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## **Norbert Mueller & Andre Mader – Introduction**

Background – small community but largest network on urban biodiversity in the world. SURE, ICLEI are others and they have to be included in the discussion of the research agenda. How to make the exchange most effectively?

CBD Plan of Action on Sub-National Governments, Cities and other Local Authorities for Biodiversity.

The Secretariat of the CBD asked for a research agenda.

The discussion is based on existing studies.

Context: Local government policy, LAB as a catalyst, COP 9 Decision IX/28 (first UN decision ever on this topic, recognizing local governments as important players), COP 10 decision X/22 and Plan of Action, increasing attention, Urban context as a key component, increasing number of projects by national governments and through partnerships like CBD/ICLEI.

Supporting the Plan of Action: response to the plan of action by all the major groups related to local governments, subnational, national, UN and international agencies and academia. ICLEI and NRG4SD have developed a response already, UN agencies (UN-Habitat are involved), UNEP is in discussion. URBIO is very capable contributing to this response.

CBD has taken the role of facilitating coordination, although not an official programme of work. A network like URBIO is very welcome.

Critical vehicle for partnerships and change: CBD COPs – city summit and URBIO conferences. Room for ideas and improvements? Bring the voice of local and subnational governments to the foreground. Taking the messages and declarations from the COPs and make sure they are heard.

Approach towards input on decisions at COP 12. Influence other decisions (e.g. restoration, IAS) so that they include clear reference on local and regional authorities role. The mechanism would be to work with regional offices in a strategic manner, based on existing relationships to start the process.

## **Andre Mader - What do local governments need?**

Survey (global, partners in ICLEI LAB programme) on the needs of local governments (ICLEI Cities Biodiversity Center, bridge the science/policy/practice gap) – Shela Patrickson: feeling the pulse of local governments, need for continued dialogue.

In cities very often there is not a champion initiating the interaction with the scientific community.

Outcomes of survey:

Information needs:

- specific and relevant information and tools
- assessment, planning and management (it is about implementation)
- land use management data at a detailed scale
- Ecosystem and species thresholds (not always species experts)
- Impacts of fragmentation
- History of species composition change with urbanization (cultural aspects)
- Standards and indicators (e.g. CBI)
- Ecosystem services and their valuation
- Climate change data/projections
- Ecological footprint
- Avoid confusion by multiple sources of information

Communication of needs to experts

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- A need to improve the communication
- Links with local institutions exist, but the communication is very informal and driven by individuals (one person can have an important impact, but if such person is not there, nothing happens)
- Passive approaches may prevail
- Idea of project based multi-stakeholder cooperation (local development project with involvement of practitioners, scientists, citizens and politicians)

Strengthening communication channels

- Watch our language
- Need for local relevance
- Understand different ways of measuring success
- More forums for academia and practitioners to interact, especially around particular projects
- Networks like URBIO
- Involvement of citizen science in collection of city information
- Academic seminars aimed at managers
- Scaling down of global objectives to the local scale

Charles - Defining what biodiversity means is really important for local governments. In the US, wildlife management. Andre - From a UN perspective, there is good work being done in the US. The approach of the UN is global, but awareness of resistance in the US. The terminology is complicated, despite that, for the Convention it remains on the same course.

Peter - Demands of local governments are listed. What are these governments doing to support research, as there is often lack of funding or staff resources at local government level. Andre – PhD projects that support this can be stronger, but this question was not addressed in the survey

Louise – in France the regions have a lot of money for research programmes on thematic areas. When we talk about cities or municipalities, they do not have these resources for research. That is a problem, as they do need the knowledge for conservation work. Andre – In South Africa it is the other way round, so it depends on the context. CBD focus on national governments, to support the local level of action, but this may be complex due to the large number of local governments e.g. in France.

Mark – how aware are local governments of involvement of novel ecosystems. Do they understand the need for biodiversity conservation. Andre – it depends on the city how they care for biodiversity. Focus on remnants of pristine biodiversity in South Africa. In Europe and Asia, most developed parts of the world, a more integrated understanding.

Ecologists have not worked on structure and composition of ecosystems. There is an information gap. We have to convince scientists to study novel ecosystems.

David – Tensions, idea of biodiversity and ecosystems. City managers are managers of ecosystems and nothing is natural or native, all managed. Language issue, we are not preserving anything novel, we try to manage it for a set of values, not the values of wild lands. Andre – local governments need to manage as well natural ecosystems (seas).

## **Norbert Mueller – 40 years of applied urban biodiversity research in Germany and its relevance for the CBD Plan of Action**

How do we communicate? What is the knowledge in different countries?

Long term experience at the local government of Augsburg, interest in urban ecology science. Urban biodiversity research in Tokyo.

What do local governments need?

Tools, guidelines, capacity building, best practices, local action plans, promotion awareness, monitoring

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History of research in Germany – 1973 first comprehensive studies in Berlin on urban ecology (Sukopp). Not only urban biodiversity but also ecosystem services and the linkage between humans and biodiversity.

1980 why urban biotopes are important:

- basis for direct contact between urban dwellers and the natural elements of their surroundings
- ecosystem services etc.

Biotope mapping in urban areas working group funded by German Federal Agency for Nature Conservation. Involvement of state and local authorities. The group met every year in another city. All these cities have done biotope assessments. First edition bibliography nature in cities (1982), Sukopp and Werner on order of the European Council and supported by Man&Biosphere

- to develop standardized programmes in investigation of biodiversity in urban areas
- exchange experiences and application of results

Foundation of CONTUREC in 2005, a follow-up to the original group

Foundation of URBIO in 2008, connection with CBD, annual meetings

Two methods of biotope assessment: 1) comprehensive mapping (to finally come up with a selection of habitats important for biological conservation) 2) Selective mapping only investigates only habitats important for biological conservation.

Number of mapped towns and cities in Germany: 1985 – 80, 1193 – 165, 2000 – 222

Implementation: biodiversity and biotope protection programmes (species and habitats to protect in cities, e.g. size of habitats, adaption to climate change).

A very successful programme: flowery meadows started in Augsburg and adopted by many other central European cities.

Landscape design supporting biodiversity in public spaces. First applied in the Bavarian State, but also by the Federal Agency for Conservation in Bonn. Supporting biodiversity in private gardens, community gardens, first founded by migrant workers in the 1980s and today found in every German city.

Public awareness – exhibitions

Since 2012 Alliance of local authorities for biodiversity in Germany, with a membership fee

Success factors biotope mapping in urban areas:

- practicability (what do local authorities need, continuous dialogue researchers and practitioners)
- continuity of meetings every year
- continuity of persons involved

Learning experiences for implementing this German example to the global level. It is really important to communicate our knowledge to local authorities.

Mark – hard work being done. Great inspirational work.

David – how to get the research work mentioned in local government planning and action. Peter – cities that have tools for mapping, use the scientific information frequently for landscape planning, habitat protection etc. It always depends on the persons in the local administration to decide whether or not to work with the results. If there is a match, there are good results using the data. Norbert – how is the data used for green space management. David – it is about how well we communicate this data.

Norbert – what information do we have in different countries, for comparison. E.g. what information do LAB cities have.

Marc – bias looking from a scientific perspective. Mapping does not help scientists to publish. Re-sample the earliest maps and years, has that happened. Norbert – investigation in some cities already for the 3<sup>rd</sup> time. A standardized method is essential to compare different cities and different moments in time in a city.

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Mark – long-term data is really interesting to determine drivers of change, also for global change. Mark - In North-America and Australia there is no funding to do this type of work. It would not help ecologists in their career to work on long-term studies in the city. It was impossible to publish work in parks was the response of journals. Norbert – practitioners talk about different things when they discuss research.

David – biodiversity biotope change correlated with management actions (city programmes), change across cities and what policy was followed? Norbert – city governments have done a lot of work. The most important was to give the Mayor a book with the biodiversity in the city. That is interesting at the political level, not the question how we can take action. We have to define what we mean with managers, landscape planners.

Mahito – criteria for quality of habitats. Hotspot mapping, we need ideas to develop criteria. Norbert – evaluation of habitats, species, red data list, although in waste grounds it does not work and other criteria may be needed. CBI is a different aim, to compare cities, a rough investigation. German cities would not be interested, as they have much more information about their biodiversity. It is only one part, the CBI. The other is the application of the data.

Andre – CBI self assessment tool and motivate cities to assess what they are doing.

### **Sarel Cilliers – Urban biodiversity research in South Africa: status, policies, implementation and global relevance**

Status of ecological studies (1990 – 2009), only 9 out of 854 covered urban in South Africa. Conservation, little on restoration

Urban ecology in South Africa: 36 papers from 2000-2013.

Different approaches and drivers for ecological research. Cape Town and Durban interesting studies, biodiversity a driver for research and ecosystem goods and services.

Biodiversity of private green spaces – gardens and public green spaces – parks. Comparative work on those aspects.

Not forget, that every city has unique research questions and needs. Specific species.

Analyse historical loss and current biodiversity, conservation planning and current initiatives to stop biodiversity loss: map, conservation plans, status of conservation types. Urbanisation is a major challenge to conservation (IAS, fire exclusion, lack of megaherbivores and larger predators etc.

Effectiveness of policy to stop biodiversity loss – slow implementation, limited support, local governments not implementing partners, conflicting policies e.g. housing policy

Despite the problems, Cape Town has done a good job to implement the BioNet plan. Spatial planning, conservation stewardship, CEPA, Securing plan in public ownership.

#### Recommendations conservation planning, integrated development plans

Spatially explicit data, patterns, what about processes.

Which are legally binding

Not necessarily implemented by spatial planners

Focus on representative areas and conservation targets

Need thorough and spatially explicit information

Bias towards larger cities

Cape Town, selection ecosystem services for mapping, recognize rapid assessment as a scoping tool, starting point for more detailed mapping

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Ecosystem services, economic valuation, important arguments for increased investment in urban natural capital, following a six step method including participation by financial and environmental decision makers, who are the users of services, how can they contribute to development objectives.

Summary ES

Promote conservation of biodiversity, more research is needed to determine the relationship between biodiversity and ES. Detailed mapping needed. Careful every situation is unique.

Co-management – citizen science. Conservation areas surrounded by townships, successes and failures in co-management.

Interaction poverty and economic, social and spatial development.

What are the benefits promised at the start of co-management arrangements

Durban – urban environmental management leader. The work they have done took a lot of efforts to include all the stakeholders, reaching the rich and the poor. Open space planning data for 3 decades. Protecting ecosystem goods and services. Sustainable an essential aspect in the cities' agenda.

Durban also leader on climate adaptation. Dedicated to have a climate protection branch in the environmental department. Networking between African cities and globally is needed.

Research on climate change impacts on biodiversity and ecosystem service, especially in coastal cities, mapping and valuation.

Private garden studies. Basics – floristics, their contribution to biodiversity in general in comparison to other areas. A substantial contribution. Consider benefits and threats (IAS). Studies on social-economic and cultural influences.

Private gardens have a role to play in urban green infrastructure – need for more research, challenge to include it in local governance, many opportunities for conservation by the general public, involving the community, a participatory approach required.

Urban biodiversity studies – planning, information is used in large municipalities. But not in small ones. Not a functional land use planning system place. An already overworked audience, what value can conservationists provide to land-use planners, defined by what they perceive as such.

Understanding of biodiversity by decision makers. The majority did not consider it part of sustainable development. Angelika Wilhelm rechmann and richard mark cowling, framing biodiversity conservation for decision makers: insights from South African municipalities.

What is the education of managers and planners? Courses at universities. Many students end up with private consultancies.

Should our research be relevant to all stakeholders, customize?

Andre – at local level no integration in management and planning. Sarel – lack of capacity and information.

David – younger generation of officials not so sensitive about biodiversity concerns. Andre – they have other priorities. Sarel – ecosystem valuation Mark – this is a trend around the world. Charles – study at planners use information in Washington state – state law on biodiversity planning – found that the results were not taken into account

Louise – how do scientists from South Africa interact with politicians? Andre – in Cape Town, it is about the role of individuals in the local government, no structured system is followed. You would need a champion in each local government. David – hierarchical structure – biodiversity focused officials are in parks departments, but there is a need for experts outside parks. Different authorities within the city need to talk to each other.

David – US a struggle between cities and metropolitan boundaries, planning commissions across boundaries. Chicago, Houston, Seattle have that to some extent, integrating dialogue across political boundaries, but across departments within jurisdictions? Sarel – often people do not speak to each other.

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## Summary session 1 – What local governments needs and what we have

Existing studies and establishing effective exchange, URBIO can contribute to respond to the CBD plan for action on strengthening the role of local and regional authorities on implementing the international biodiversity targets.

Based on an ICLEI survey of needs of local governments:

- information needs to be specific and relevant, and focused on standards and indicators
- Ecosystem valuation
- Need to improvement of communication and involvement of all stakeholders

Do local governments understand the need for biodiversity conservation?

Need for tools, guidelines, capacity building, local action plans, promotion, awareness, monitoring

In Germany long-term experience in mapping urban ecology:

- basis for implementation of biodiversity and biotope protection programmes
- success factors: practicability; continuity of meetings; continuity of persons involved

In South-Africa an increasing number of studies focus on urban ecology, although a very small percentage of all studies.

Effectiveness of biodiversity policy to stop biodiversity loss is limited due to slow implementation, limited capacity at local government level and conflicting policies

Cape Town is doing a good job implementing the BioNet plan

Economic valuation of ES is an important argument for increased investment in urban natural capital

Urban biodiversity studies are used in large municipalities not in small ones.

## Power point slide Session 1

Needs of local governments, success factors and obstacles

- information needs to be specific and relevant, and focused on standards and indicators, tools, guidelines, capacity building, local action plans, promotion, awareness, monitoring
- Ecosystem valuation
- Need to improvement of communication and involvement of all stakeholders
- basis for implementation of biodiversity and biotope protection programmes
- success factors in mapping urban ecology: practicability, continuity of meetings, continuity of persons involved
- In South-Africa an increasing number of studies focus on urban ecology, although a very small percentage of all studies
- Effectiveness of biodiversity policy to stop biodiversity loss is limited due to slow implementation, limited capacity at local government level and conflicting policies
- Economic valuation of ES is an important argument for increased investment in urban natural capital
- Urban biodiversity studies are used in large municipalities not in small ones.