

4th Symposium on Biodiversity and Nature
Conservation - Aquatic Biodiversity
May 22-23/2013, Arba Minch University, Ethiopia



The International University Network on Cultural and Biological Diversity (IUNCBD)

The Action Plan *“Biodiversity 2020,*

Linking Education Science Policy and Society”

The Role of Arba Minch University

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Education

Science

International Policy Arena

**Environmental and
Related Conventions**

**UN System and
International
Environmental
Programmes**

**Multiscale
International-National-Local
Policy Implementation**

- What are the interactions between education, science and environmental policy ?
- What is the role of education and science in the environmental multiscale policy implementation?
- The case of biodiversity: policy framework, institutional chain, the Convention on Biological Diversity, case studies

The International University Network on Cultural and Biological Diversity: an international initiative of the University of Rome Sapienza in collaboration with the Secretariat of the Convention on Biological Diversity

Aichi Targets ?

Strategic goals D and E: *“Enhance the benefits to all from biodiversity and ecosystem services”*



“Enhance implementation through participatory planning, knowledge management and capacity building”

How to address this target *without* Education, Research and **Society?**

What is the role of universities ?

IPBES

Intergovernmental Science-Policy Platform on Biodiversity & Ecosystem Services

UNEP – UNDP – UNESCO – FAO
MEAs (CBD – Rio Conventions.....)



Want to understand the
latest trends?

IPBES will perform regular
comprehensive assessments at
various scales, as well as on
thematic issues and new topics
identified by science.



Want to understand
the scientific needs of
decision makers?

IPBES will identify and prioritize
key scientific information needed
for policymakers and catalyze
efforts to generate new research.

MEAs, complex interconnections and cross-disciplinary complexity: Science, Policy and Society

Environmental Conservation
Development Studies

Environmental, social, economic
sustainability

Entry-point: biodiversity,
cultural diversity

Poverty Alleviation
Livelihood
Green Economy

What theoretical approach and
methodology ?

Promotion of Local Natural Resources
Technology Transfer and
Scientific Cooperation

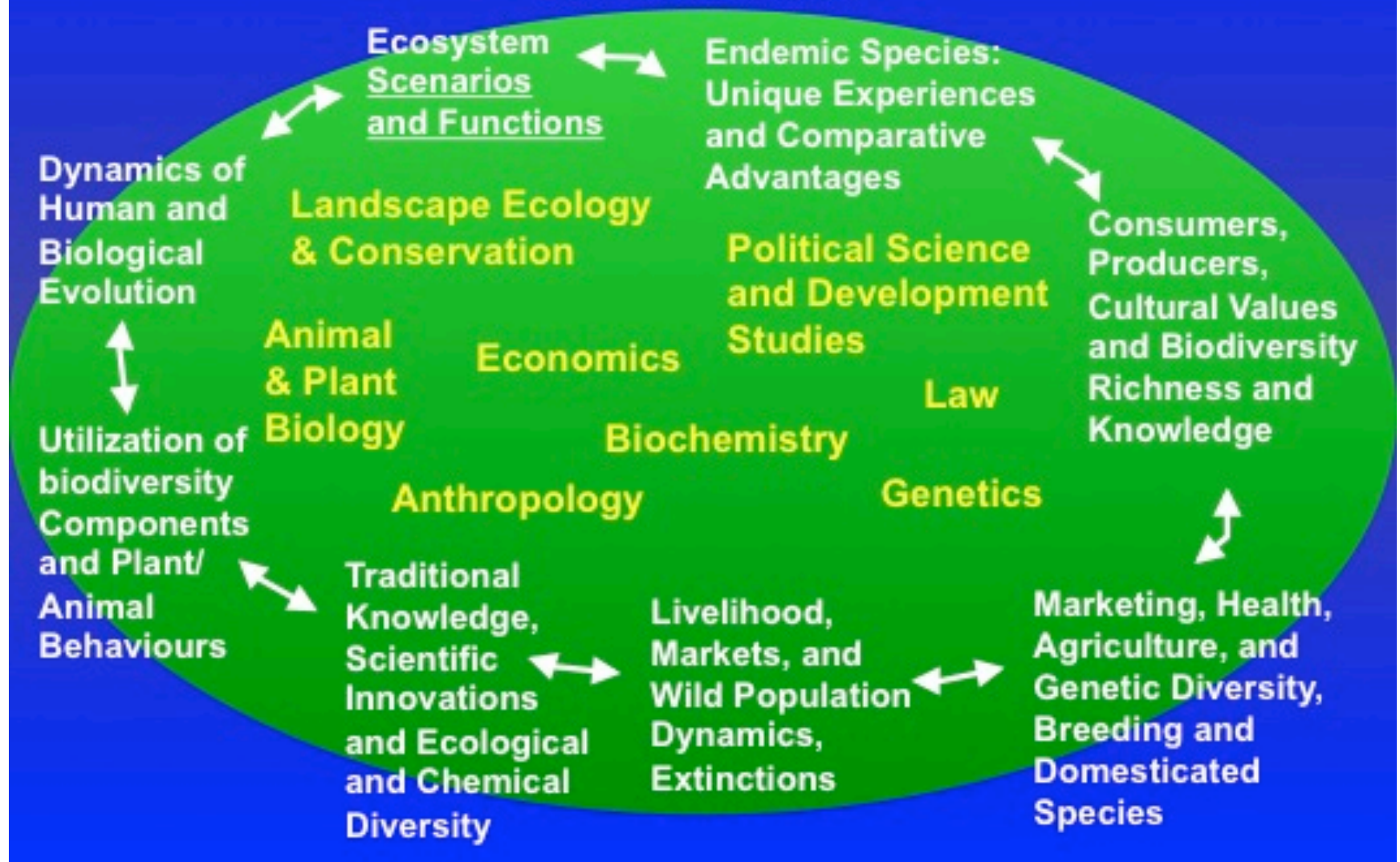
The need of a system of
studies

Sistematising complexity:
science, policy, society

Capacity Building
Institutional Capacity Building
Multiscale Policy Implementation
Local Management
Cultural Identity

What are the public choices ?
The international
policy arena

Biological Cultural Diversity is an educational journey in itself ready to become a transdisciplinary programme of studies opened to local society, indigenous communities, experts. Each aspect of biodiversity has a natural and social science dimension






**How to select promising natural sources ?
In natural science the learning processes start**

from

*Reading Nature
Learning from Nature*



Fontana (CNR, 2008)

Biodiversity education is a learning process that integrates natural science, social science and society



Learning
from
People

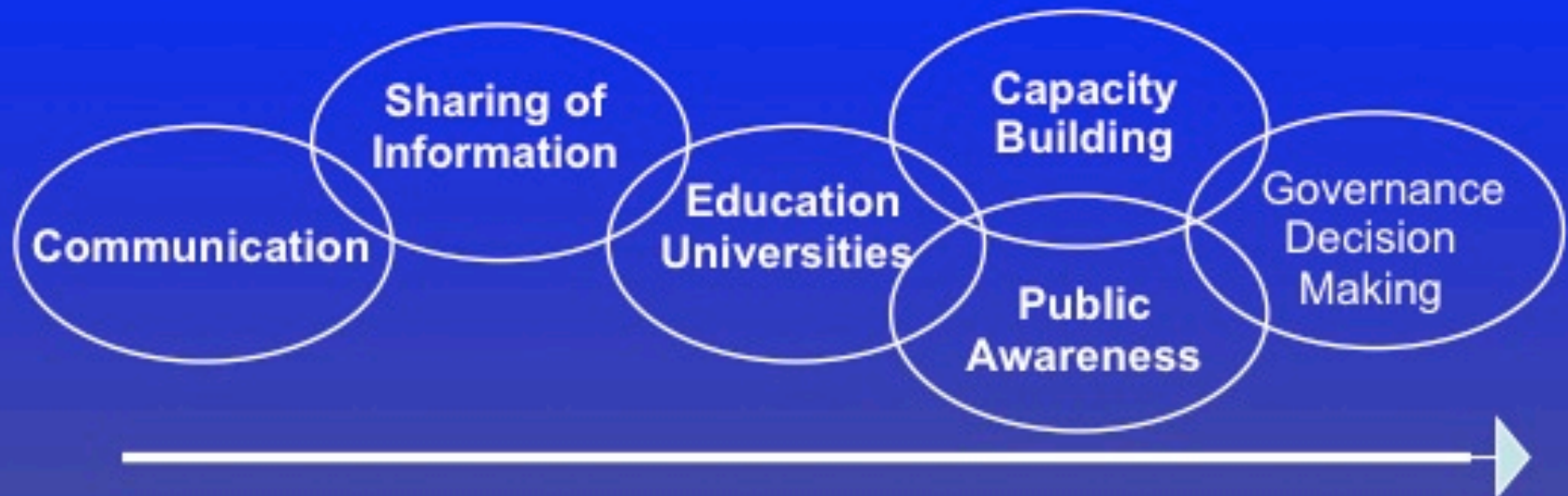


Learning
with
People



Learning
for
People

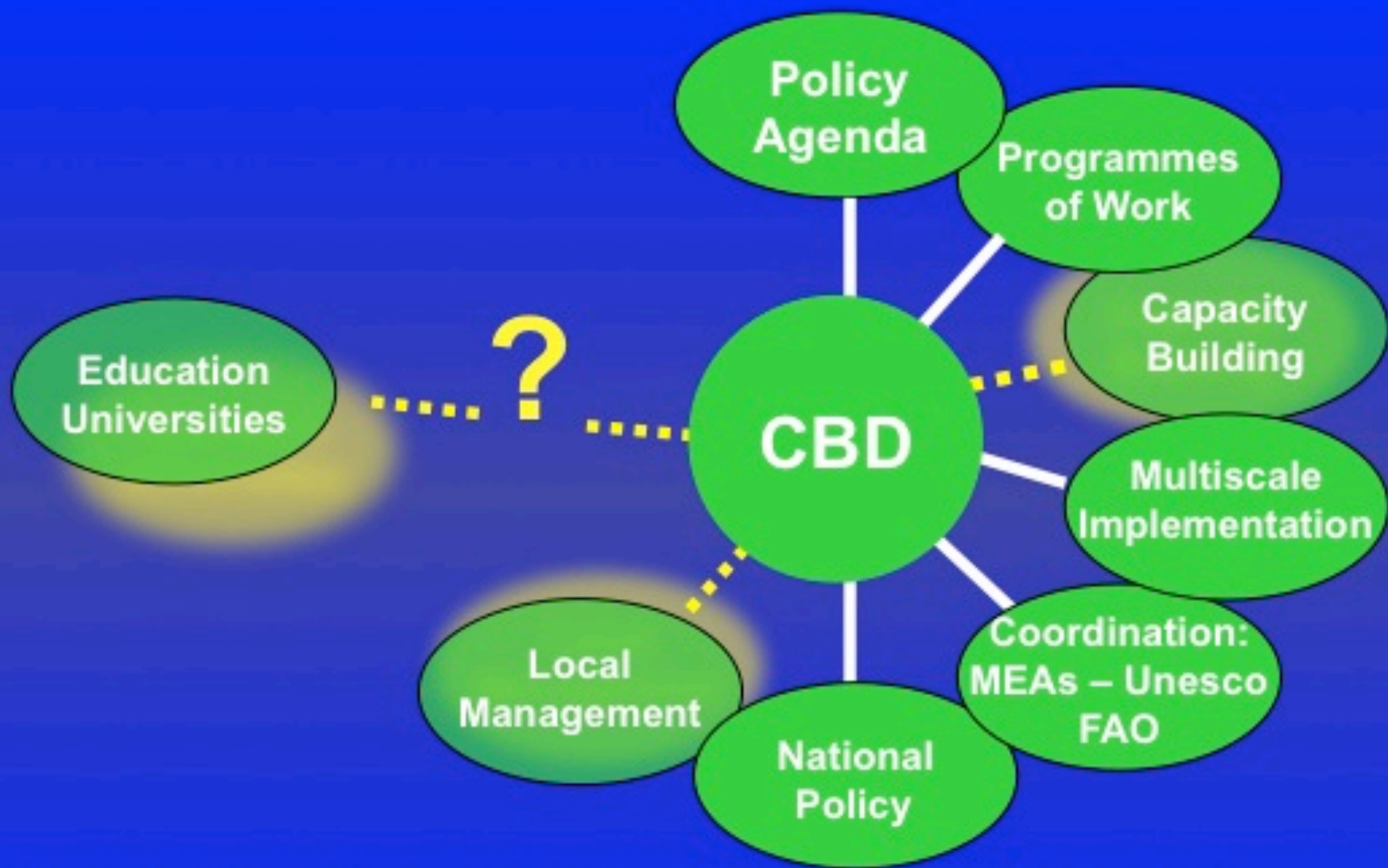
The Value Chain of the CBD Implementation



Who are the actors of this long term process?

Education is a fundamental element in the value chain of the CBD implementation. Universities are the only institutions: (1) time by time present at local level, (2) with a long lasting and very appropriate mission – education and research (3) with the largest and most suitable human resources and target – researchers, teachers, students, young people who represent the future of a country.

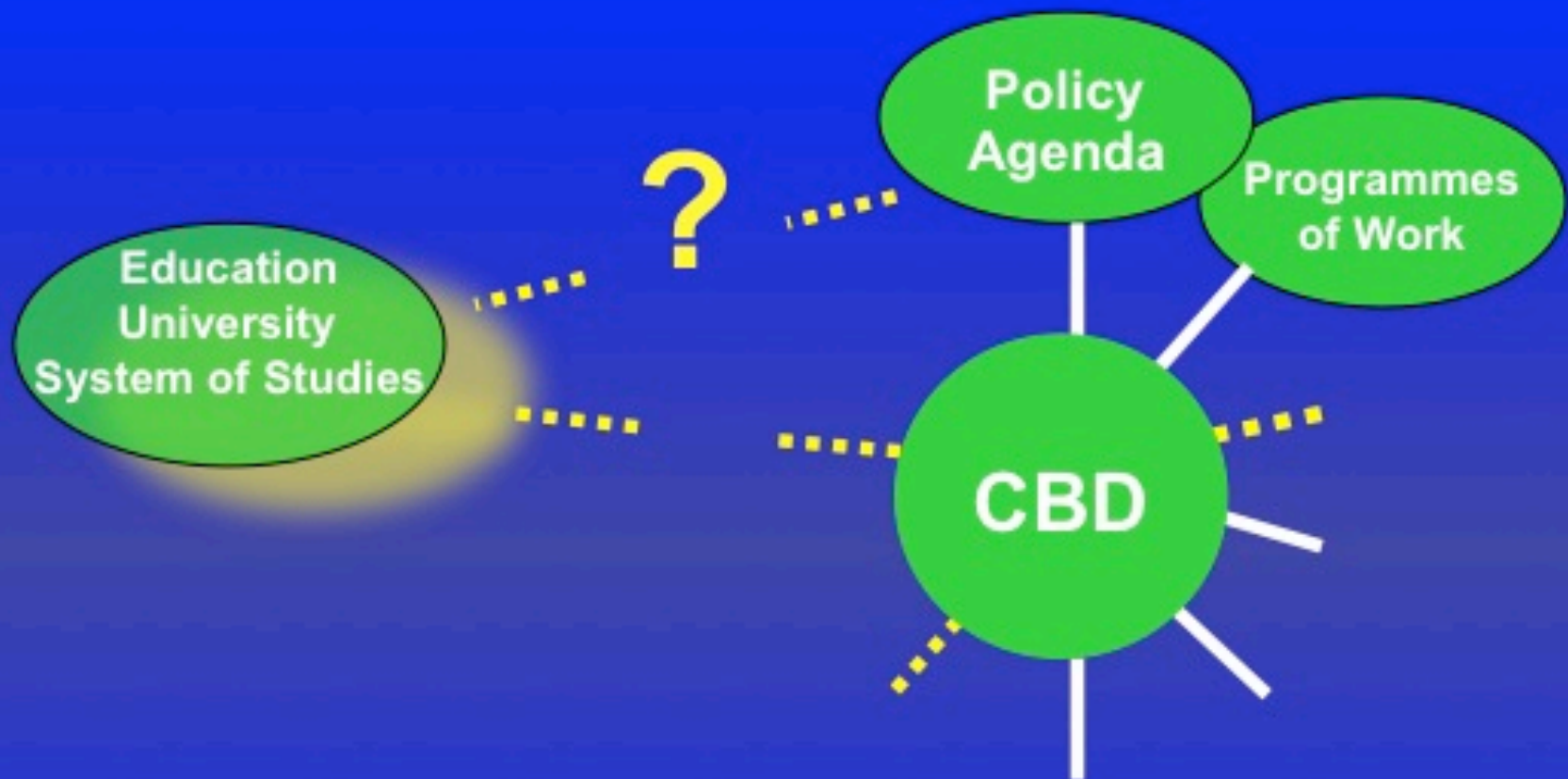
Universities are of paramount importance because they play a key role for capacity building and public awareness – which are the milestones for good governance and effective policy making.



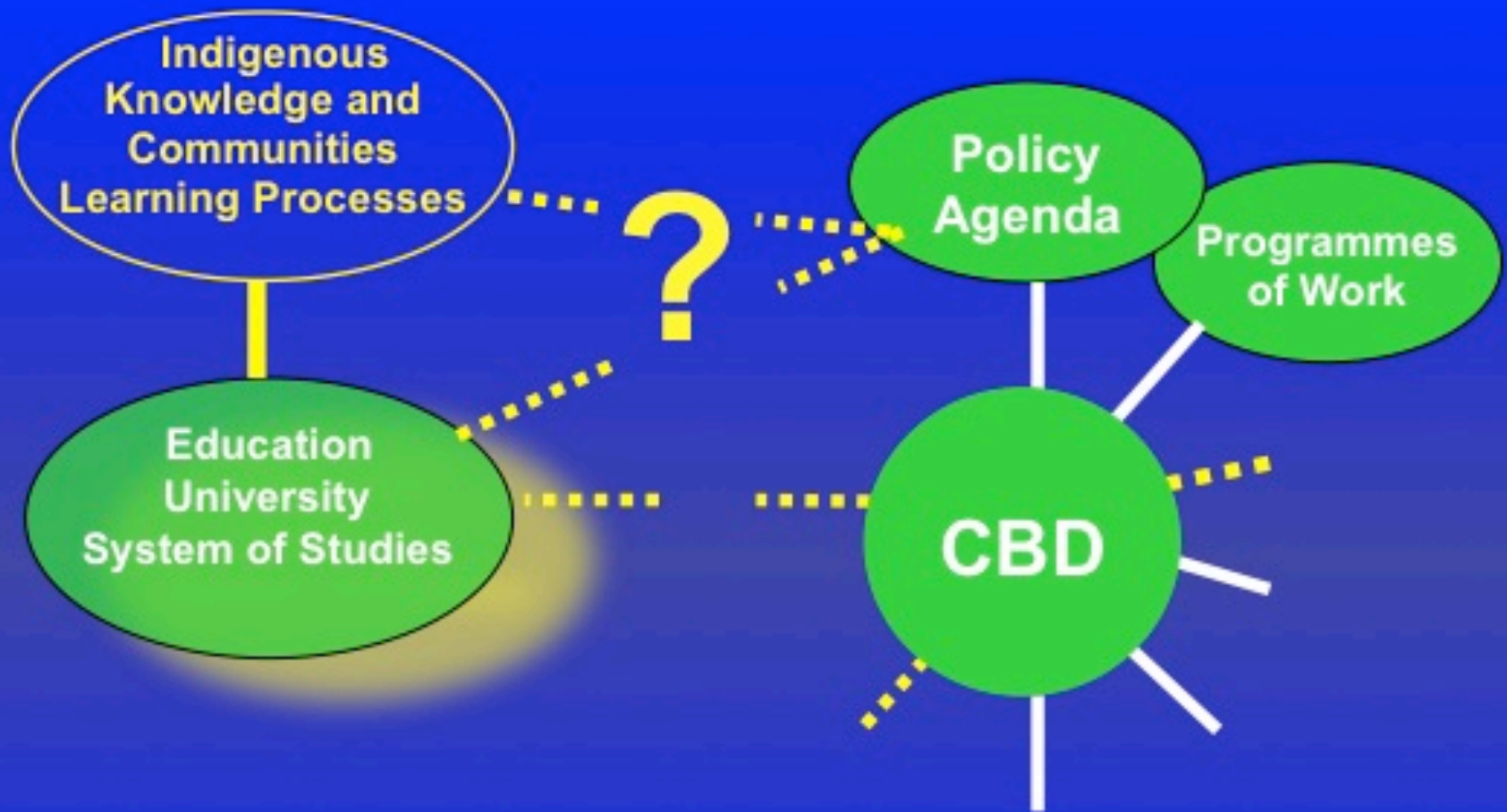
In the reality the results of our analysis pointed to the complex implementation processes of the CBD policy agenda and programmes of work, highlighting weaknesses and gaps with respect to capacity building, local management and overall education.



In particular we identify (1) the gap of communication and knowledge between the university system of studies and the International Organizations – among them the CBD,(2) the gap between education and capacity building, (3) the very limited role universities play in disseminating and linking the CBD policy agenda and programmes of work to the local context to which they belong.



How to tackle these challenges? The key point is to bridge the gap of coordination, communication and knowledge between universities and the CBD policy agenda and programmes of work. So far only very few academic activities are linked to the CBD policy framework. In addition these activities are individual initiatives and not expression of an ordinary system of studies



How to tackle these challenges? The key point is to bridge the gap of coordination, communication and knowledge between universities and the CBD policy agenda and programmes of work, combining formal and informal education, academic perspectives and indigenous knowledge and science.

The Cooperation Mission of the International University Network on Cultural and Biological Diversity

On the base of this analysis the Research Centre of Developing Studies of the University of Rome Sapienza has developed a methodology and innovative strategy designed for addressing CEPA – Communication, Education and Public Awareness – and capacity building challenges. As a result the CBD Secretariat and Sapienza University have signed a Memorandum of Understanding and Cooperation.

Key activities under the MoU and Cooperation:
"promotingcooperation activities,
establishing and coordinating networks with
other universities and concerned.....
institutions".

The operative initiative of this strategy:

**International University Network
on Cultural and Biological Diversity**

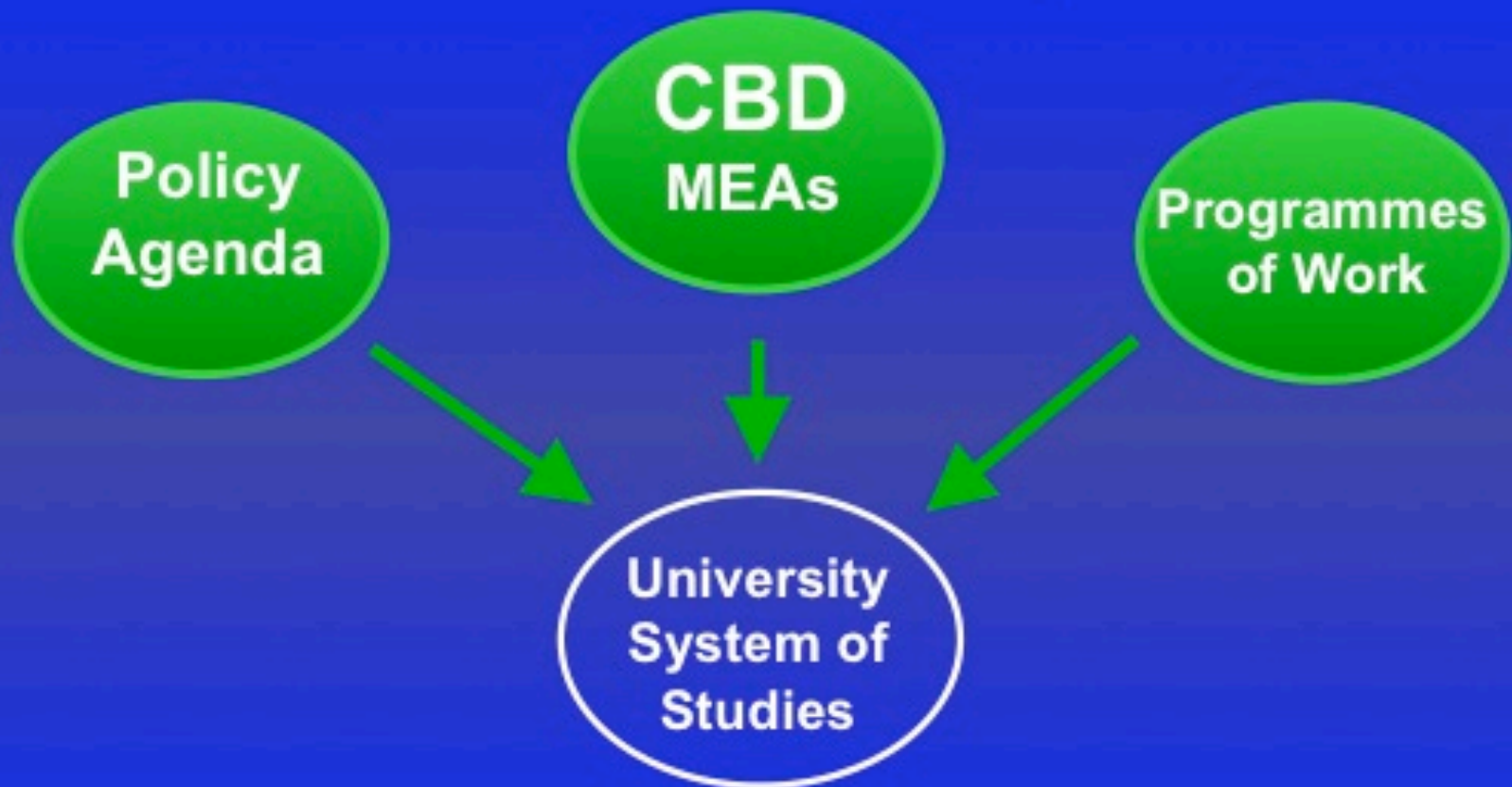
Established in accordance with the CBD Secretariat, and
focused on the universities of developing countries
and South-South-North collaboration

The International University Network on Cultural and Biological Diversity

The University Network aims at:

- (1) introducing a new paradigm of relationships between international conventions and universities, giving an operative contribution to the CBD Secretariat
- (2) allowing universities to bridge the gaps previously highlighted and play a fundamental role as local social drivers opened to society, local/indigenous communities, experts, policy makers
- (3) offering a transdisciplinary scientific contribution to policy making and implementation and local management through the internalization of the CBD and associated programmes of work (among others, UNEP, UNESCO and FAO) in the academic system of studies

Biodiversity is a tool for education. Education should be a fundamental tool for the CBD implementation



(4) disseminating and introducing the CBD policy agenda and programmes of work in the university system of studies, bridging the gap between academic and institutional policy perspectives

The International University Network on Cultural and Biological Diversity

The University Network aims at:

- (5) translating the CBD policy agenda and programmes of work in new contains for courses and academic programmes with the involvement of representatives of communities and experts
- (6) institutionalizing these programmes in the academic system of studies
- (7) offering a coordinated international platform of information, knowledge, research questions and research/teaching programmes in order to develop and reply transdisciplinary academic studies, initiatives and curricula linked to the ongoing CBD and related organizations policy agenda and programmes of work

Matching Scientific with Policy-Management Perspectives



(8) developing joint research/teaching/capacity building initiatives and events in order to strengthen local capacities, exchange and compare local experiences and case studies at international/national multi-scale level, achieve high standards of advanced studies, link universities to the local implementation of the CBD, provide tools to grow a critical mass of experts



(9) designing innovative curricula/ initiatives taking into account the local context



Communication, education, capacity building and implementation processes should be integrated in a unique long-lasting strategy and action plan that feed the never-ended "life cycle of the CBD"

**CBD
POLICY
implementation**

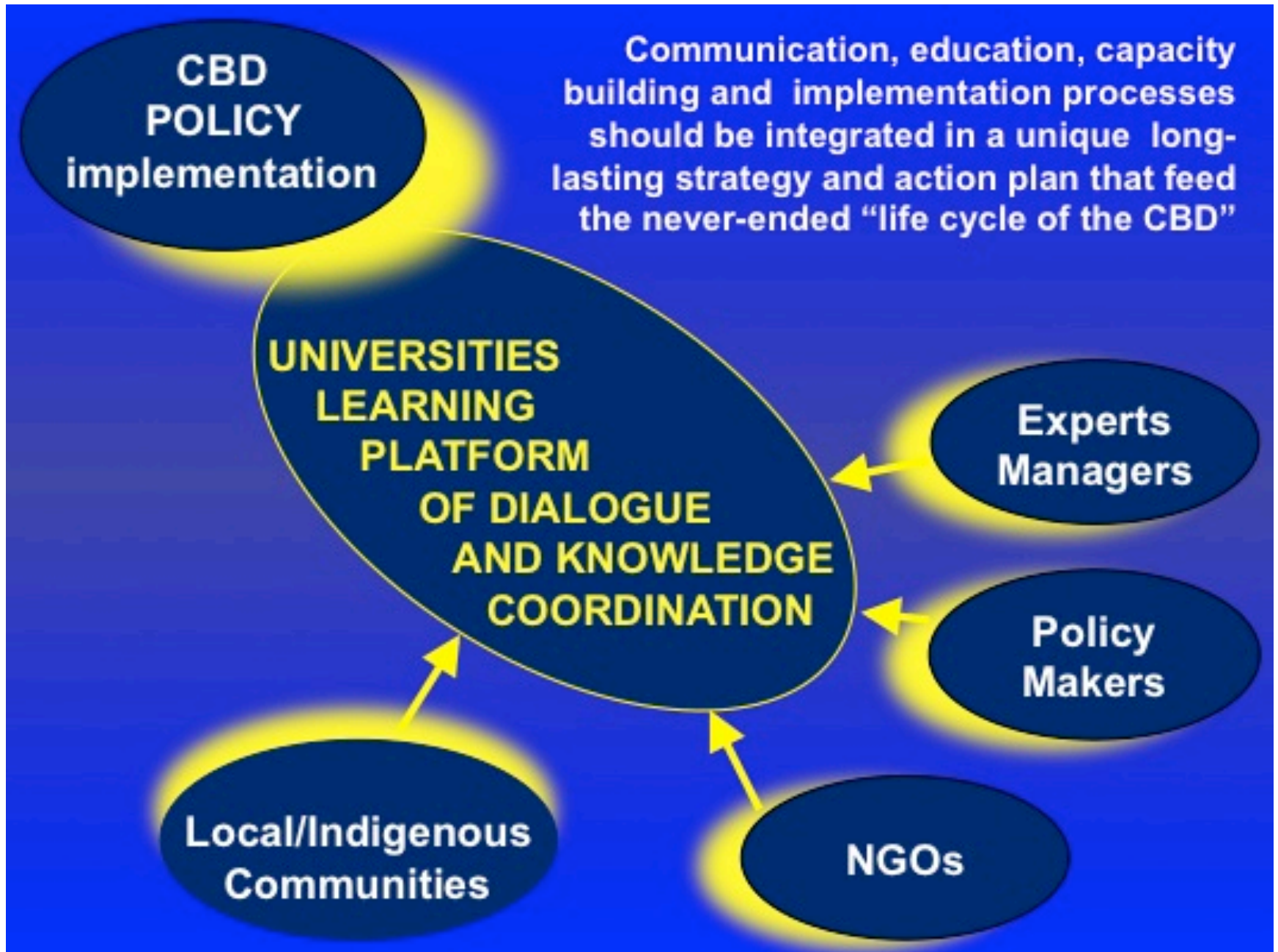
**UNIVERSITIES
LEARNING
PLATFORM
OF DIALOGUE
AND KNOWLEDGE
COORDINATION**

**Experts
Managers**

**Policy
Makers**

**Local/Indigenous
Communities**

NGOs



IUNCBD Network

Scientific-Academic Perspectives

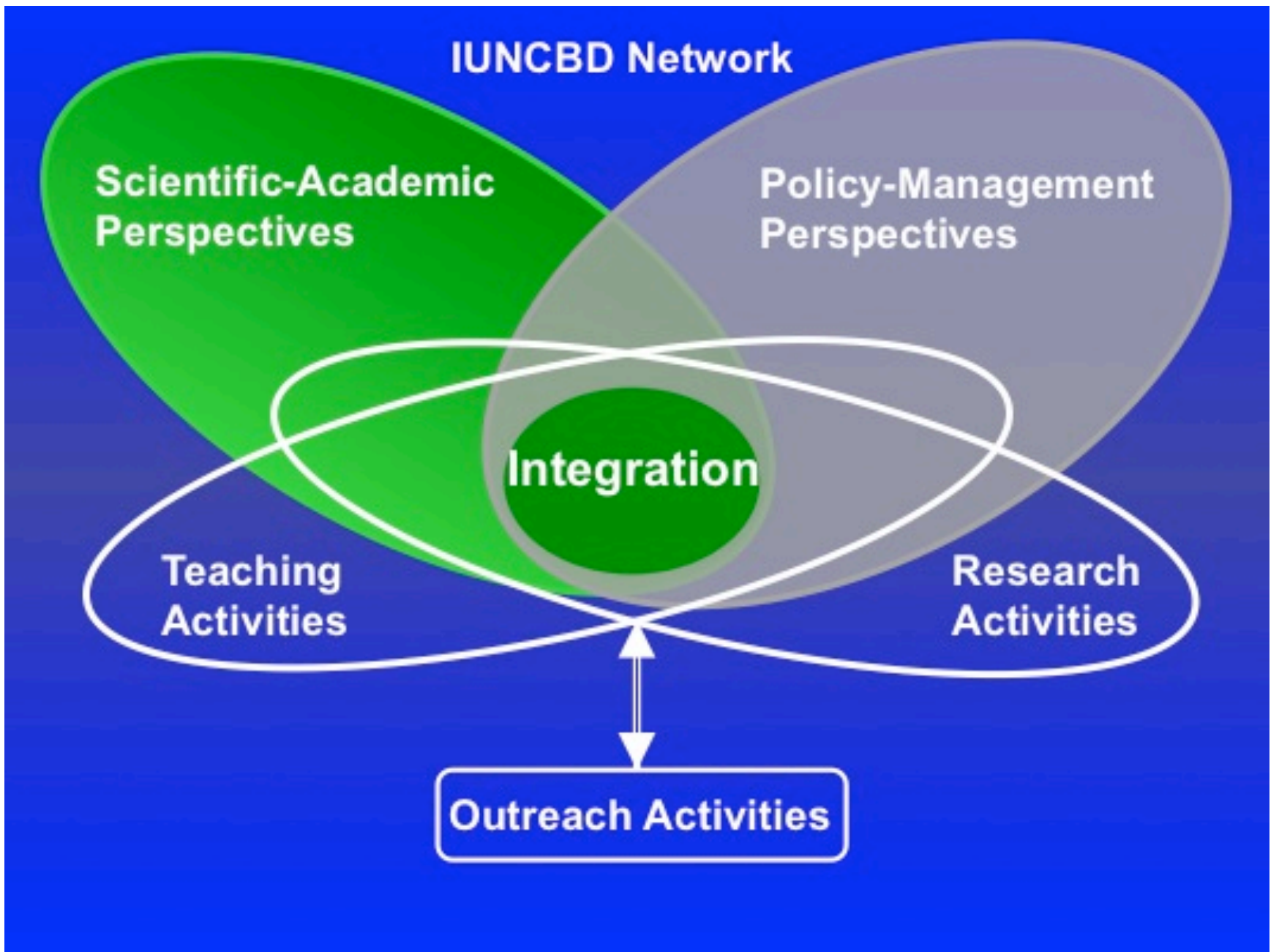
Policy-Management Perspectives

Integration

Teaching Activities

Research Activities

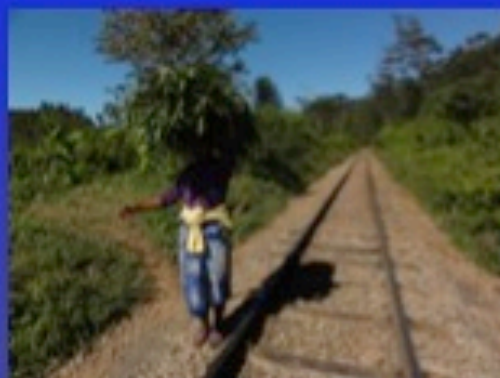
Outreach Activities



The IUNCBD Network functioning and the implementation at the University of Antananarivo:

1. Integration between the activities:

1.1 Teaching



1.3 Research

1.2 Outreach

2. Integration between fundamental dimensions:

- 2.1 Education
- 2.2 Capacity Building
- 2.3 Communication
- 2.4 Public Awareness
- 2.5 Policy Implementation and Local Management

**International University Network on
Cultural and Biological Diversity (IUNCBD)**

**Programmes
and initiatives
developed by each
university partner**

**Activities directly
developed by three units
of the IUNCBD International
Coordination Platform**

**Three Units of the IUNCBD International Coordination Platform –
selected and invited policy makers, academicians, experts, students:**

- International Scientific Committee**
- International Coordination Research Group**
- International Students Coordination Units**

**2012: introduction of the strategy,
Mission and methodology of
the IUNCBD Network in Arba Minch University**

**Arba Minch University
participation in
the IUNCBD University Network:
Teaching/Research/Outreach
Programme**

The role of Arba Minch University:

- 1. Analysis of the multi-scale International-National-Local Policy Agenda and challenges taking into account participation and needs of local/indigenous communities**
- 2. Identification of Science/Policy/Management Priorities**
- 3. Design of key cross-disciplinary research areas**
- 4. Design and development of an integrated Teaching/Research/ Outreach Programme**

7. Future Scenarios: Misikire Tessema Presentation

7.1 Business as usual

- eventual collapse of the biodiversity resource base
- eventual demise of the lake

... as was the case for lake Alemaya,

AND

the associated losses of all the benefits!

Planning the EBM to lake Chamo

Misikire Tessema Presentation

Who should take the overall lead to do the planning?

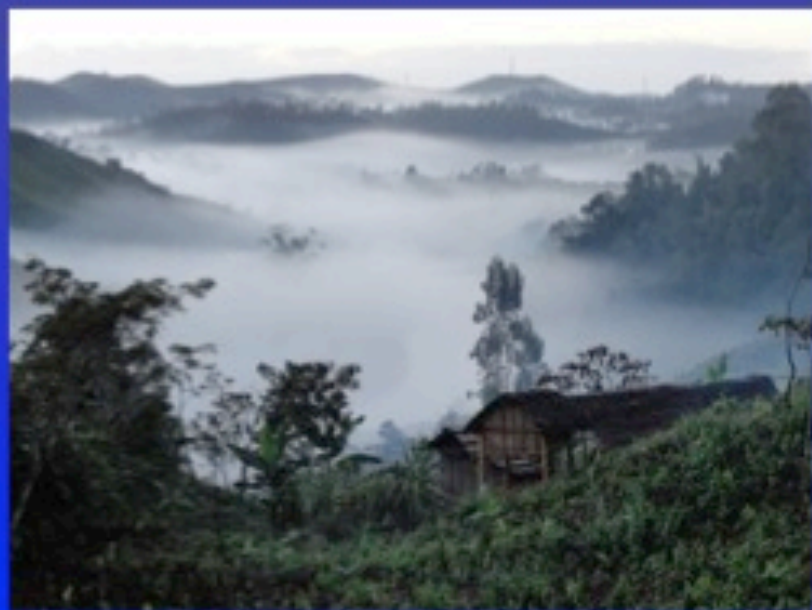
How can the planning & implementation be financed?

Who should implement M & E, and report?



Pilot case for the implementation of the IUNCBD Network:
University of Antananarivo – Madagascar
Research/Teaching Programme
Biodiversity Policy & Management

Genetic Resources – Medicinal Plant:
Local Communities, Benefit Sharing and Value Network Analysis
within the context of the CBD and the Nagoya Protocol



The Research/Teaching Programme “Genetic Resources – Medicinal Plant: Local Communities, Benefit Sharing and Value Network Analysis” within the context of the CBD and the Nagoya Protocol integrates:

(1) academic/scientific perspectives



(2) Policy Perspectives
CBD, Nagoya Protocol :
“Utilization of Genetic Resources and Traditional Knowledge ...Prior Informed Consent of the Country of Origin and Local Communities Mutually Agreed Terms”



(3) Local Context and Multiscale Implementation: Partnership with the NGO MAT: Management of Forest Areas and Research Action with Malagasi Students



How to interpret and apply binding principles and provisions taking into account.....



| Institutional Chain | | Value Chain: Actors | Behaviours | | | | | Economic Interpretation and Values | |
|--|---|--|--------------------------------|---------------------|--|----------------|-------------------|------------------------------------|-------------------------|
| Institutions | Behaviours Relationships with the Actors of the Value Chain | | Single Behaviours: Description | Significance | | | | | |
| | | | | Cultural | Social | Ecological | Scientific | | Purely Economic |
| Local - Village | | Gatherers | ----- | | | | | | Positive Externalities |
| | | Healers | ----- | | | | | | Negative Externalities |
| Managers Protected Areas | | Household | ----- | | | | | | Transaction Costs |
| | | Middle Men – Local Market | ----- | | | | | | Information Asymmetries |
| Municipality | | Traders – Local Market | ----- | | | | | | Economies of Scale |
| | | Middle Men – Domestic Market | ----- | | | | | | Economies of Scope |
| Intermediate Institutions | | National Researchers | ----- | | | | | | Network Economies |
| Gover namental Agencies | | National Research Centres | ----- | | | | | | Innovative Dynamics |
| | | National Companies Producers, Processors | ----- | | | | | | Dynamic Efficiency |
| State/ Ministry | | Domestic Sellers | ----- | | | | | | Resilience Effect |
| | | Traders – Domestic/ International Market | ----- | | | | | | ----- |
| International Institutions/ Local Rapresen tants | | Foreign Individual Researchers | ----- | | | | | | |
| | | Foreign Companies Research Centres | ----- | | | | | | |
| NGO | | | | | | | | | |
| ----- | | | | | | | | | |
| | | | | Natural Capital | Intellectual Capital | Social Capital | Financial Capital | | |
| | | | | Production Process: | Effects of each Behaviour on the Factors of Production | | | | |

| Value Chain: Actors | Behaviours | | | | | |
|--|--------------------------------|--------------|--------|------------|------------|-----------------|
| | Single Behaviours: Description | Significance | | | | |
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| Gatherers | | | | | | |
| Healers | | | | | | |
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| Middle Men – Local Market | | | | | | |
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| Middle Men – Domestic Market | | | | | | |
| National Researchers | | | | | | |
| National Research Centres | | | | | | |
| National Companies Producers, Processors | | | | | | |
| Domestic Sellers | | | | | | |
| Traders – Domestic/ International Market | | | | | | |
| Foreign Individual Researchers | | | | | | |
| Foreign Companies Research Centres | | | | | | |

Institutional Chain

| Institutions | Behaviours Relationships with the Actors of the Value Chain |
|--|---|
| Local - Village | |
| Managers Protected Areas | |
| Municipality | |
| Intermediate Institutions | |
| Gover namental Agencies | |
| State/ Ministry | |
| International Institutions/ Local Rapresen tants | |
| | |
| NGO | |
| ----- | |



Complex Balance Comparative Studies

Madagascar



Other Universities in Asia , Africa,
Latin America ?



What is the fundamental role of High Education and Universities in this arena?

Linking Policy to Education-Research-Science-Capacity

Building and Society

Protection and Promotion of Cultural and

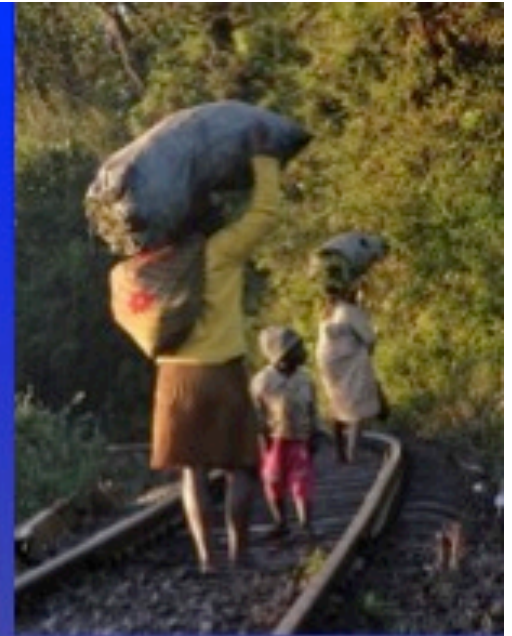
Biological Diversity



Biodiversity & Society: Education, Capacity
Building, Science, Economy, Policy.....
Knowledge Generation...Drivers.....

*"I believe that the great part of miseries of
mankind are brought upon them by false
estimates they have made of the value of
things."*

Benjamin Franklin,



Thank you



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IUNCBD hosted at SPES - Research Centre of Development Studies

Sapienza University of Rome

