

IMPACTS BEYOND THE FACTORY FENCE

ENVIRONMENT AND HEALTH LINKAGES

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SOME CONTEXT

Globally

- Growing discourse on human rights impacts of climate change, e.g. Philippines petition

Locally

- Advancement of techniques like cost benefit analysis that attempt to financially quantify health outcomes of pollution and pollution reduction programmes
- Studies on health of communities in industrial areas
- Periodic water quality challenges and cholera outbreaks

The link between environmental impacts and health outcomes is being increasingly investigated and is likely to continue shaping future policy

HOW DOES THE ENVIRONMENT IMPACT ON HUMAN HEALTH?

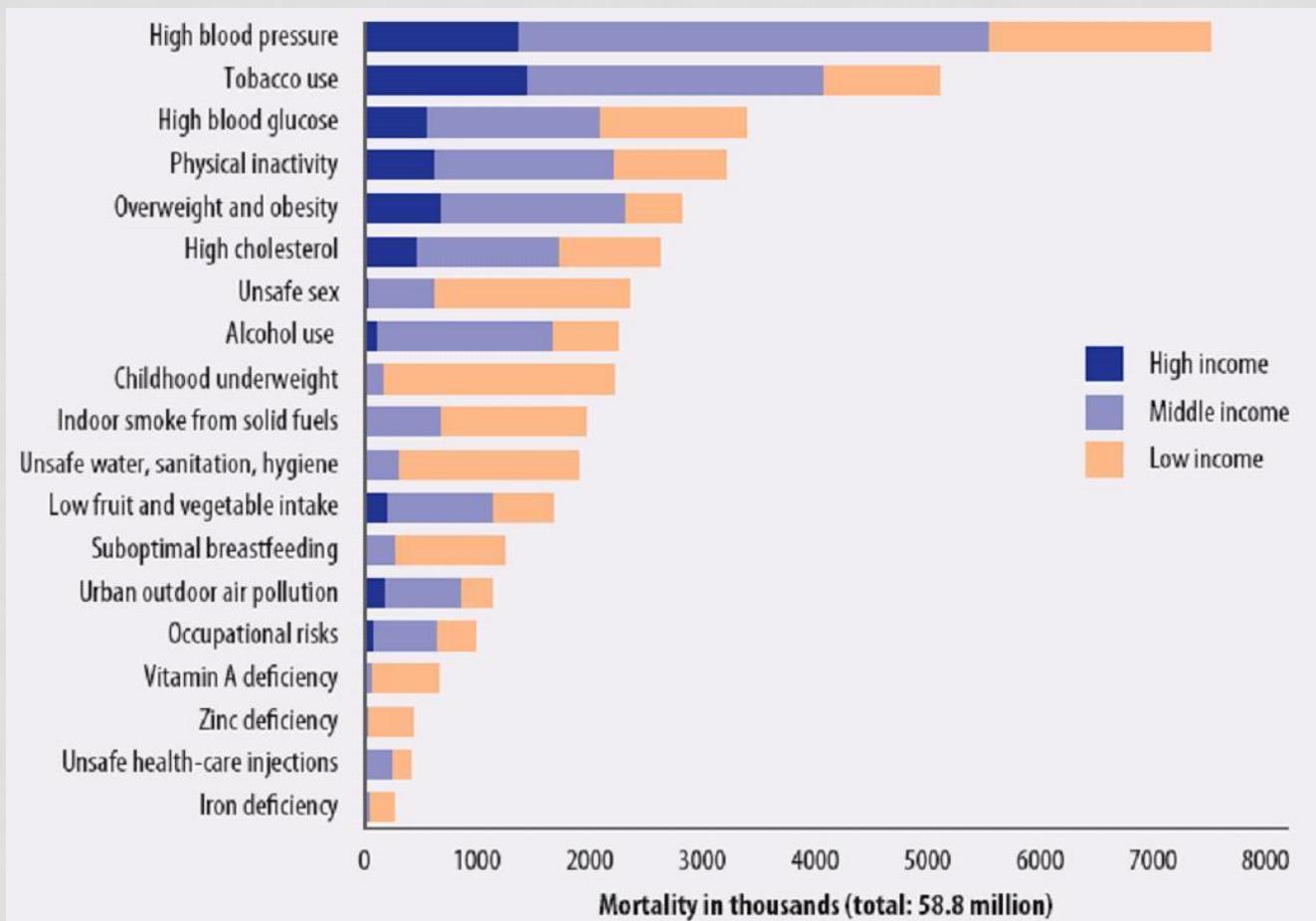
People are exposed to risk factors in their homes, work places and communities through:



“A healthy society and productive workforce play an important role in long term economic growth and sustainable development.

Environmental hazards place a burden on the country’s productive workforce in terms of days lost due to sick leave, lower productivity, invalidity and early retirement”

ENVIRONMENTAL HEALTH RISKS CONTRIBUTE TO MORTALITY



Source: Global deaths in 2004, World Health Organisation

➔ Link to environmental risk factors

INDUSTRY MAY CONTRIBUTE TO ENVIRONMENTAL HEALTH OUTCOMES BEYOND THE FACTORY FENCE

Risk factors

Receiving environment

Assimilative capacity

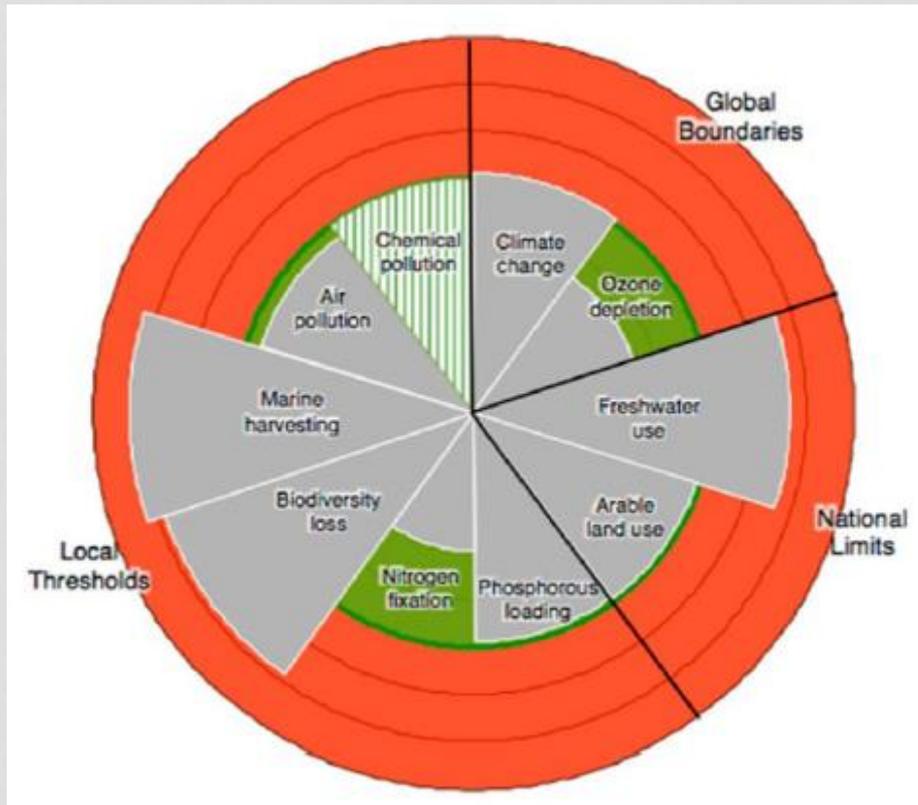
Pollution control and prevention



Environmental risk factors contribute to human health outcomes

- Industrial emissions to air, water and soil
- On the plant, this manifests as occupational exposure
- Non-industrial anthropogenic (human-induced) emissions to air, water and soil
- Non-anthropogenic sources
- Citizens (general community including employees) and the environment bear pollution impacts

ENVIRONMENTAL RISKS IN SOUTH AFRICAN CONTEXT



- “Safe and just” boundaries at the cusp, or exceeded, for many environmental resources in South Africa, which:
 - Limits the opportunity for sustainable development exploiting untapped resources, and
 - Compromises human health and well-being

SA REGULATION MITIGATES INDUSTRY'S ENVIRONMENTAL HEALTH IMPACTS

Occupational exposure to environmental stressors potentially impacting on health in the workplace

- In terms of the Occupational Health and Safety Act, regulations are established providing for the health and safety of persons at work, including environmental risks e.g. Hazardous Chemical Substances Regulations, Lead Regulations

Exposure to environmental stressors potentially impacting on health in the receiving environment due to industrial emissions

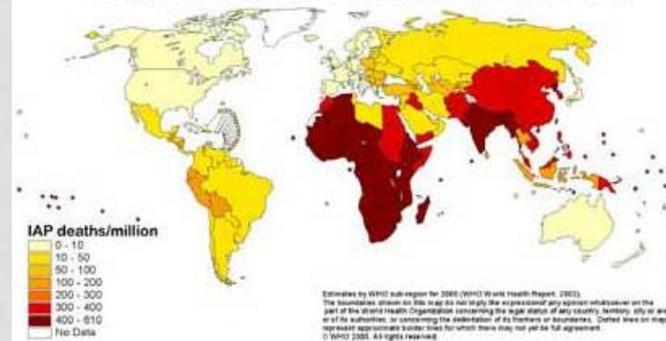
- Section 24 of the Constitution enshrines the right to an environment not harmful to health or well-being
- National Environmental Management Act (NEMA) introduces specific environmental management acts (SEMAs), along with National Water Act (NWA), to give effect to this right for various types of environmental degradation (air, waste, soil contamination, biodiversity, water and, going forward, climate change)
- Under the SEMAs and NWA various regulations, norms and standards prescribe permissible emission levels for defined industrial activities
- Licensing processes may introduce more stringent obligations
- In balancing various objectives the law is inevitably required to provide for permissible impacts on health and the environment

WHAT ABOUT NON-INDUSTRIAL SOURCES?

- “Polluter pays” principle established in NEMA requiring those contributing to environmental damage and adverse health effects to bear the cost of remedy
- Industrial sources typically the easiest to regulate – comprehensive regulatory system in place
- Non-industrial sources difficult to regulate and often arise from complex social challenges, e.g.
 - Service delivery short-comings (access to clean water, sanitation)
 - Poverty (domestic solid fuel burning)
- These sources are not insignificant in impact:
 - <10% of sewage works are adequately operated and maintained, leading to pollution of our water resources, and the spread of water borne diseases
 - ~40% of drinkable water lost to leakages
 - It is estimated that 80% of the contribution to high ambient concentrations of particulate matter in the Vaal Triangle derives from non-industrial sources



Deaths from indoor smoke from solid fuels



OFFSETS ENABLING COMPLIANCE

- *“An environmental offset is an intervention, or interventions, specifically implemented to counterbalance an adverse environmental impact of land-use change, resource use, discharge, emission or other activity at one location that is implemented at another location to deliver a net environmental benefit.”*
- Opportunities to:
 - mitigate adverse environmental impacts of new developments through the EIA process; or
 - Achieve compliance for pre-existing industrial activities when new norms and standards are introduced

POLICY SUPPORT FOR OFFSETS IN GLOBAL CONTEXT

- USA EPA “Supplemental Environmental Projects (SEP) policy
 - “Environmentally beneficial projects which a defendant/respondent agrees to undertake in settlement of an environmental action but which the defendant/respondent is not otherwise legally required to perform”
- Australian EPA January 2006 position statement 9
 - Offsets can be included where appropriate as part of approvals for environmentally acceptable projects
 - Where offsets form part of the considerations applicable to an EIA, development proponents are required to put forward commitments for offsets as part of the proposal

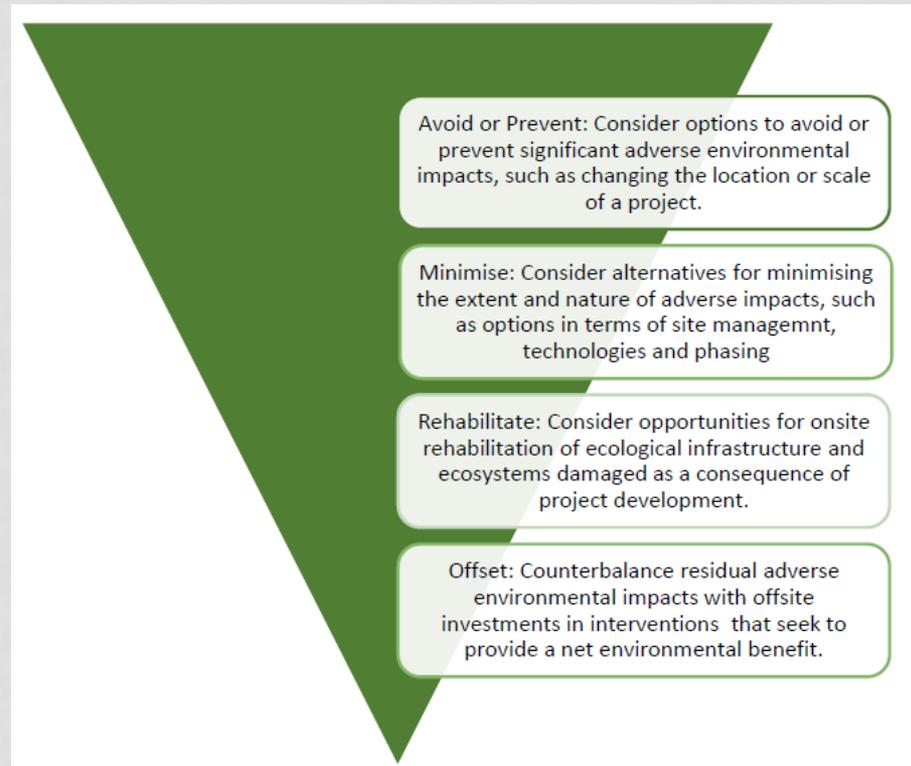
SUPPORT FOR OFFSETS EMBEDDED IN NEMA

- The Constitution guarantees a right to the protection of the environment through the application of measures to prevent ecological degradation, promote conservation and secure ecologically sustainable development
- NEMA principles include sustainable development and "polluter pays"
- NEMA also imposes the duty to prevent, minimise and rectify pollution and degradation. In considering applications for environmental authorisation under NEMA, authorities must take into account all relevant factors, including mitigation measures
- EIA Regulations require consideration of alternatives, in which options are weighed up and decisions taken with the intention that environmental impacts are minimised in the face of development. Where there isn't an alternative that prevents environmental damage, mitigation of the damage caused is required (mitigation hierarchy concept)
- Offset mechanisms explicitly mentioned in policy papers for air quality, climate change, water and biodiversity management
 - Air quality offsets guideline – March 2016
 - Draft national biodiversity offset policy – March 2017
 - Draft regulations on carbon offsets – June 2016
 - Water offset concept framed as water partnerships by DWS, and could be linked to Green Drop, Blue Drop and No Drop programmes

OFFSETS ACCORD WITH THE MITIGATION HIERARCHY

How much can / should be offset?

- Offsets can be considered a form of mitigation, and part of a hierarchy of mitigation measures
- They should not substitute for meaningful onsite mitigation – all reasonable onsite measures to be implemented first
- At the bottom of the hierarchy, offsets could be applied to mitigate the remaining adverse impact on the environment after appropriate avoidance, minimisation and rehabilitation measures have been taken



Because offsets expand the set of initiatives that can be implemented to achieve the desired outcome, these may represent more cost-effective interventions than onsite mitigation

BUSINESS CASE FOR OFFSETS

- In time, offsets may form a legitimised longer-term compliance mechanism contributing to a compliance roadmap (and hence, to environmental health management) where onsite mitigation is increasing challenging to achieve
 - At present, limited investment certainty exists, since offsets as a formal mechanism contributing to longer-term compliance is not expressly evident, particularly for water and air quality
 - Carbon offsets currently the most likely to obtain longer-term recognition
 - Engage in the policy commenting processes to give effect to clear regulations with a quantifiable business case – a win-win for business and society
- However, as investments with shorter-term drivers, offsets represent a viable prospect
 - Examples of offsets or similar initiatives are being included in authorisations as well as in licences by authorities, as part of formal review processes

CASE STUDIES

- Western Cape Provincial Department of Transport and Public Works - Shaw's Pass biodiversity offset as a condition of environmental authorisation, to construct through an ecologically sensitive area
- Isibonelo open cast coal mine – authorisation granted, impacting on a wetland, on condition that an equivalent area of wetland be rehabilitated in the same catchment area
- Sasol-GiZ Boloka Metsi project to reduce water losses through leakages in Emfuleni Municipality in support of security of supply initiatives (voluntary)
- Air Quality Offsets Guideline (2016) contemplates local air pollution offsets as a condition of the granting of postponements to extend compliance timeframes related to the Minimum Emissions Standards in priority areas; a number of successful applicants required to implement offsets

THANK YOU