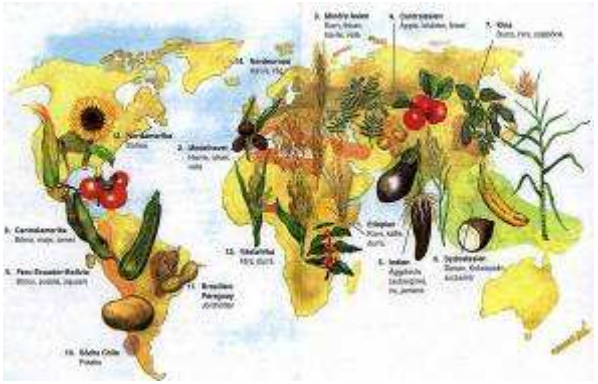

Swedish International Biodiversity Programme (SwedBio)

Maria Schultz

Swedish Biodiversity Centre

UPPSALA UNIVERSITET

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Challenge – Biodiversity and Ecosystem services is key for human well-being

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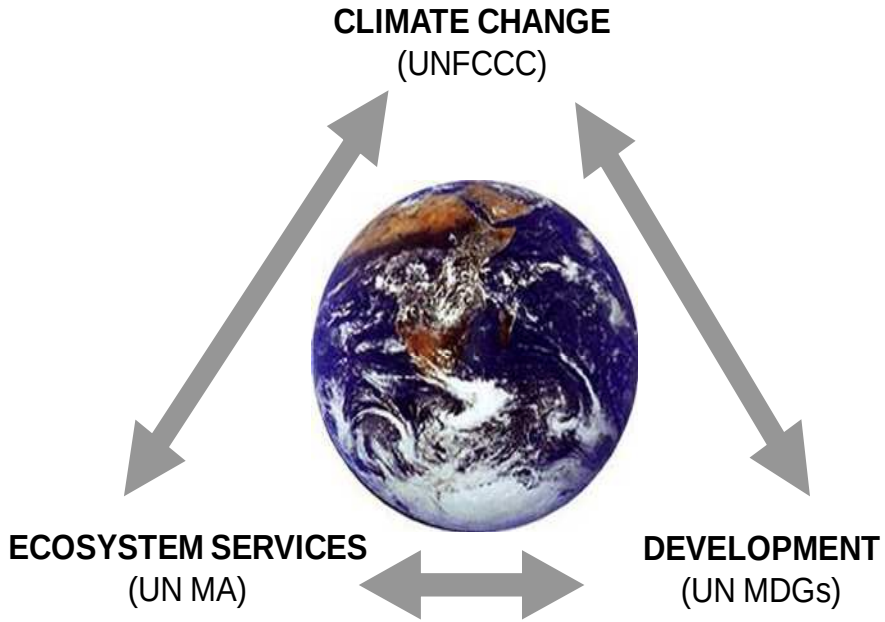

Resilience

- The ability of a system (social and/or ecological) to cope over the long-term with substantial stressors such as climate change.
- Strong correlation between biodiversity and ecosystem resilience, and its ability to deliver ecosystem services.

"There is no such thing as separate climate adaptation strategies, there are only sustainable development policies."

Sunita Narain, ***Director, Centre for Science and Environment, India***

Cross cutting issues linked to BD

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Democracy/HR

- Indigenous and local communities, human/tenure rights
- Community based management
- Role of civil society

Trade and globalisation

- Gene politics
- Biosafety
- Markets and certification
- Trade- and agriculture

Health

- Nutrition
- Medicines
- Control of diseases

Climate

- Resilience
- Adaptation
- ”Mitigation” – e.g. deforestation 20 %*

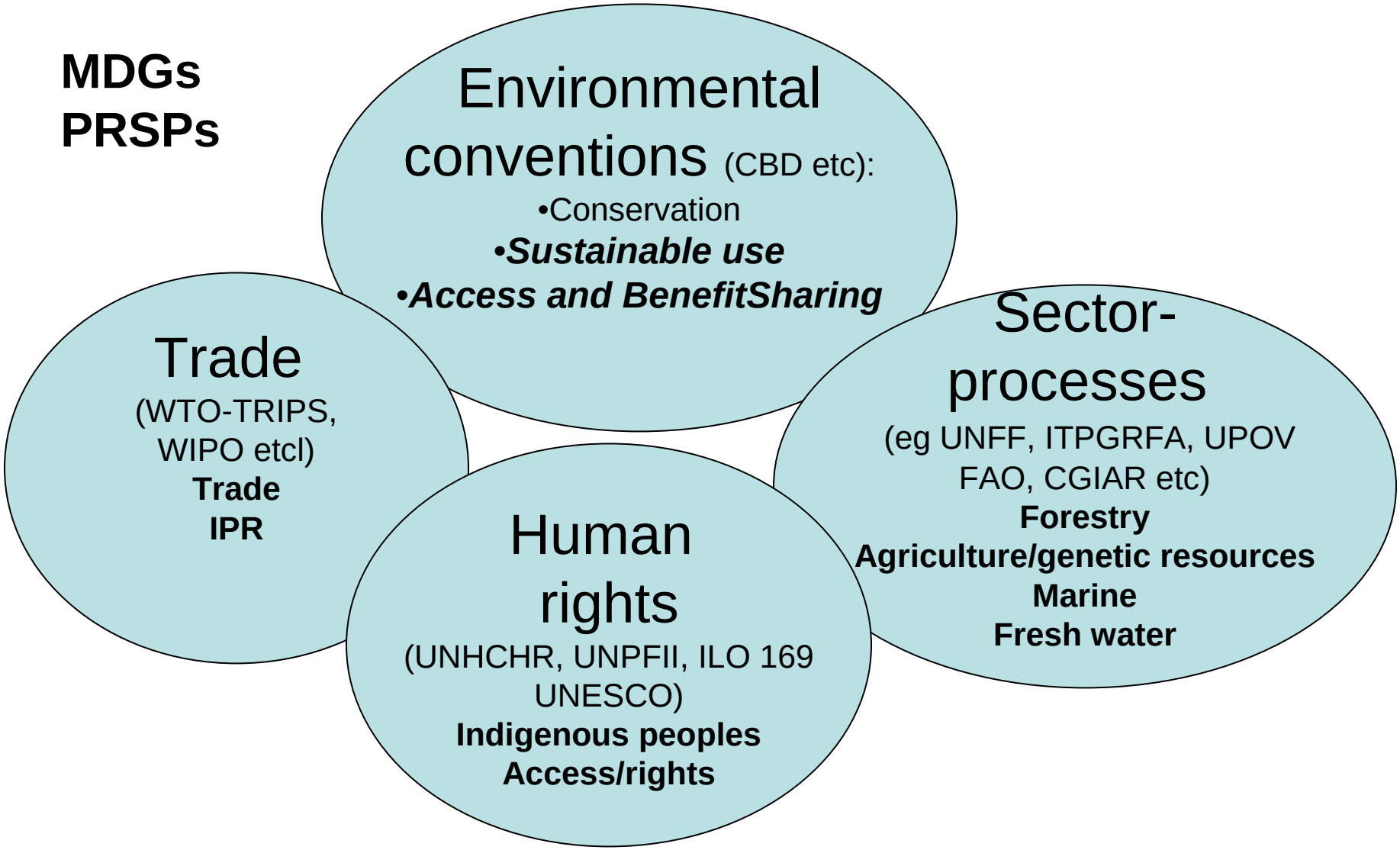
Sustainable production

- Sustainable productions systems
- Ecotourism
- Seed availability, improved varieties, genebanks

Knowledge and education

- Environmental education, information
- Capacity development

”The Policy Landscape”



SwedBio programme components

Development objective: *"contribute to poverty alleviation and improved livelihoods through equitable, sustainable and productive management of biodiversity resources at all levels – genes, species and ecosystems"*

1) **Collaborative programme**
2) **Integration of biodiversity aspects in Swedish development cooperation**
3) **International dialogue and policy development**

1. Collaborative Programme

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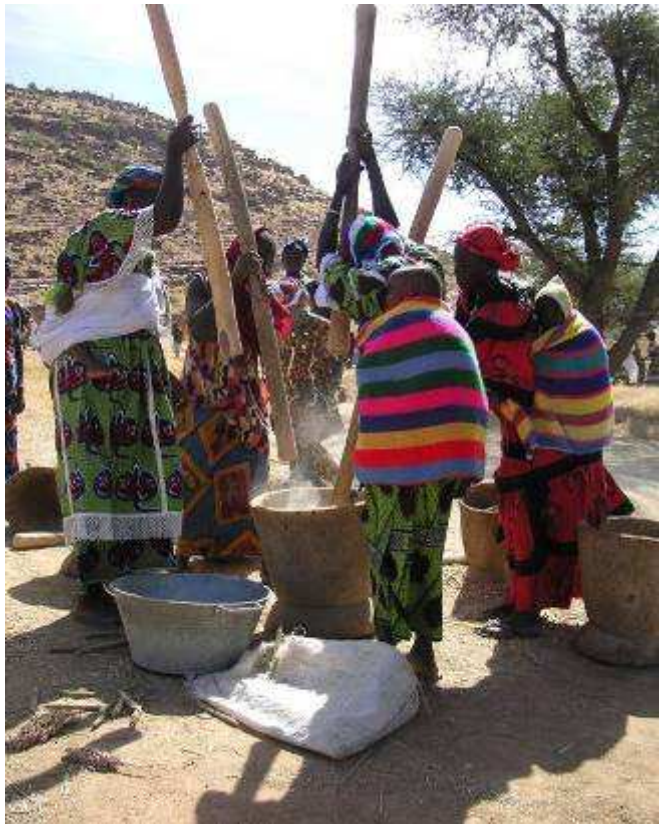
- **Strategic support:**
  Methods- and policy development
  Local-global linkages
  Promote dialogue and learning
  Promote civil society engagement in international biodiversity processes
  Complimentary to other Sida support

- **Learning and experiences brought back to Sweden for inclusion of biodiversity aspects within Swedish international development cooperation.**



Results and conclusions

- Increased participation and influence IP organisations, and NGOs in international policyprocessess
- Supported issues highlighted on the international agenda – in relation to e.g. the CBD, UNFCCC and ITPGRFA.
- Affirm that biodiversity is fundamental to human well-being and poverty alleviation, and for adaptation to and mitigation of climate change.
- Access and rights to biodiversity resources, and ensured ecosystem services, is a critical human rights issue.
- Good governance of biodiversity resources fundamental.
- Deficiencies in existing policy frameworks - need for addressing root causes of biodiversity loss
- Lack of integration of biodiversity-livelihoods concerns in sector policies and development planning, and that investment in climate initiatives can have severe unintended impacts if not assessed
- Maintaining biological diversity and maintaining cultural identity are closely linked.
- Contributed to the fulfillment of Sweden's Policy for Global Development

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2. Integration in Swedish development cooperation

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FACTS FROM SWEDBIO

Biofuels – Potential and Challenges for Developing Countries

Biofuel production is expanding
outlook of rising prices of fossil
emissions, primarily in develope
of the expansion is taking place
scale production for export are
scale and pace is extra challeng

Developing countries with e.g. favourable climate and cheap labour attract investors to plan large scale plantations. Sugarcane, jatropha and oil palm are the most common feedstock. Such investments have multifaceted social and environmental impacts. Carefully planned, biofuels

About this fact sheet

This fact sheet has been produced by Sida's Helpdesk for Environmental Assessment and SwedBio on commission by Sida (Swedish International Development Cooperation Agency). It aims to summarise the main challenges and provide recommendations on how to address these to enhance positive impacts for poverty reduction and the environment. The basis for this fact sheet is an issue paper on liquid biofuels (see Box 2).

Bioenergy

Bioenergy: Energy derived from biomass – all types of organic materials, including wood, charcoal, energy crops, agricultural and forestry residues, municipal waste, etc.

Liquid Biofuels: Fuel produced from renewable resources, especially plant biomass, organic waste, and treated municipal and industrial wastes, for use in combustion engines (electricity or blended). The most important liquid biofuels are ethanol and biodiesel.

Bioethanol is an alcohol derived from sugar- or starch crops (e.g. sugar beet, sugarcane, corn, wheat, cassava or potato) by fermentation. Ethanol can be used "neat" or blended

Facts – biological diversity

Biological diversity (biodiversity) is the variation of life in all its forms, from genes to species to ecosystems to landscapes.

An ecosystem is a functional unit of interacting plants, animals, micro-organisms and the physical environment, e.g. a lake or a forest.

Ecosystem services are the benefits that ecosystems provide to humans, such as clean water, food production, climate regulation, soil production, erosion control and mitigation of the effects of natural catastrophes. The United Nations global study, the Millennium Ecosystem Assessment (MA) was completed 2005, showed that 60% of the 24 studied ecosystem services were in the process of being depleted.

Resilience refers to the capacity of a social-ecological system to absorb disturbance (shocks, e.g. floods or economic shocks) and to rebuild and renew itself after events. There is a strong correlation between biodiversity and an ecosystem's resilience, and its ability to deliver ecosystem services.

FACT SHEET FROM SWEDBIO

Climate change and ecosystem services

The poorest countries and the poorest people are those most vulnerable to the effects of climate change. Changes in the climate also impact biological diversity and thereby an ecosystem's ability to deliver goods and services for human well-being. Moreover, ecosystem services play a central role in both acceptation to and mitigation of climate change. Sustaining biological diversity and ecosystem services are hence important both in our efforts to deal with climate change and to reach the UN's Millennium Development Goals. Such measures are in other words both cost-effective and have the capacity to create many potential synergies.

Impacts of climate change on biodiversity, ecosystem services and food security

- *Increased vulnerability and reduced resilience.* About 20–30 percent of all species are at risk of extinction if the global average temperature rises by 1.5 to 2.5 degrees. As a result, ecosystems are becoming more vulnerable and their long-term capacity to adapt is decreasing drastically.
- *Impact on agriculture.* A warmer climate with changes in patterns of drought and/or increased precipitation, will affect agricultural productivity across agricultural land will no longer be possible in certain growing seasons will change and crop production will decrease, esp. the least in Africa[1]. In certain countries the harvest from non-irrigated agriculture might decrease by up to 50 % by 2020. Loss of biodiversity will result in a disruption of ecosystem services important for agriculture, such as pollination by bees.
- *Impact on fisheries.* The rise in temperature will impact fisheries in both marine and inland waters, and is expected to have negative consequences for both fisheries and aquaculture (cultivation of plants and animals in water). In addition, increasing levels of carbon dioxide in the atmosphere are expected to lead to a gradual acidification of the ocean with negative consequences for ocean marine organisms with calcium based shells (e.g. corals) and species which are dependent on these, e.g. as resources. Taken together, these effects will negatively impact food security, especially for those directly dependent on fishing.

Biodiversity and mitigation to climate change

- *Reduced deforestation:* More than one third of all greenhouse gas emissions are related to agriculture and forestry. The contribution from deforestation alone is approximately 20 percent, more than the entire transport sector which contributes about 14 percent. Reducing deforestation is a cost effective way of reducing CO2 emissions.
- *New plantations* can contribute to CO2-sequestration, but may also have detrimental social consequences if, for example, local people's use and access rights are disregarded and/or violated.
- Increasing the levels of organic material in agricultural soil could sequester large amounts of CO2 and also contribute to increased agricultural productivity and enhanced supply of ecosystem services. But this to happen on a large scale, changes to current agricultural practices are required in many cases.

1 In colder latitudes, agriculture may initially benefit slightly from warmer temperatures but will ultimately be negatively affected.

- Helpdesk function: Increase integration of biodiversity aspects at Sida.
- Strengthen international development cooperation and poverty alleviation perspectives in Sweden's international work related to biodiversity.
- Increase capacity among Swedish organisations and actors regarding the role of biodiversity for poverty alleviation and improved livelihoods.

Results and conclusions

- SwedBio has functioned as support and general resource to Sida-staff;
  comments on Sida's policies and the Swedish Governments Policies,
  e.g. Sweden's Policy for Global Development, MA Follow-Up, IAASTD, REDD;
  comments and support on projects and programmes,
  text, comments and input to reports and documents, e.g. Sida's publication on Tenure;
  comments and support - tools as EIA/SEA or indicators;
  comments and support - educational material, e.g. e-learning material

- SwedBio has also conducted pro-active work, including information and training; e.g climate coaching talks

- The understanding of the importance of securing ecosystem services, and hence biodiversity, for poverty alleviation has increased at Sida

- Ecosystem services have got higher attention, mainly due to the strong connections and options to lessen the impacts, and strengthen resilience, in relation to climate adaptation and mitigation

- Experience tells that the best effects on integration work comes from interaction through on the job training

3. International dialogue and policy development

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Involvement by SwedBio staff in relevant international policy and methods development processes

Increased Swedish involvement in, and contribution to, international policy and methods development on biodiversity management from a development cooperation and livelihoods perspective.

Results and conclusions

- **SwedBio staff has participated and contributed in a number of international initiatives - OECD-DAC SEA Ecosystem Guidance Note and Power Point, PEP – Pro Poor REDD, MA, Plant Genetic Resources, ex ITPGRFA**
- **Advice to Government Offices and participation in CBD-meetings as part of the Swedish Delegation**
- **Inputs, comments and advice provided by SwedBio have strengthened the development and poverty perspective related to biodiversity in Swedish positions and the effects of decisions taken on developing countries and e.g. the MDGs and the Paris agenda.**
- **Important that Sida is involved and work is conducted on behalf of Sida, for integration at Sida and capacity building at Sida, and to incorporate knowledge generated at Sida in SwedBio's work with international processes, to reach the best possible result.**

Support to MA follow-up

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- Collaborative program
- Integration at Sida
- Policy support