### Sociology Sub-Project

Effects of urbanization processes on food supply systems from a development theory perspective

Cedric Janowicz: janowicz@isoe.de

### Economics Sub-Project

Significance of demographic shrinkage processes for institutional arrangements and resource management in supply systems, using the example of water supply systems

Alexandra Lux: lux@isoe.de

### Political Science Sub-Project

Conflicts over resources, competition between different sectors, and governance processes in regions with population growth (Middle East)

Diana Hummel: hummel@isoe.de

### Geography Sub-Project

Integrated water resource management/ migration/spatial distribution of populations and water transfers

Steffen Niemann: s.niemann@em.uni-frankfurt.de

### Biology Sub-Project

Evolutionary models of relations among organisms, populations, and resources of hominids in Southeast Asia, their modes of living and habitats.

Christine Hertler: c.hertler@zoology.uni-frankfurt.de



### **Project Phases**

**Preparatory Phase** 

March 2002 - August 2002

### **Interdisciplinary Problem Analysis**

September 2002 - February 2003

- Issues
- Specifying the theoretical framework
- Selection of supply systems
- Research design

### **Multidisciplinary Analysis/Theoretical Integration**

March 2003 - February 2006

- Treatment of disciplinary specific issues
- Empirical case studies
- Examination of theoretical concepts
- Further development of the concept of societal relations to nature

### **Transdisciplinary Integration**

March 2006 - August 2007

- Integration of results
- Completion of scientific qualifications
- Dissemination within the disciplinary discourses, social-ecological research and demography
- Specifying research desiderata

### Contact

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### Supplying the Population

Interactions Among Demographic Trends, Needs and Supply Systems



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Goethe-University, Frankfurt/Main.



# demographic trends, needs & supply systems

### **SUPPLYING THE POPULATION**

Interactions Among Demographic Trends, Needs and Supply Systems

### Issues

Population development worldwide was never as extreme as in the past century. While in 1900 the world population stood at 1.6 billion, within a hundred years it has grown to more than 6 billion. Today, population growth is taking place almost exclusively in the developing countries, while in almost all of the industrialized countries the population will decrease in the future. The present demographic trends are characterized by unprecedented declines in fertility rates and family sizes, improvements in mortality and life expectancy, demographic ageing as well as significant urbanization. These processes operate at different levels, affect different societies at different times and in different intensities.

More and more this heterogeneous and asynchronistic dynamics of global demographic processes, their causes and consequences, are becoming the focus of public discussion. As a result, people are becoming more conscious of the fact that changing birth rates and age structures, as well as migratory movements, do not only influence economic and social development but environmental changes as well. How many people in what age group live where and when, and where they migrate to, are questions that are a matter of critical concern for sustainable development.

#### **Overlapping Research Questions**

The core of the demons research project concerns social-ecological issues arising from the interplay of various demographic developments and transformations within supply systems. Research questions include:

- In what way do the goods and services provided by supply systems depend on the total number of people to be supplied, and on their needs, social status, consumer behavior and lifestyles?
- To what extent are size, distribution and structure of a population as well as different demographic processes relevant to the transformation of supply systems?
- What does a sustainable provision of goods and services mean in light of the heterogeneous demographic developments in different regions of the world?

### **Object of Investigation**

Water and food supply systems were selected as objects of investigation for the project. They are particularly important for the satisfaction of basic needs and are, at the same time, experiencing major changes worldwide. These two supply systems are examined in order to find out the extent to which population dynamics are relevant to social-ecological transformations of supply systems in general.

### **Project Goals**

The project seeks to contribute to a better understanding of the complex interactions between population dynamics and supply systems, thus making more precise claims about this network of interactive causality possible. In order to recognize the causes of regulatory failures, the dynamic dimensions that reinforce or weaken processes have to be identified. Possible solutions are developed on the basis of the results of the investigation.

### Project Design

The project is designed as a transdisciplinary project and combines theoretical work in discipline-centered sub-projects with historical and current case studies. In order to take the heterogeneity of the population changes into account, the discipline-centered sub-projects focus on specific demographic developments, centering on processes of population growth, population decline or migration. The results of the sub-projects are linked to more comprehensive questions and generalized theoretically. Here the point of reference is the concept of societal relations to nature.

### Junior Researchers Project

Researchers from various disciplines – biology, geography, sociology, economics and political science – work on the project. Members of the project use their research work to further qualify themselves, both in their own disciplines and as transdisciplinary researchers.