Trondheim Conferences on Biodiversity 2007 - Session 4: Biodiversity and Poverty: Obstacles and Opportunities

**Biodiversity, Traditional Medicine and Health**

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Overview

1. **Biodiversity** - an important health determinant

2. **Traditional medicine** strategy for better health

3. **Health** opportunities through intersectoral action for sustainable environment and development
Biodiversity - an important health determinant
Ecosystem services and human well-being

Supporting services

Well-being

Freedoms and choices

Addapted from MEA, 2003
Example:

Interventions against some of the big killers in children under five

**Pneumonia** - antibiotics (e.g. penicillines and erythromycine) derived from fungi and soil

**Malaria** - antimalarials (e.g. quinine or artemisinin derived from plants) or prevention (bednets with the natural pesticide pyrethroid)

**Diarrhoea** - clean water supply, duly purified by forest soils,

**Malnutrition** is prevented or overcome by the production of adequate and varied food.
Determinants of health

- Biodiversity
  - Ecosystem services

Environmental Determinants

Individual/Family related Determinants

- Health hazards
- Health promotors

Institutional Determinants

Well-being

Poverty

Health status

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Determinants of health

- Environmental Determinants
  - Biodiversity
  - Ecosystem services

- Individual/Family related Determinants
  - Health hazards
  - Health promotors

- Institutional Determinants

Well-being
Poverty

Health status
Biodiversity and sustainability

A growing herbal market/ great commercial benefit

Threat to biodiversity

Over-harvesting of the raw material for herbal medicines and other natural health care products.

No control  ➔ extinction of endangered species and the destruction of natural habitats and resources.
In Eastern and Southern Africa, the sustainability of wild stocks of the **African potato** (*Hypoxis hemerocallidea* — formerly *H. rooperi*) is threatened because widespread publicity about the use of the plant in treatment of **HIV/AIDS** has boosted demand for it.
The DPSEEA model

Modified from WHO, 1997

Development

Driving forces

Environmental Pressure

Environmental State

Human Exposure

Health Effect

Action

Economic, social policies, clean technology

Hazard management

Environmental improvement, pollution monitoring and control

Education, awareness raising

Treatment, rehabilitation

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Traditional Medicine strategy for better health
What is Traditional Medicine (TM)?

Why is TM so widespread?

Responding to the popularity of TM/CAM – WHO’s TM Strategy
What is traditional medicine?

**WHO working definition**

TM refers to health practices, approaches, knowledge and beliefs incorporating **plant**, **animal** and/or mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to **maintain well-being**, as well as to **treat, diagnose and prevent illnesses**

**TM = CAM**

Traditional Medicine = Complementary and Alternative Medicine
Why is TM so widespread?

In developing countries

Accessibility and affordability

Firmly embedded within wider belief systems
Malaria treatment in Ghana with herbal medicines is considerably cheaper than other forms of health care.

- **Clinic**: USD 1.60
- **Self treatment (drugs from store)**: USD 0.35
- **Self treatment (herbs)**: USD 0.10

Ahorlu et al., 1997 (in WHO, 2002)
WHO has estimated that approx. 80% of the world’s population from developing countries rely mainly on traditional medicines – mostly derived from plants – for their primary health care.

Plant products are also important for the remaining 20% in developing countries and in the industrialized world.
Use of TM for primary health care is extensive in some developing countries

- Uganda: 60%
- Tanzania: 60%
- Rwanda: 70%
- India: 70%
- Benin: 80%
- Ethiopia: 90%

WHO, 2002
Responding to the popularity of TM/CAM

The WHO TM Strategy

In 2002 the World Health Organization (WHO) realized that to maximize the potential of TM/CAM as a source of health care, a number of issues must first be tackled. They relate to: **policy; safety, efficacy and quality; access; and rational use**

WHO defined its role in TM/CAM through the TM Strategy

http://www.who.int/topics/traditional_medicine/en/
Responding to the popularity of TM/CAM

The WHO TM Strategy

The strategy is designed to assist countries to:

- Develop **national policies** on the evaluation and regulation of TM/CAM practices;

- Create a stronger **evidence base** on the safety, efficacy and quality of the TAM/CAM products and practices;
Responding to the popularity of TM/CAM

The WHO TM Strategy

The strategy is designed to assist countries to:

- Ensure **availability and affordability** of TM/CAM including essential herbal medicines;

- Promote **therapeutically sound use** of TM/CAM by providers and consumers;

- Document traditional medicines and remedies.
Responding to the popularity of TM/CAM

The WHO TM Strategy - 2002

The challenge in the context of this conference theme

Ensure availability and affordability of TM/CAM including essential herbal medicines;
Ensure availability

The probability of any plant species giving rise to a successful drug is between 1 in 10,000 and 1 in 1,000

Estimated number of plants likely to be extinct in the next 50 years vary – the figure of 60,000 is widely quoted

= between 6 and 60 of the disappearing species could have significant values

Principe, 1991
Raven, 1988

in Scherpbier-van Holthe & Bos, 2007
WHO response to this scenario (part of strategy)

-research into the most effective herbal medicines, and encouraging governments to develop strategies for protecting wild populations of medicinal plants and sustainable cultivation of such plants.
Health opportunities through intersectoral action for sustainable environment and development

Conclusion
Conclusion

Human health is not only the responsibility of the health sector!
"Break down the walls!"
Conclusion

We need a multi-sectoral responsibility for health and sustainable development
Conclusion

**Action**

**Opportunities**
The puzzle pieces

Some of them!!

SEA

HIA

EIA

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Slide 30
Article 14 addresses Impact Assessment and Minimizing Adverse Impacts

Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures;
One of the important interventions to reduce ecosystem change’s pressures on health services:

“Implement health impact assessment of major development projects, policies and programmes and monitor indicators for health and sustainable development”

WHO, 2005
Primary Health Care should go hand-in-hand with Primary Environmental Care for poverty reduction