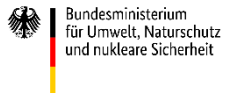


GLOBAL CLIMATE CHANGE AND MIGRATION

Peter van den Hazel, MD, PhD, MPH



Gefördert durch:



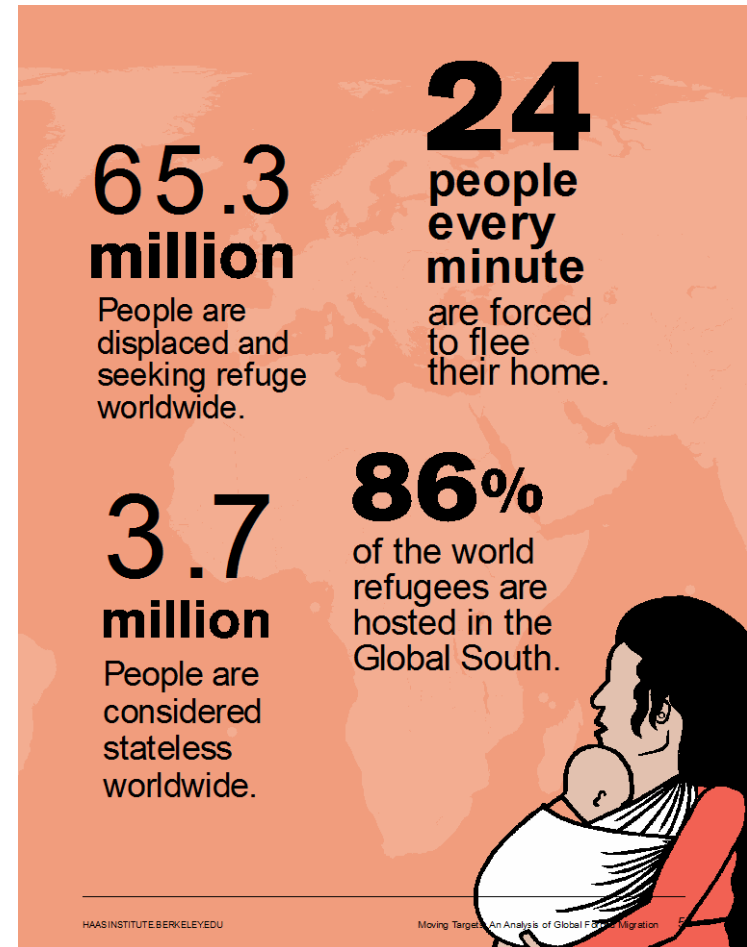
Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

aufgrund eines Beschlusses
des Deutschen Bundestages

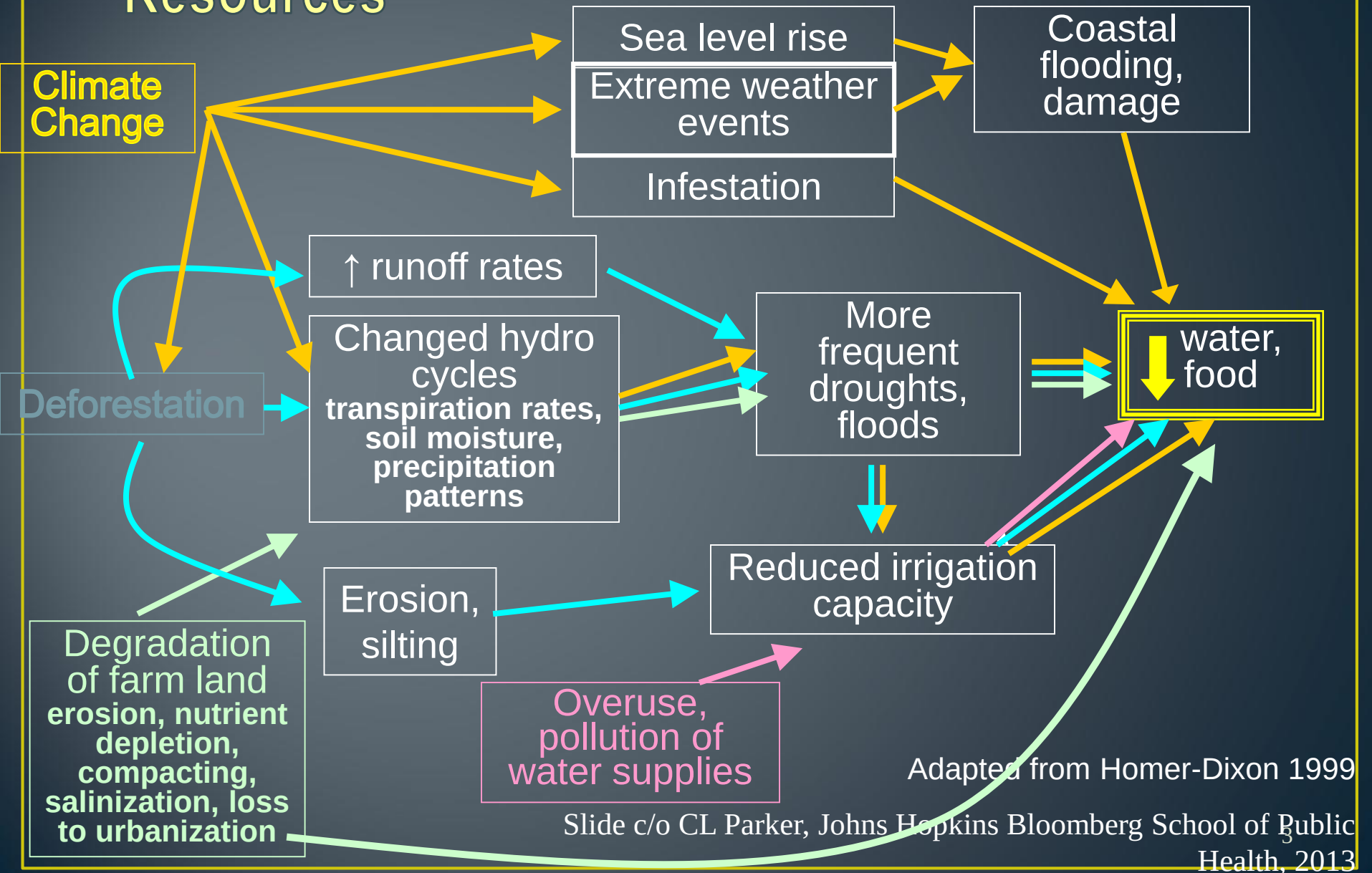
INTRODUCTION

- Climate change
- Displacement
- Health Impact
- Socio-economic Impact

Source: Haas Institute. 2017

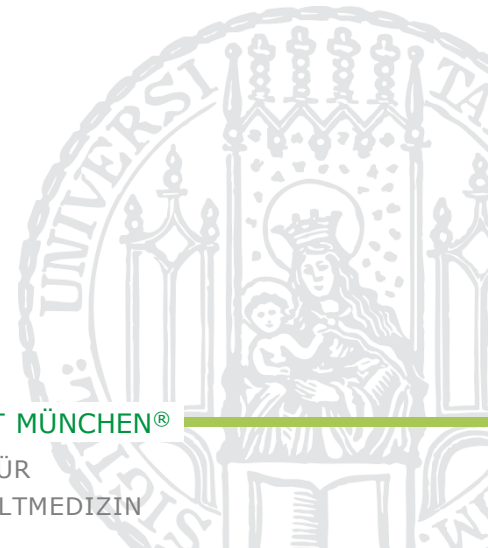


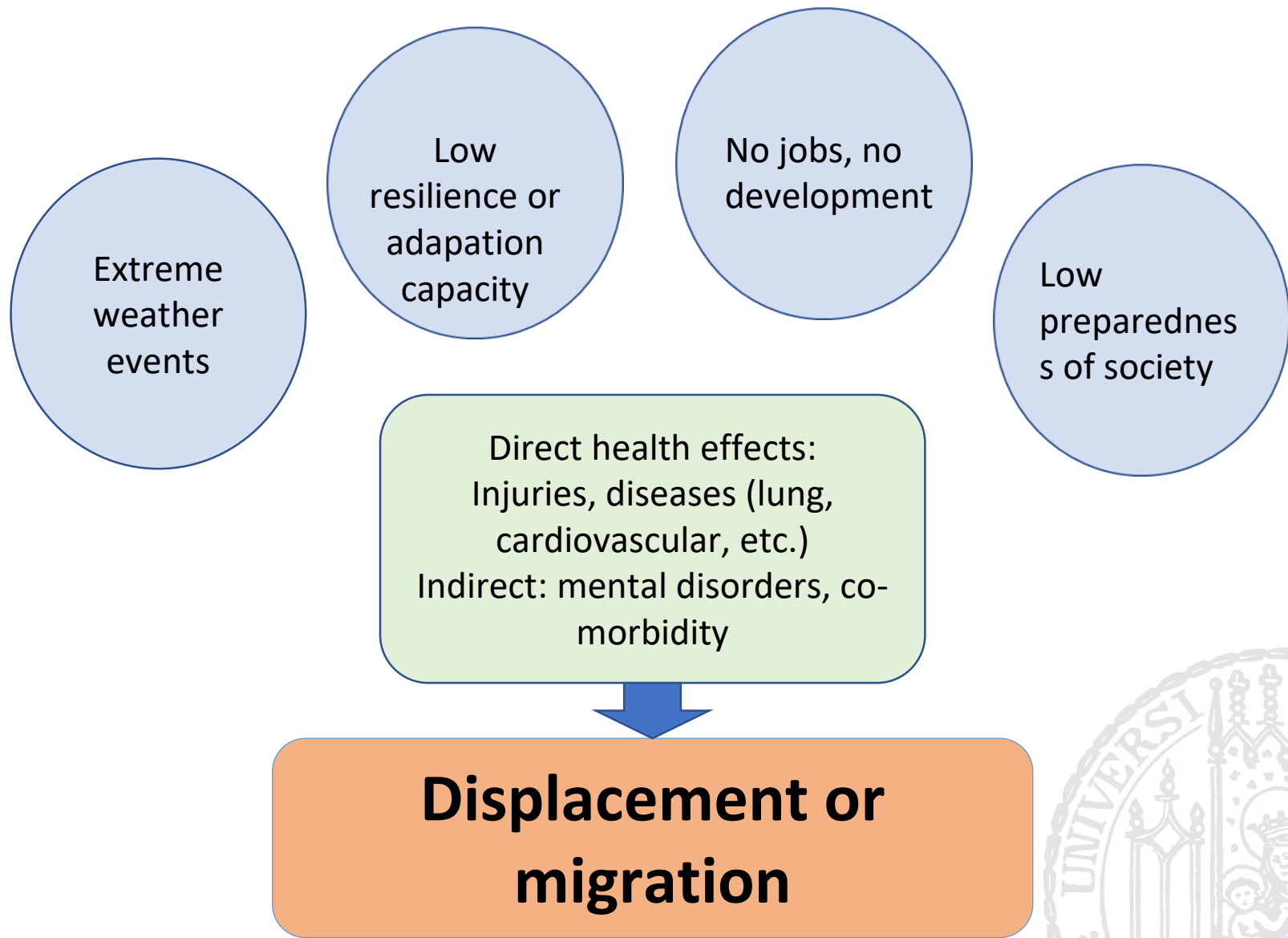
How Climate Change Affects Environmental Resources



ENVIRONMENTAL CHANGE

- Increasing intensity and frequency of natural disasters
- Changing weather patterns – i.e. seasonal changes
- Extreme weather events
- Desertification
- Competition for scarce resources
- Urbanisation





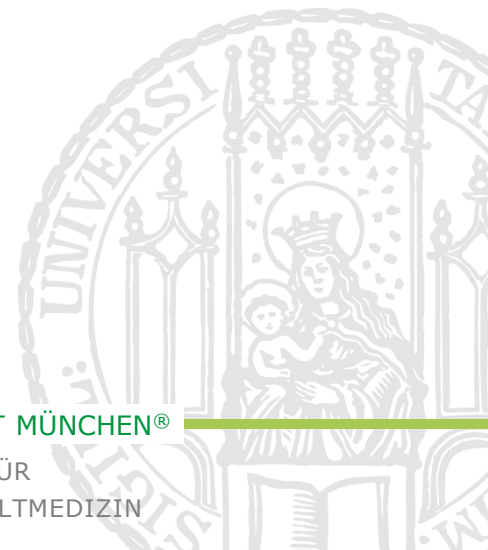
A WORKING DEFINITION

***"Environmental migrants** are persons or groups of persons who, for compelling reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad."*

IOM 2007

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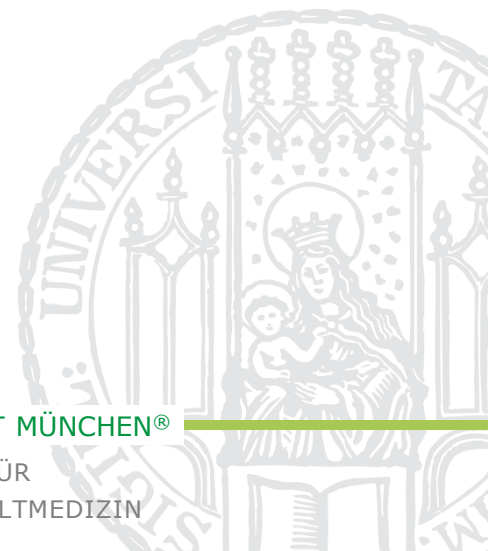


**Displacement or migration
can be a manifestation of
climate change vulnerability**



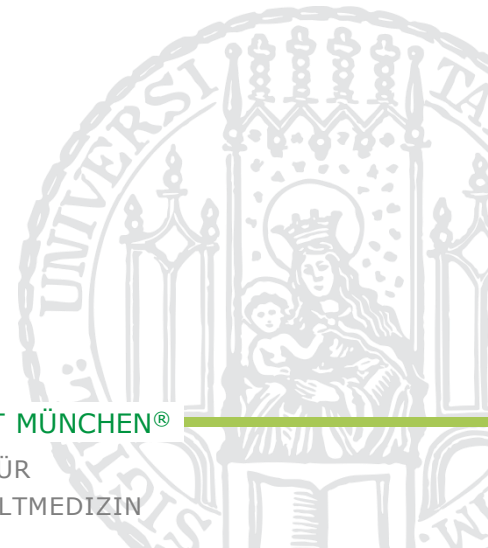
WATER AVAILABILITY

- 2.3 billion people live in water stressed areas
- 1.7 billion live in water scarce areas*
- By 2025: 3.5 billion people projected to live in water stressed areas
- 2.4 billion in water scarce areas*
- By 2100: 1/3 world risk of extreme drought**



WATER ABUNDANCE

- Flooding
- Mud sludes



FOOD SUPPLY AND CLIMATE CHANGE

- Grain yields ↓ by 10% for every 1°C ↑ in global average surface T°
- 2°C to 3°C ↑ likely; 3°C to 5°C ↑ possible
- Therefore 20% to 30% ↓ likely;
- 30% to 50% ↓ possible

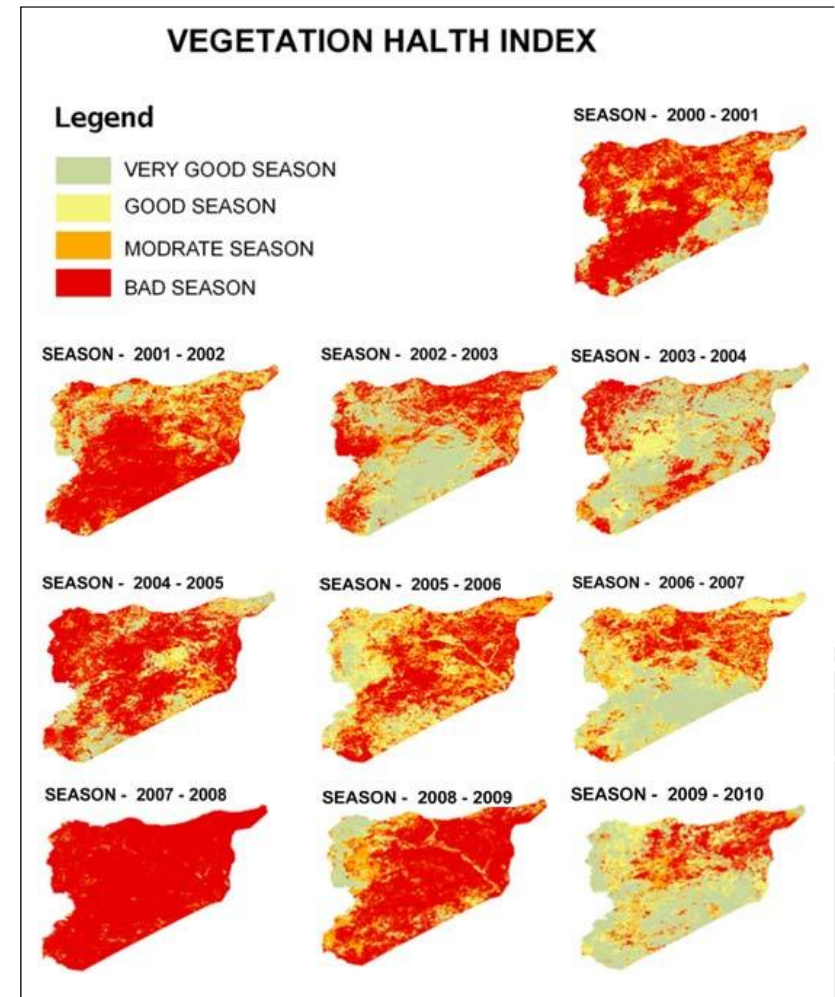


SYRIA VEGETATION HEALTH INDEX

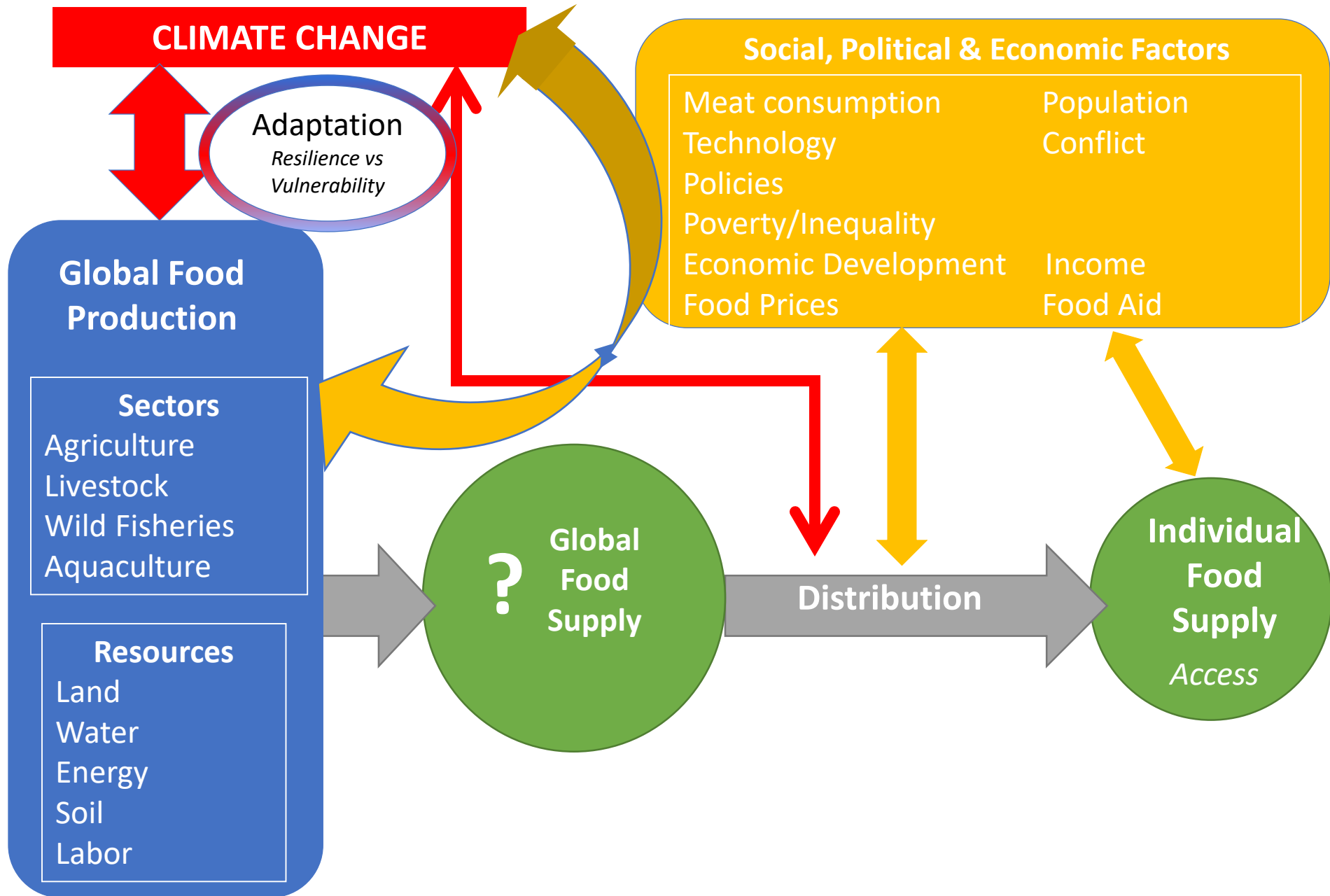
From 2006 to 2011:

- 60 percent of land affected by drought
- 1 million in 2007 with (75%) crop loss
- Herders sold animals for 60-70% below original price
- Required wheat importation for first time.
- Sandstorms were happening up to twice a week.

http://www.preventionweb.net/english/hyogo/gar/2011/en/bdocs_Erian_Katlan_&_Babah_2010.pdf



The Global Food System and Climate Change

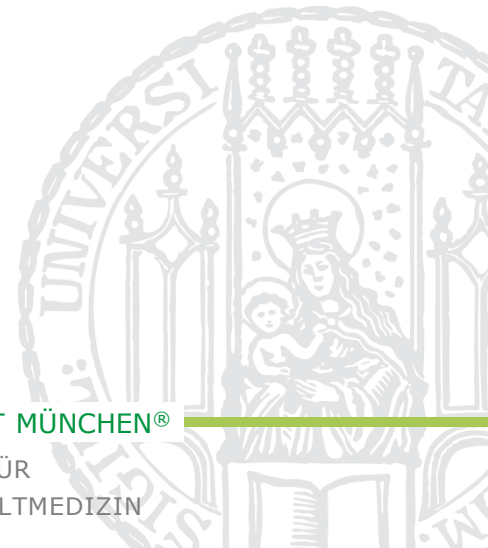


CONSEQUENCES OR CAUSES OF CLIMATE CHANGE MIGRATION



SOCIAL-MEDICAL IMPACTS

- Risks incurred during the movement phase
- Displacement onto more marginal lands / into hazardous and precarious conditions (e.g. urban slums)
- Prolonged displacement (e.g. in camps)
- Protection challenges (uncertainty of status)
- Challenges for those who stay behind
- Overcrowding causes rapid spreading of diseases



HEALTH IMPACTS

Climate change is potential driver that can shift the ecological niche for range of diseases

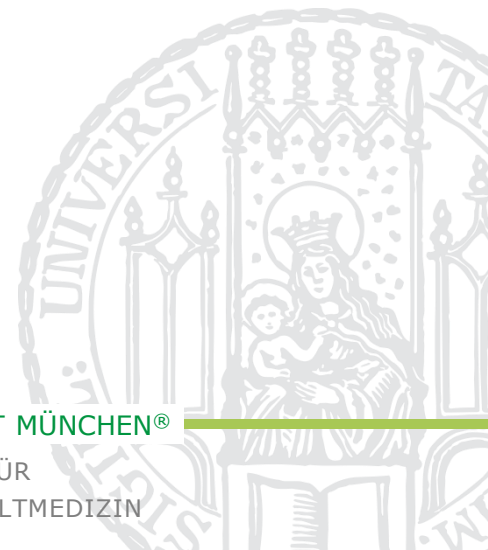
- new diseases
- anti-biotic resistance

Climate change caused disease outbreaks in areas that have not had experienced that disease before



ONCE ARRIVED - RISK FACTORS

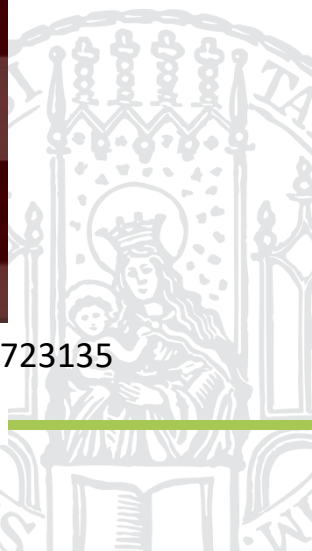
- Susceptibility to transmission and infection: Living, working, transit conditions
- Exclusion from awareness and health education
- Lack of access to health services: legal status, cost, distance, language, discrimination
- Less likely to seek timely and appropriate care: leads to late diagnosis which can result in
 - further transmission
 - increased catastrophic costs
 - and often return to origin health system
- Risk of default



EMERGING DISEASES

Year recognized	Disease	Infectious agent
New viral strain emerge periodically	Pandemic Influenza	Influenza virus
1967	Murbug hemorrhagic fever	Marburg virus
Before 1976	Salmonellosis	<i>Salmonella enteritidis</i>
1976	Ebola hemorrhagic fever	Ebola virus
1983	AIDS	Human Immuno-deficiency Virus
1983	Gastric ulcers	<i>Helicobacter pylori</i>
1989	Hepatitis C	Hepatitis C virus (HCV)
1998	Nipah encephalitis	Nipah encephalitis
2002	VRSA infection	Vancomycin resistant S. aureus
2003	SARS (severe acute respiratory syndrome)	SARS-associated coronavirus
2015	Zika	<i>Zika virus</i>

Source: <https://www.slideshare.net/ShaharulSohan/emerging-and-reemerging-infectious-diseases-58723135>



RE-EMERGING DISEASES

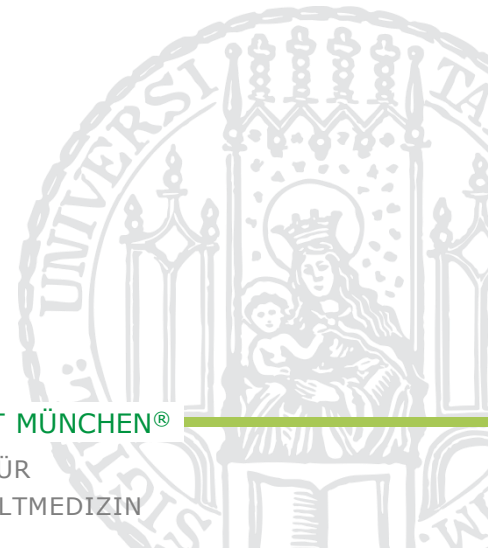
DISEASE	AGENT
DENGUE FEVER	Dengue virus
MALARIA	<i>Plasmodium</i> species (protozoan)
MENINGITIS	Group A <i>Streptococcus</i> (bacterium)
SCHISTOSOMIASIS	<i>Schistosoma</i> species (helminth)
RABIES	Rabies virus
CHOLERA	<i>Vibrio cholerae</i> 0139 (bacterium)
POLIO	Poliovirus
YELLOW FEVER	Yellow fever virus
TUBERCULOSIS	<i>Mycobacterium tuberculosis</i>

Source: <https://www.slideshare.net/ShaharulSohan/emerging-and-reemerging-infectious-diseases-58723135>

DISPLACEMENT

Mass population flows can create new vulnerabilities for mobile populations, as well as for their communities of origin and destination

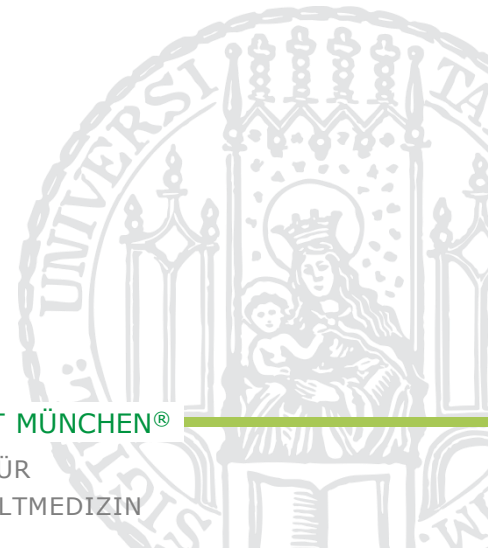
- During movement phase
- Displacement onto more marginal lands, urban slums, camps



OTHER DRIVERS

Environmental factors

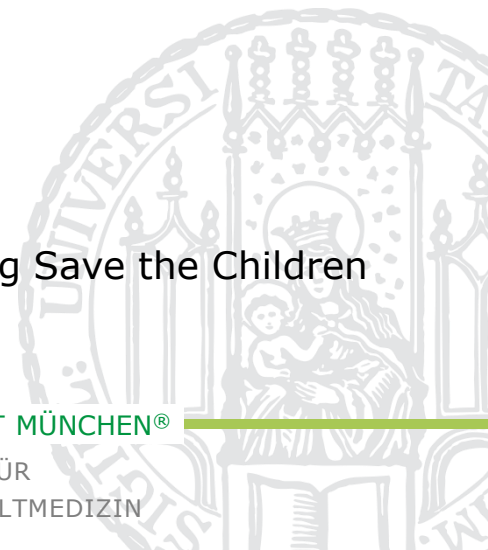
- Sudden onset
- Slow onset
- Environmental degradation
- Individual – Cultural – Social factors
- Political factors
- Economic factors



WHY CHILDREN AND YOUNG PEOPLE?

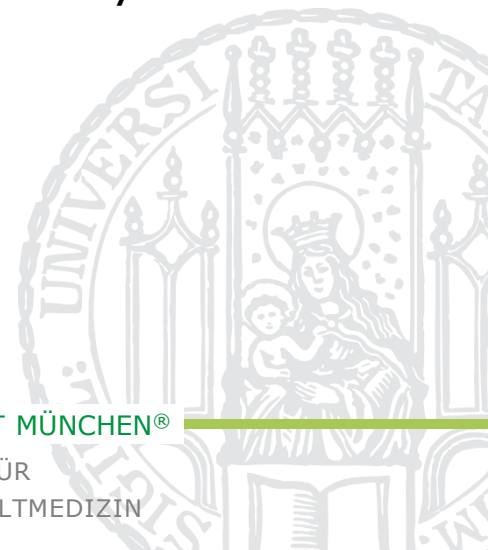
Ten years ago it was suggested that 175 million children would be affected by 'environmental change' and 'climate change' induced natural disasters....and as a result of this change be displaced.

Source: Legacy of Disasters; Children Bear the Brunt of Climate Warming Save the Children UK, 2000



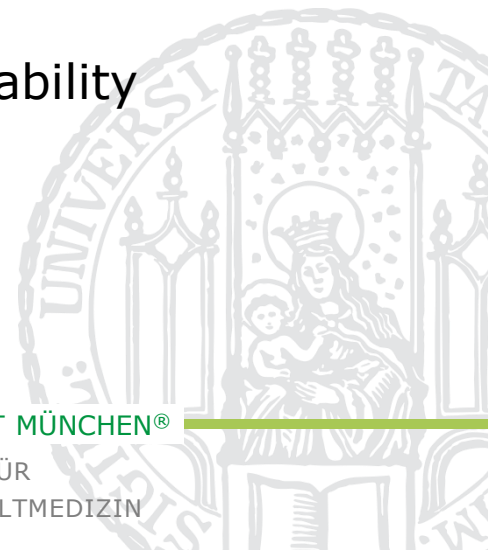
MIGRATION IN GENERAL

- Changing migration patterns – i.e. seasonal to longer term coping strategies
- Legal implications
- Competition for scarce resources
- Changing demographics – ‘Youth bulge’
- Youth – most mobile age group and increasing vulnerability
- Economic drivers

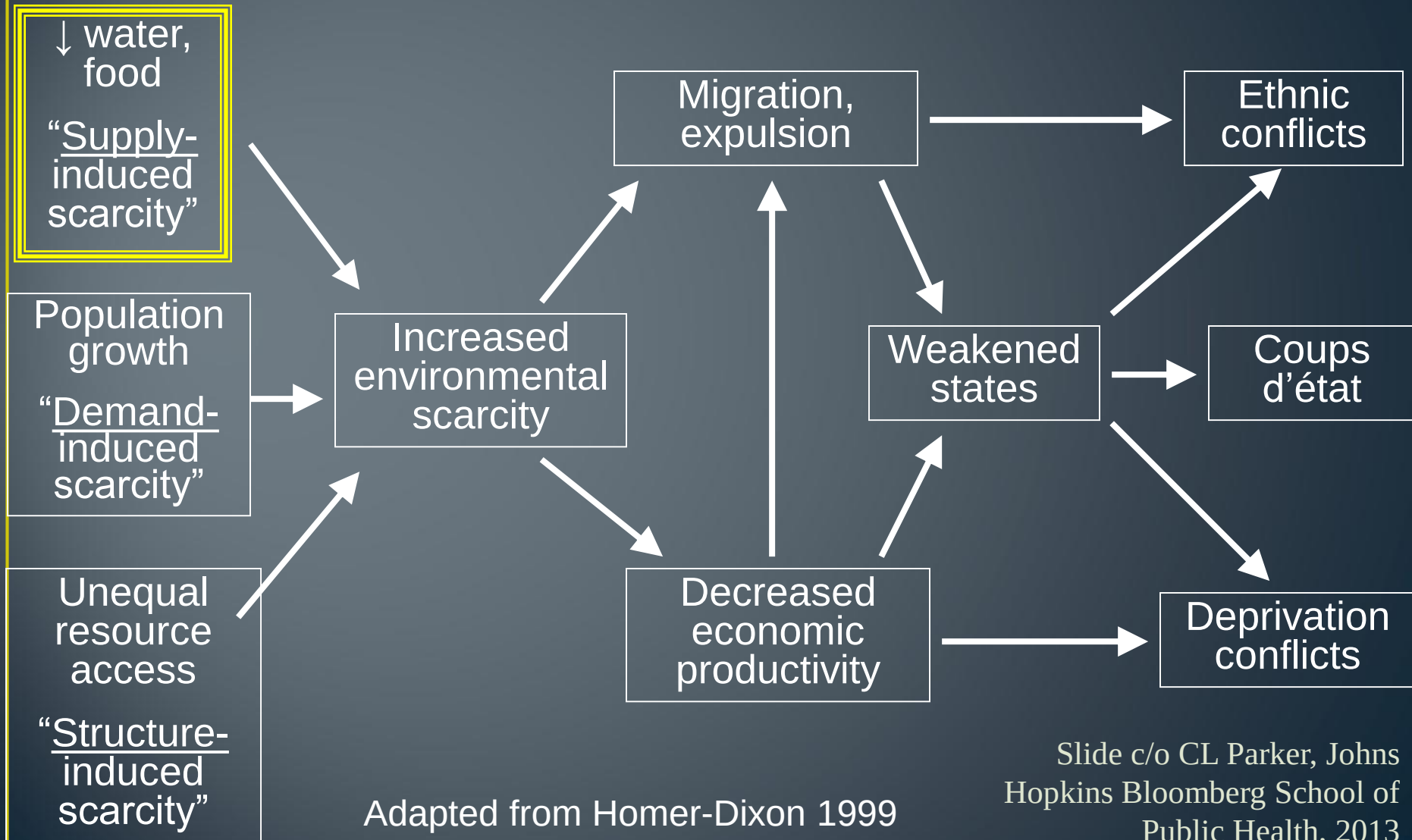


ENVIRONMENTAL CHANGE AND MIGRATION

- Increasing intensity and frequency of natural disasters
- Changing migration patterns – i.e. seasonal to longer term coping strategies
- Legal implications
- Competition for scarce resources
- Changing demographics – ‘Youth bulge’
- Youth – most mobile age group and increasing vulnerability
- Push-pull drivers (rural-to-urban and cross border)



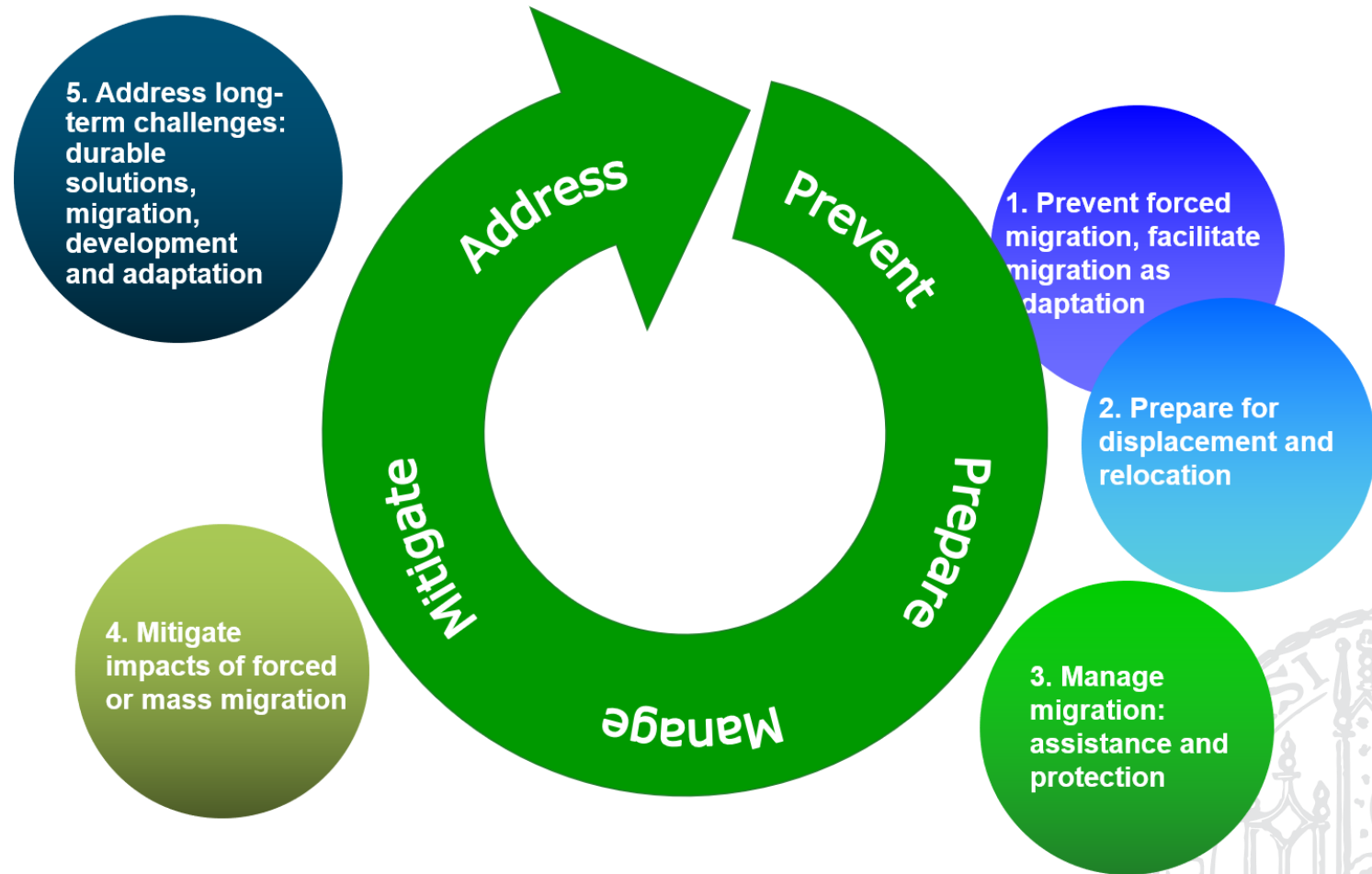
Environmental Scarcity and Conflict



Adapted from Homer-Dixon 1999

Slide c/o CL Parker, Johns
Hopkins Bloomberg School of
Public Health, 2013

MANAGING ENVIRONMENTAL MIGRATION



HIGH EXPOSURE TO CLIMATIC EVENTS
AND PROCESSES, COMBINED WITH
LOW RESILIENCE / ADAPTATION
CAPACITY LEAVING NO CHOICE BUT TO
MOVE



MIGRATION CAN ALSO BE A STRATEGY TO REDUCE VULNERABILITY TO CLIMATE CHANGE

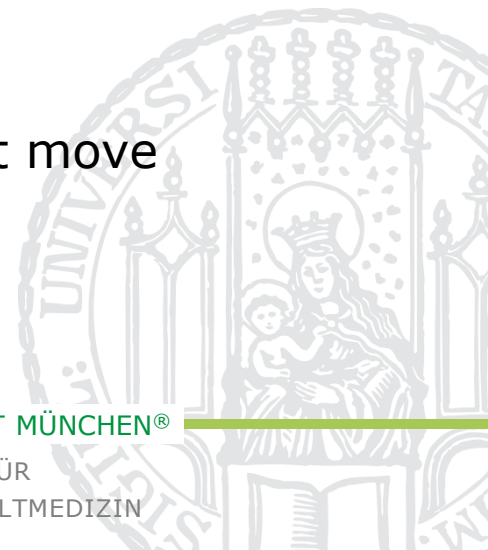
Migration as a **survival strategy**

- “last resort”, in the event of impending or acute natural disaster

Migration as an **adaptation strategy**

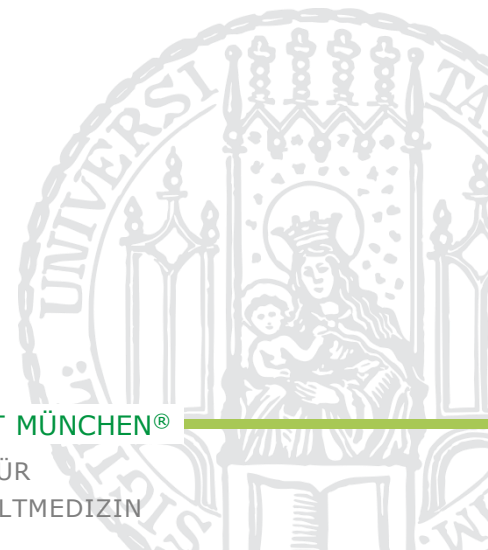
- manages risks
- reduces reliance on the environment for subsistence
- allows for livelihood and income diversification

Trapped populations → vulnerability of those who cannot move



HUMANITARIAN ACTION AND DISASTER RESPONSE

- a. Humanitarian emergency response to natural disasters
- b. Disaster risk preparedness and reduction
- c. Building community resilience
- d. Attenuation of resource-related conflicts



SOLOMON ISLANDS RED CROSS - NATIONAL YOUTH FORUM ON CLIMATE CHANGE

Youth participants commented that it is important that people know about and act on climate change and the forum was a good way of achieving that.

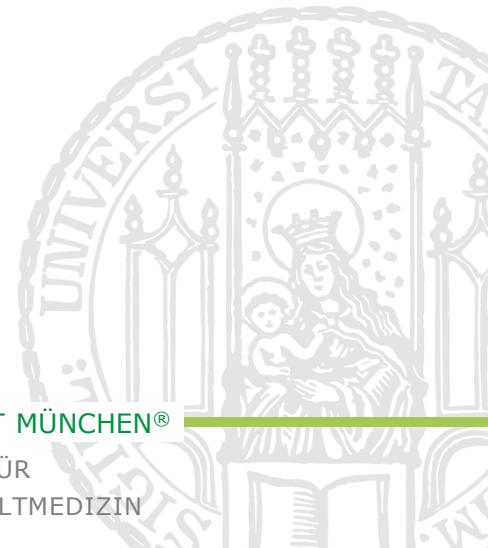
Youth leaders passionately stated:

“Climate change is a global issue and it requires a global effort. Youth can play a very important role in their communities, their country and their region. They will be the ones facing the impacts of climate change now and into the future so its important that they know the issue”.

RISKS YOUNG MIGRANTS FACE

Red cross addresses needs of the most vulnerable migrants including youth **regardless of their legal status.**

- Trafficking/ slavery/ sexual exploitation
- Smuggling
- Unaccompanied minors
- Health



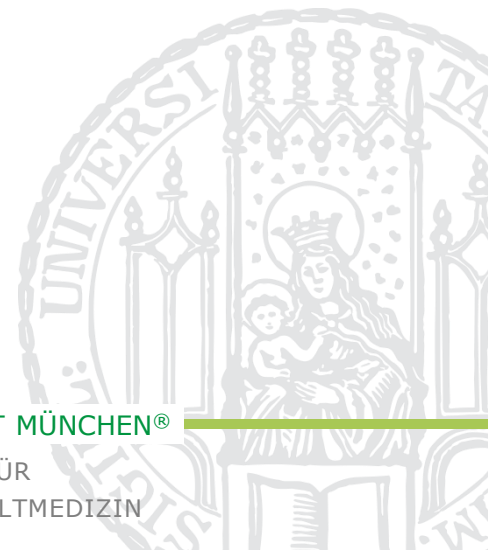
WHO PARTICIPATES IN DISASTER RISK REDUCTION AND ENVIRONMENTAL CHANGE STRATEGIES?

At what level?

- States
- NGOs
- Companies

Tasks

- Involvement in community resilience
- Peer education to influence communities
- Advocacy on climate change adaptation
- Advocate for access to clean and safe water

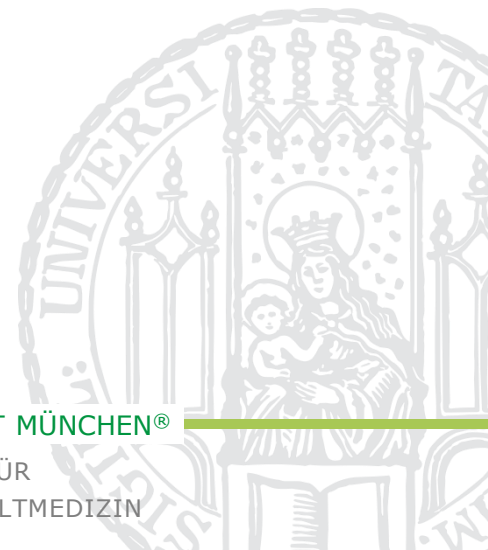


*Challenges demands an intergenerational response,
in which adolescents work alongside adults as integral partners in
decision-making.*

Source: The State of the Worlds Children 2011, UNICEF

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„Global Climate Change and Migration“





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