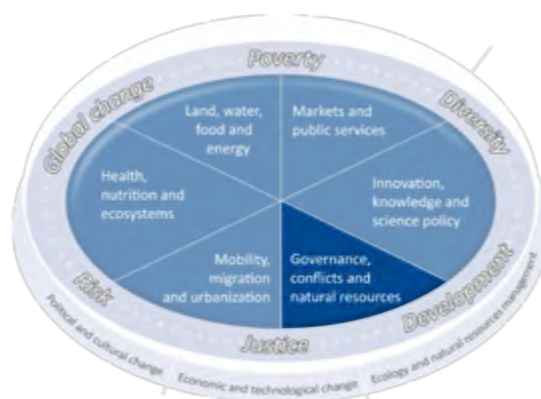
The assessment of centralized as well as decentralized, functional, organizational and segmentary forms of governance arrangements is pivotal in addressing the challenges of natural resources management, including the prevention and management of conflicts. Moreover, inequality is a major concern calling for inclusive development approaches.

The sustainable use and management of natural resources are the major linking elements between this and the other research areas. Focal topics are the supply and regulation of global and national public goods, including ecosystem goods and services, land tenure arrangements, and instruments to prevent and alleviate conflicts related to an unequal access to natural resources, including the relevant institutions and policy processes. Irreversibility and natural tipping points entail the need to use natural resources on sustainable scales and conserve the ecosystems that provide them by developing socially acceptable policies

and management strategies.

This requires a better knowledge of the implications of both global and local resource use, the livelihood strategies of local resource users as well as trade-offs and potential conflicts of interest amongst these users.

Based on this knowledge, we can formulate more appropriate policies and governance mechanisms and build a systematic evidence base for their evaluation. A relevant key here is the sound understanding of the relationship between governance structures and the role of institutions as well as their interplay and ability to anticipate, handle, and resolve conflicts.



### 4. MOBILITY, MIGRATION AND URBANIZATION



Mobility has many different facets, ranging from geographic, social, and economic to cognitive forms of mobility. Their complex determinants and consequences are studied as key elements for sustainable development. Mobile societies are quicker in adapting to changes but not necessarily in a beneficial and sustainable way.

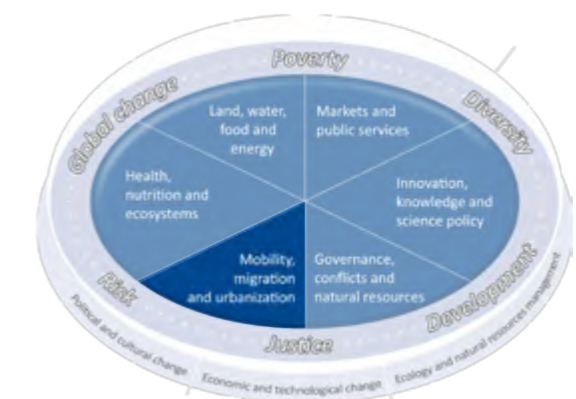
Migration is becoming an ever more relevant challenge, and strongly affects rural as well as urban and peri-urban societies. The number of refugees is increasing due to political and global change, violent conflicts, unsuitable living conditions and rampant food insecurity.

One issue of particular interest is the understanding of drivers of migration and the consequences of migration for local economies and livelihoods, as well as for the socio-ecological systems in general.

Within-country migration is one of the key determinants of urbanization, and growing urban and peri-urban areas with steadily increasing numbers of inhabitants are facing tremendous challenges related to food and water

security, health, governance, market structures and innovation.

Against the background of growing urbanization, research on urban and rural dynamics (i.e. land teleconnections) is required to identify potential intervention points for social sustainability.



## 5. MARKETS AND PUBLIC SERVICES



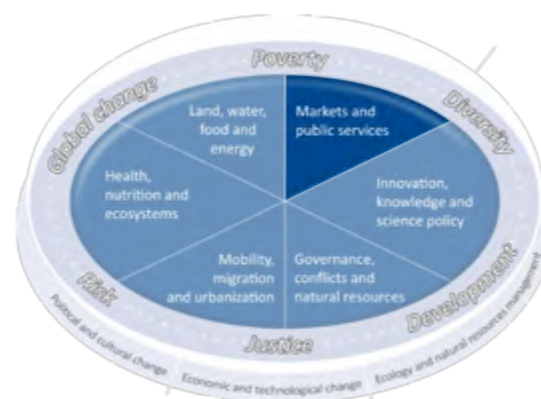
This research theme focuses in an inclusive way on the developmental roles of markets and the political, infrastructure, and institutional constraints on access to public services by the rural and urban poor.

Access to markets is a major precondition for farmers and rural landless people to overcome subsistence and to enhance their individual economic situation, making them more resilient to fluctuating boundary conditions as induced by global and national changes, for instance under international trade and investment arrangements and related regulatory regimes.

The development of markets is partly related to the expansion of public services, as the latter often serve as a precondition for people to participate in markets. Among public services, particular attention is given to information, education, social transfers, insurance, and health systems.

Furthermore, the relevance of a secure and constant supply of ecosystem services as an important component of public services is receiving increasing

attention worldwide and is creating new research areas at the nexus between social (-cultural) and ecological systems, also linking with other research areas such as climate change. Integrating the above mentioned components can contribute to the development of more holistic, inter- and transdisciplinary approaches to simultaneously tackle the challenges of poverty reduction and sustainable development.



## 6. INNOVATION, KNOWLEDGE AND SCIENCE POLICY



Innovations can have different facets, ranging from technical and institutional innovations to societal innovations such as new governance structures or incentive schemes. Research on processes leading to the generation, local contextualization, implementation and adoption of innovations is key to developing policy recommendations.

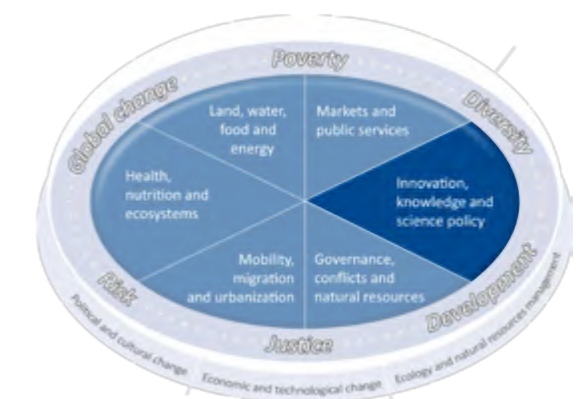
This is closely linked to the other five research areas but in particular provides application-oriented tools and approaches for the 'real-life' situations of practitioners, policy-makers or potential end-users.

It comprises research on the perception of new societal and ecological challenges across different stakeholder groups, on information and communication technology utilization, and on effective awareness-raising and capacity-building to foster the implementation of promising innovations in societies.

An interesting factor in this regard may be the development of broad-based, bottom-up innovation cultures in conjunction with science systems. Coherence between national and

international science policy initiatives is crucial for the success of these cultures – something to which our research aims to contribute.

As such, the generation and implementation of innovations can facilitate sustainable development measures targeted at the major societal challenges of poverty reduction, justice, and risks induced by global change.



## IMPRINT

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