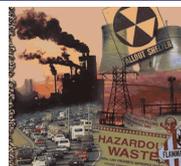


Example of research about links between, health, environment and vulnerabilities

Conference on Environmental Health and Social
Vulnerabilities
October 21 and 22, 2010, Namur

Prof. Dr. Claudia Hornberg
University of Bielefeld
School of Public Health
Bielefeld, Germany

Environmental Justice –



Principles and discussion from a
public health point of view

Core definition of environmental justice

Environmental justice seeks the **equitable treatment** and **involvement** of every person – regardless of race, color, national origin, educational level or income – in the development, implementation and enforcement of environmental programs, laws, rules and policies on a distributive, procedural and precautionary level.



Source: <http://www.enhis.net>

Environmental Protection Agency (EPA)

Environmental inequality.....

-has been defined as “the **unequal social distribution** of environmental risks and hazards and access to environmental goods and services” (Sustainable Development Research Network (SDRN) 2004).

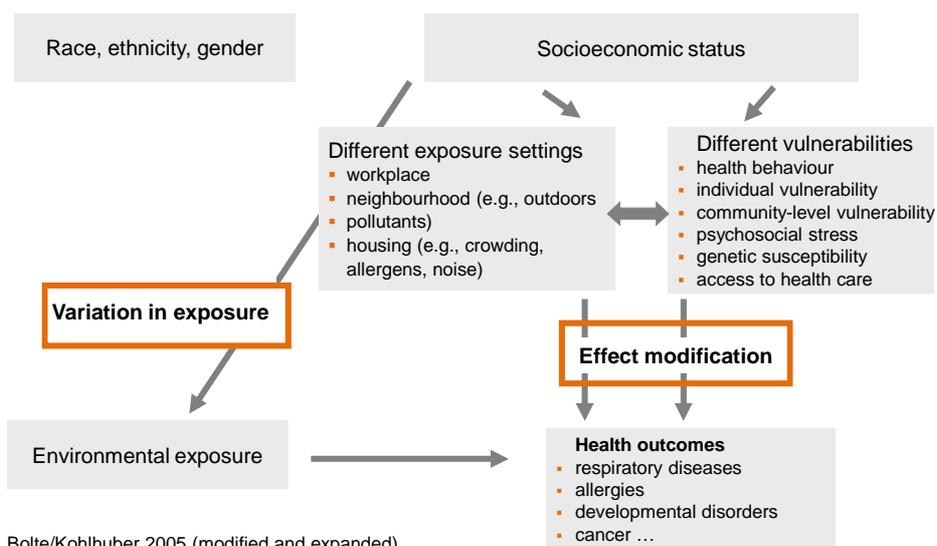
Environmental inequality – a real problem in Germany?!

- Problems associated with environmental inequality distress low-income, socially disadvantaged populations living in marginalised, segregated communities:
 - ▶ low-rent and low-quality housing,
 - ▶ residents bear a disproportionate burden of negative environmental impact (e.g., air pollution, noise, hazardous waste),
 - ▶ no places for physical activity, aesthetic problems, traffic- and crime-related lack of safety/security,
 - ▶ socioeconomic and neighbourhood stressors can make individuals more vulnerable to the pressures of poor environmental conditions and subsequent health effects



Quelle: BMU / Rupert Oberhäuser

A conceptual framework for understanding social environmental health disparities in Germany



Research Project (Sep. 2008 to April 2009)

- undertaken by the department of **Environment and Health** at the Bielefeld School of Public Health
- commissioned by the **Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU)** and by the **Federal Environmental Agency (UBA)**
- in context of the **Environment and Health Action Programme (APUG)**



Overall objectives:

- enhance stakeholder knowledge about the relevance of social and spatial distribution of inequalities in environmental resources and hazards
- suggest new approaches for
 - ▶ implementing environmental justice as a cross-sectional field of policy, science and practice
 - ▶ building interdisciplinary collaborative problem-solving capability
 - ▶ systematically addressing environmental inequalities

Project structure

Part I

A written stakeholder survey in the fields of environment, public health and urban social development on the issues of environmental justice and the relevance of environmental inequalities in programmes and projects.

Part II

A two-day conference in October 2008 linking the expertise of politics, research and practice at the interface of environment, health, urban planning and social affairs.



Part III

Recommendations and further development on how to consider the social dimension of environment and health in (environmental) policy, research and practice

Main questions

- **What** do we know about inequalities in environmental health in Germany?
 - ▶ What are the **key mechanisms** of and links between the environment, health and social inequalities?
 - ▶ **How** do environmental inequalities appear and
 - ▶ to **what extent** do they affect health and cause adverse health effects?
- **Who** (vulnerable groups) is most affected, and **where** are they (geographical location)?
- How does policy contribute to patterns of inequality and injustice?
- How can inequalities in environmental resources be **mitigated** or **eliminated**? We need to identify the key challenges to:
 - ▶ a policy framework at the national and local levels,
 - ▶ research,
 - ▶ public health and health service providers.

Key messages from the research project

Current state of knowledge, research
and policy options

Results of the two-day conference - Key areas of environmental inequalities in Germany

- 1. Housing and location of residence**
- 2. Indoors conditions and ambient air**
- 3. Fuel poverty**
- 4. Transport and mobility**
- 5. Open spaces and green areas**

1. Housing and location of residence – Key social determinants of health inequalities

- There is a strong association between the household income and how inadequate housing is perceived to be.
 - Low-income households in Germany are more often affected by:
 - ▶ substandard housing conditions with poor physical, chemical and social environmental living conditions, leading to increased environmental exposure at the individual and community level;
 - ▶ a high density of fast food outlets in the neighbourhood may correlate with higher rates of obesity; and
 - ▶ the perceived safety and attractiveness of the neighbourhood are associated with the degree of physical activity.
- There is some evidence linking differential socioeconomic health impact with housing improvement.
 - Research on the potential for longer-term health impact is underway.

Improving inadequate housing and residential conditions as a means of mitigating inequalities in environmental health

- Local authorities play a key role in setting local standards and regulations for healthy housing and neighbourhood conditions.
 - ▶ Health in communities with a low social index could be improved with better spatial planning.
 - ▶ There is a need for integrated regional planning considering the impact of existing inequalities.

There is some evidence for

- differences in socioeconomic health impact associated with neighbourhood renewal and housing improvement,
- the impact of housing- and residential-related policies on different socioeconomic groups, and
- longer-term health impact.

2. Indoors conditions and ambient air at home

- There is strong evidence that chemicals and physical or biological stressors in homes lead to human exposure.
 - Social differences are reported for indoors factors such as using fossil fuels for cooking and heating, dampness/mould, house dust allergens and endotoxins.
 - ▶ These are important health risks – particularly for children, older people, the unemployed, etc. – who spend long periods of time indoors, where they are exposed to potential hazards.
- ➔
- There is a need for specific action on indoors air quality as a part of the broader concept of “healthy housing”.
 - A Competence Centre for Indoors Air Hygiene is necessary, with stress on social inequalities.

Exposure of children to pollutants at home – Results of the **German Environmental Survey for Children** conducted by the Federal Environmental Agency (UBA)

- There is a link between the parents having a lower socioeconomic status and exposure of the children, and housing-related body burdens of pollutants have been found for:
 - ▶ passive smoking,
 - ▶ blood lead levels in children,
 - ▶ noise from traffic and leisure-time activities,
 - ▶ detergents such as disinfectants and sanitary cleaners.
- Children from **privileged households** bear the brunt of problems related to chemicals used in pest control, terpene concentrations in indoors air, and DDT in house dust.

Awareness of harmful types of exposure differs between social groups, so **advice** must be tailored for each group individually.

3. Fuel poverty – an emerging but serious problem

- At least 800,000 people in Germany do not have full access to modern and affordable energy,
 - ▶ and so spend **more than 10% of their income** on warming their home.
- There are strong inequalities between the energy costs of households by area of residence.
- Until recently, fuel poverty was rarely mentioned in policy debates.
 - ▶ The health impact of fuel poverty (e.g., cardiovascular diseases, pneumonia) was all but ignored.
 - ▶ Only a few approaches exist to ease the burden of fuel poverty households.
 - ▶ The existing energy advisory services often fail to reach low-income households because they do not meet the needs of this target group properly.

Improving heating in particular can lead to tangible improvements in health!

Tackling fuel poverty – measures and policies

Macrolevel: control energy prices, improve energy conservation.

Mesolevel: improve thermal efficiency, particularly in public (i.e., low-income) housing.

Microlevel: implement energy efficiency measures in households, as is done by **Cariteams** (Frankfurt am Main, Germany).

Cariteam Energy Saving Service

- Strategies to assist low-income households to reduce their energy costs
- based on:
 - ▶ check appliances and patterns of energy use
 - ▶ recommend reducing electricity and water consumption
 - ▶ use small energy-saving appliances such as energy-efficient (ergonomic) frame connectors with an on-off switch → disposed free of charge

4. Social aspects of mobility and transport

- Transport and access to mobility are a fundamental prerequisite for participating in public and social life.
- If the only affordable form of transport is walking, this may lead to important negative effects such as lack of access to services and facilities.
 - ▶ The elderly, people with health problems and those in low-income groups are likelier to experience transport-related social exclusion.
- Lack of mobility creates segregated housing and social isolation.
- **Challenges in reducing social inequalities in transport**

Make local authorities and the transport planning system at large aware of social exclusion issues.

Find new funds for innovative new public transport services, particularly in disadvantaged areas (both urban and rural).

Promote infrastructure and mobility management for better and safer conditions for biking and walking.

5. Open spaces and green areas – a crucial element of environmental inequality

Outdoors for all?

- There are inequalities in **accessibility** to and in the **conditions** of open spaces and green areas.
 - ▶ Determine **health behaviour** (e.g., physical activity).
 - ▶ Access to high-quality outdoors recreational areas mitigates factors which lead to disease in populations in a lower socioeconomic position.
- Support and make a safe green infrastructure at the local level through investment, long-term management and maintenance.
 - ▶ Include parks and green areas as a tool for reducing environmental health inequality in:
 - environmental health policy,
 - area-based public health action and
 - urban renewal programmes.

Recommendations of the research project

Addressing social and environmental
inequalities which cause poor health

Critical issues stemming from the research project

- Environmental health issues cannot be addressed without considering social issues.
- Health disparities are inextricably linked with inequalities in:



- across economic strata,
- across different regions and communities of lower socioeconomic status, and
- amongst population (sub)groups (e.g., minorities).

Thank you for your attention.

For further information please contact:
claudia.hornberg@uni-bielefeld.de

Developing an **environmental justice research framework** with

- more **consistent methods** to compare data (national/international) by
 - ▶ combining quantitative (e.g., human biomonitoring, noise mapping) and qualitative (e.g., participatory research) methods and techniques, and
 - ▶ using GIS-based socio-spatial analysis to map local environmental risks and resources and assess environment-related distribution effects in their complexity.
- Break **data** down by social categories and spatial scales (e.g., individual and community level) → theoretical multilevel perspective.
- Focus on **modifying** (environmental) health outcomes caused by socioeconomic factors.
- Systematically include race/ethnicity and socioeconomic position in environmental health surveillance.
- Consider and include **indicators** of multiple, cumulative and synergistic types of exposures and inequalities/deprivation.
- Use evidence-based methods to formalise assessment of environmental inequality within the Health Impact Assessment.

Challenges and opportunities for public health

- Advance area-based public health measures to improve daily living and residential conditions by considering the environmental dimension of social inequalities. This should be done by:
 - ▶ focusing on neighbourhoods in need,
 - ▶ supporting community-based **participatory processes**,
 - ▶ targeting not only exposures and **environmental hazards**, but also **environmental resources** and health benefits (e.g., contact with nature),
 - ▶ working with information and health promotion services related to **low thresholds** and **target groups**, and
 - ▶ putting an **integrative focus** on lifestyle, health behavior **and** environmental living conditions.
- Encourage integrated health, environmental and social reporting in Germany as a prerequisite for a rational, efficient and publicly effective implementation of policy.

Challenges for environmental health policy

- Engage federal, state and local agencies more **proactively** on environmental health disparities.
- Foster closer **cooperation** between different sectors (environment, transport, planning, health), levels (ministries, regional and local authorities, science, NGO's) and integrative programmes.
- Establish formal structures for sharing experiences and making better use of existing know-how and practical experience, e.g., a system for transferring good practice models.
- The complexity and range of social inequalities in environmental health indicate the importance of cross-sectional processes and cooperation.
- Information on environmental risks and resources should be communicated more clearly and be made more transparent to policy makers and the general public.