

# Biodiversity of Africa – Observation and Sustainable Management for our Future!

International Congress, 29 Sep – 3 Oct 2008,  
organised by BIOTA AFRICA

Programme (Version 28<sup>th</sup> September 2008)

## Day 1 – Monday 29<sup>th</sup> September 2008

### Opening Ceremony &

### Challenges for an African Biodiversity Observation Network serving the needs for conservation and sustainable use of biodiversity and its ecosystem services for human welfare

#### A Welcome addresses from the host country & BMBF

Facilitated by John Donaldson, RSA

Time	Title	Authors
10h00	Welcome address & opening notes: <b>SANBI (Local South African Host)</b>	Tanya <b>Abrahamse</b> (CEO of SANBI, South African National Biodiversity Institute)
10h20	Welcome address & opening notes: <b>DST</b>	Marjorie <b>Pyoos</b> and/or Chris <b>Scheffer</b> (DST, Department of Science and Technology, Pretoria, South Africa)
10h40	Welcome address & opening notes: <b>DEAT</b>	Fundisile <b>Mketeni</b> , Wadzi <b>Mandivenyi</b> (DEAT, Department of Environmental Affairs and Tourism, Pretoria, South Africa)
11h00	Welcome address & opening notes: <b>BMBF</b>	Hartmut <b>Grübel</b> (BMBF, Federal Ministry of Education and Research, Berlin, Germany)

#### B Key lectures – International stakeholder views

11h20	The use of biosphere reserves for the creation of a biodiversity observation network in Africa	Samy <b>Mankoto</b> (Chief of Section, Biosphere Networks and Capacity Building, UNESCO Headquarters, United Nations Educational, Scientific and Cultural Organization, Paris, France), Guy <b>Broucke</b> (UNESCO Office, Yaounde, Cameroon)
11h40	African strategies on biodiversity research and sustainability	Robert <b>Kruger</b> (NRF, ICSU)
12h00	IUCN strategies and Africa	Brice <b>Sinsin</b> (IUCN/WCPA West & Central Africa)
12h20	The shape of an emerging global biodiversity observation system	Robert <b>Scholes</b> (GEO BON, Group on Earth Observations Biodiversity Observation Network, Pretoria)
12h40	BIOTA/FAPESP – A Brazilian model for research programs on biodiversity charac-	Carlos <b>Joly</b> ((BIOTA FAPESP, Sao Paulo)

terization, conservation and sustainable use

**Lunch 13h00-14h40**

**Parallel:** Press conference at Helderberg Room (13h30-14h30)

**C Key lectures from African countries, Biodiversity Networks and other institutions**

Facilitated by K. Eduard **Linsenmair**, Germany

14h40	Monitoring biodiversity to aid decision making - a SANBI perspective	John <b>Donaldson</b> , Guy <b>Midgley</b> (SANBI, South African National Biodiversity Institute)
15h00	Biodiversity and desertification in the Circum-Saharan Zone - The ROSELT/OSS experience	Mourad <b>Briki</b> (OSS, Observatoire du Sahara et du Sahel, Tunis)
15h20	The need for a biodiversity observation network in Madagascar	Guy Suzon <b>Ramangason</b> (General Director, ANGAP, Association Nationale de Gestion des Aires Protégées), Gerard <b>Rambeloarisoa</b> (General Director, Ministry for Environment, Forest and Tourism)
15h40	Biodiversity monitoring – Essential basis for nature conservation and natural resource management	Morné <b>Du Plessis</b> (WWF, South Africa)
16h00	Understanding long-term and large scale anthropogenic impacts on biodiversity	Johan C. <b>Pauw</b> (SAEON, South African Environmental Observation Network), Tim G. O'Connor, Nicky Allsopp, A.M. Swemmer, A.W. Paterson, J.C. Hermes
16h20	Environmental monitoring in the Okavango and the Kalahari	Cornelis <b>VanderPost</b> (HOORC, University of Botswana), Susan Ringrose
16h40	BIOTA AFRICA – The concept and contribution of the BIOTA AFRICA network – Including an introduction into the format of the workshops and the BIOTA presentations during the subsequent days	Norbert <b>Jürgens</b> (BIOTA AFRICA)

**Tea & Coffee 17h00-17h30**

**Parallel:** Stakeholder workshop – Introduction

**Panel & plenary discussion**

17h30 -19h00	Opportunities for collaboration: Biodiversity monitoring for sustainable management in Africa	Facilitator: Sem <b>Shikongo</b> , (MET, Ministry of Environment and Tourism, Windhoek, Namibia)
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**Welcome Party 19h30**

## Day 2 – Tuesday 30<sup>th</sup> September 2008

### BIOTA AFRICA Topic 1: Towards an African Biodiversity Observation System

*Chair:* Beatrice Khayota, Dave Joubert

#### Remote sensing

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|------|---|---|
| 8h30 | Land cover and land use change assessments in BIOTA - in the framework of vegetation diversity mapping, global change in Africa and future perspectives | <b>Landmann, Keil</b> , Sabellek, Hüttich, Gessner, Le, Schmidt, Schaab, Lung, Weber, Lieckfeld, Oldeland, Sommer, Wegmann, Vlek, Yao, Dech, Strohbach, Jürgens |
| 8h50 | Spatial pattern analysis across Africa for a better understanding of biodiversity patterns using remote sensing   | <b>Wegmann</b> , Magidi, Lung, Schaab, Krug, Knight, Sommer, Sabellek, Fahr, Herkt, Barnikel, Penner, Rödel, Keil, Landmann, Schmidt                            |
| 9h10 | Using remote sensing and expert knowledge to map landscape-level land degradation in South Africa and Namibia   | <b>Wistebaar</b> , Hoffman, Desmet, <b>Rouget</b> , Jonas, Lieckfeld, Gessner   |

#### Spatial biogeographical patterns

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|------|---|---|
| 9h30 | Opportunities, challenges and limitations of species distribution models: Implications for decision-making in support of biodiversity conservation and sustainable land use | <b>Herkt</b> , Barnikel, Fahr, Finckh, García Marquez, König, Oldeland, Penner, Rödel, Schmidt, Sommer, Wegmann |
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#### Reconstruction of recent history

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|------|---|---------------------------------|
| 9h50 | Environmental history of land use and climatic impacts on the vegetation of the western part of southern Africa over the last 200 years | <b>Hoffman</b> , Rohde, Jürgens |
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#### Standardised Biodiversity Observatories

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|-------|---|---|
| 10h10 | Standardised Biodiversity Observatories – Results and future challenges | <b>Jürgens</b> , Augustin, Büdel, Deutschewitz, Dojani, Donaldson, Esler, Finckh, Goetze, Hahn-Hadjali, Kongor, Koulibali, Fischer, Petersen, Porembski, Rambold, Schmidt, Schmiedel, Sinsin, Strohbach, Thiombiano, Wägele, Weber, Zizka |
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#### Tea & Coffee 10h30-11h10

**Parallel:** Stakeholder workshop – NGO work (10h45-13h00)

#### Topic 1 (cont.)

#### Bringing drivers of change into the observation system: Climate change and soil fertility

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|-------|---|---|
| 11h10 | Regional climate simulations for the BIOTA South region – Model performance and first results of future climate projections | <b>Hänsler</b> , Hagemann, Jacob                |
| 11h30 | Observation of abiotic site properties: Results for biodiversity and implications for monitoring                            | <b>Petersen</b> , Gröngröft, Schmiedel, Jürgens |

### Genetic diversity and methodological improvement

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|-------|---|------------------------|
| 11h50 | Rapid species identification – Future tools for large scale monitoring                                    | <b>Oyieke</b> , Wägele |
| 12h10 | Summary and vision: Measuring the change of biodiversity, current state, user needs and future challenges | <b>Jürgens</b>         |

### BIOTA AFRICA Topic 2: Process Analysis

**Chair: Karen Esler, Katrin Böhning-Gaese**

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|-------|--|---|
| 12h30 | Drivers and function of soil diversity in savannas and tropical forests  | Dalitz, Fey, Gliniars, Graiff, Gröngröft, Grohmann, Herpel, Kaiser, Linsenmair, <b>Mills</b> , Musila, Oesker, Petersen, Siegle, Todt |
| 12h50 | Mechanisms of vegetation change: Ecological transition zones sensitive to global change in South and West Africa | <b>Shiponeni</b> , Goetze, Hennenberg, Kersting, Allsopp, Carrick, Porembski, Hoffman   |

### Lunch 13h10-14h40

### Topic 2 (cont.)

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|-------|---|---|
| 14h40 | From land use to vegetation and biodiversity changes – Linking models and data  | <b>Blaum</b> , Rossmannith, Lohmann, Meyfarth, Schwager, Domptail, Nuppenau, Geßner, Keil, Gröngröft, Jeltsch   |
| 15h00 | The influence of land use change on the distribution of plant species in North and West African dry lands                     | <b>Koenig</b> , Thiombiano, Hahn-Hadjali, Schmidt, Wittig, Augustin, Finckh, Agbani, Agonyssa, Sinsin   |
| 15h20 | Effects of forest fragmentation and disturbance on biodiversity and ecosystem functions in an African rainforest              | <b>Schleuning</b> , Farwig, Althof, Berens, Bergsdorf, Bleher, Brenner, Dalitz, Fischer, Fischer, Freund, Gikungu, Gliniars, Hagen, Hita Garcia, Kaib, Kirika, Kraemer, Kraus, Kühne, Lung, Malombe, Mitchell, Musila, Peters, Schaab, Theisen, Todt, Uster, Wägele, Yeshitela, Böhning-Gaese |
| 15h40 | From field findings on biodiversity to landscape-scale distributions and change over time – Ants and birds in Kakamega Forest | <b>Lung</b> , Peters, Farwig, Sajita, Böhning-Gaese, Schaab   |
| 16h00 | Fragmented landscape management: Integrating and implementing ecological research across taxa and scales                      | <b>Krug</b> , Cabral, Esler, Grant, Horn, Heelemann, Kieck, Kongor, Meyer, Vrdoljak, Reisch, Samways, Schurr, Sharma, Poschlod  |
| 16h20 | Effects of experimental climate manipulations on soil and vegetation dynamics in the South African succulent karoo biome      | <b>Musil</b> , Nyaga, Matimati  |

**Parallel:** Stakeholder workshop – Conservation work (14h45-17h15)

**Tea & Coffee 16h40-17h10**

### Topic 2 (cont.)

17h10	Monitoring of biophysical and climatological drivers and the impact of climate change on ecosystem functions in West Africa	<b>Falk</b> , Landmann, Kunstmann, Szarzynski, Schmidt
17h30	Impact of climate change on plant and bird diversity in Africa	<b>Barthlott</b> , Böhning-Gaese, Field, Finckh, Heyder, Kissling, Korntheuer, Oldeland, Sabellek, Sommer
17h50	Summary and vision: Understanding and modelling ecosystem processes and functions: Current state and future challenges	<b>Jeltsch</b> , Boehning-Gaese, Sommer, Blaum, Rossmannith, Tietjen, Meyfarth, Groengroeft, Simmons, Lohmann et al.

### 18h10-19h10

*Workshop: Improving the current impact, application and DSS based on monitoring products: First meeting*

### Congress Dinner 19h30

## Day 3 – Wednesday 1<sup>st</sup> October 2008

### CoCE – Coffee Project

**Chair: Franz Gatzweiler**

8h30	CoCE - Conservation and use of the wild populations of <i>Coffea arabica</i> in the montane rainforests of Ethiopia	<b>Denich</b> , Gole, Gatzweiler, Balcha, Vlek
8h50	Genetic diversity of wild coffee and its implications for conservation	<b>Tesfaye</b> , Senbeta, Oljira, Balemi, Govers, Bekele, Borsch
9h10	Ecophysiology and quality of wild Arabica coffee from afro-montane rainforests of Ethiopia and their relationships with environmental conditions	<b>Yadessa</b> , Beining, Kufa, Goldbach, Fetene, Burkhardt
9h30	Using the economic value of forest coffee for forest conservation	<b>Stellmacher</b> , Gatzweiler, Haile, Seyoum
9h45	Contributions of the Ethiopian Coffee Forest Forum to the conservation of coffee forests in Ethiopia	<b>Gole</b> , Senbeta, Moll, Zander, Gatzweiler, Denich, Kelbessa, Adugna, Dalle, Hedden-Dunkhorst

### Cuvette Central – Congo Project

10h00	Medicinal plant use for biodiversity conservation: From tradition to modern application	Muganza, Mato, Bikandu, Lassa, Lukoki, <b>Fruth</b>
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### Parallel 8h30-10h30:

*Workshop: Improving understanding and predictability of change of biodiversity by integrating observation, experiments and modelling*

### Tea & Coffee 10h30-11h10

### Microbial diversity – Microbiology Project

**Chair: Percy M. Chimwamurombe**

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|-------|---|--|
| 11h10 | Functional diversity and impact of mostly novel nitrogen-fixing bacteria associated with wild plants and crops from Northern regions of Namibia | Burbano, Bahulikar, Demba-Diallo, Hurek, <b>Reinhold-Hurek</b> |
| 11h30 | The diversity and activity of bacterial communities in Namibian semiarid savanna soils – Anthropogenic determinants and feedback loops          | Zul, Fösel, Romann, Mayer, <b>Overmann</b>                     |
| 11h50 | Diversity of <i>Acidobacteria</i> in Namibian soils and novel methodological developments in microbial ecology                                  | <b>Pester</b> , Rappl, Starke, Baranyi, Wagner, Ludwig, Loy    |
| 12h10 | Impact of land use and soil properties in the Kavango-region of Northern Namibia on N <sub>2</sub> O emissions and denitrifier communities      | <b>Hannig</b> , Gröngroft, Conrad, Braker                      |

### BIOTA AFRICA Topic 3: Land Use, Impact and Value

**Chair: N.N.**

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|-------|---|---|
| 12h30 | Land use and climate changes in West Africa: Dynamics of forest and savanna vegetation  | <b>Goetze</b> , Hennenberg, Koulibaly, Orthmann, Schöngart, Sinsin, Traoré, Worbes, Porembski   |
| 12h50 | Mountains, mining, and threatened species – A deadly cocktail for the long-term conservation of a global biodiversity hotspot | <b>Fahr</b> , Barnikel, García-Márquez, Hillers, Kalko, Penner, Schmidt, Sommer, Wegmann, Rödel |

#### Lunch 13h10-14h40

#### Parallel 13h30-14h30:

*Book launch: Biodiversity and the ancestors: Challenges to customary and environmental law – Case studies from Namibia*

#### Topic 3 (cont.)

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|-------|---|---|
| 14h40 | Species interactions and ecosystem services: Land use, seed dispersal and vegetation dynamics               | <b>Kalko</b> , Berens, Böhning-Gaese, Djossa, Eshiamwata, Fahr, Farwig, Kirika, Schleuning, Ebigbo, Sinsin                            |
| 15h00 | The bee diversity of Kakamega Forest: Influence of habitat fragmentation and succession                     | <b>Gikungu</b> , Hagen, Hasenbein, Kraemer  |
| 15h20 | Influence of habitat degradation on African ant and termite communities                                     | <b>Peters</b> , Brandl, Fischer, Grohmann, Hausberger, Hita Garcia, Kagezi, Kaib, Kaiser, Konaté, Korb, Linsenmair, Reichmann, Wägele |
| 15h40 | Deforestation and biodiversity-loss due to cultivation? An interdisciplinary analysis in North-East Namibia | <b>Falk</b> , <b>Gröngroft</b> , Hecht, Hinz, Kangombe, Keil, Petersen, Pröpper, Strohbach, Wisch                                     |
| 16h00 | Cost-benefit analysis of different management approaches of Kakamega Forest in Kenya                        | <b>Guthiga</b> , Holm-Mueller, Mburu, Kasina, Kraemer   |

16h20	Spatiotemporal availability and management obstacles of pastoral resources in the transhumance system of the Mgoun region, Southern Morocco	<b>Yessef</b> , Finckh, Augustin, Akasbi
16h40	Species interactions and population patterns of Moroccan steppe vegetation under grazing pressure and under exclusion of land use	Augustin, <b>Finckh</b>

**Tea & Coffee 17h00-17h20**

**1. Poster Session 17h20-19h00**

**Parallel 18h00-19h30**

*Workshop: Improving availability of data on land use change*

**Day 4 – Thursday 2<sup>nd</sup> October 2008**

**Topic 3 (cont.)**

8h30	Applying bio-economic models and trust games for rangeland management and conservation under uncertainty	<b>Domptail</b> , <b>Prediger</b> , Vollan, Kirk, Nuppenau, Popp, Pröpper
8h50	The road ahead / Thoughts and contributions from all	<b>Hoffman</b>

**BIOTA AFRICA Topic 4:  
Interventions**

**Chair: Michael Kirk**

9h10	Cross-taxon patterns of biodiversity, land cover, and protected areas in West Africa	<b>García Márquez</b> , Barnikel, Barthlott, Da, Dressler, Fahr, Herkt, Janssen, Kalko, König, Landmann, Linsenmair, Penner, Rödel, Schmidt, Schmidt, Sommer, Thiombiano, Wegmann, Zizka
9h30	Restoration of degraded soils in Burkina Faso	<b>Ouédraogo</b> , Hahn-Hadjali, Kaiser, Konaté, Linsenmair, Soulama, Thiombiano
9h50	BIOTA involvement in the participatory forest management of Kakamega Forest, aiming at a zonation map	<b>Mitchell</b> , Fischer, Freund, Gaesing, Hagen, Kraemer, Oesker, Peters, Wägele, Wünscher, Schaab
10h10	Tools developed for use in biodiversity research and management related to East African rainforests	<b>Schaab</b> , Böhning-Gaese, Dalitz, Fischer, Freund, Gaesing, Holstein, Kraemer, Lampe, Mussnug, Peters, Rietdorf

**Tea & Coffee 10h30-11h10**

**Parallel:** Stakeholder workshop – Sustainable use (10h45-13h30)

**Topic 4 (cont.)**

11h10	Participatory research with some Namibian farmers to improve ecological functioning	<b>Zimmermann</b> , <b>Shamathe</b> , Pringle, Tjilumbu, Liyemo, Muheua, Kauatjirue
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11h30	From science to action: The implementation of "Locally Protected Areas" (LPAs) for biodiversity conservation	<b>Hahn-Hadjali</b> , Wieckhorst, Sinsin, Thiombiano
11h50	Developing a decision support system for the management of semi-arid savannas in Namibia (progress and lessons learnt)	<b>Joubert</b> , Zimmermann, Fendler, Winschiers
12h10	Approaches to reconcile biodiversity conservation with the need to improve rural livelihoods	Becker, <b>Gaesing</b> , Kappel, Mussgnug, Rietdorf, Schmidt-Kallert, Wünsch
12h30	Institutions and policies for better management of natural resources in Namibia	Domptail, <b>Falk</b> , Hinz, Kirk, Popp, Unanivi, Muhongo, Namwoonde, Mapaure
12h50	Ecosystem services, landscapes and concepts for biodiversity protection: A "Pan-African" policy perspective	Falk, Gaesing, Goetze, Hahn-Hadjali, <b>Kirk</b> , Nuppenau, Rietdorf, Schareika, Schmid-Kallert, Wünsch

**Lunch 13h10-14h40**

**BIOTA AFRICA Topic 5:  
Capacity Development and Data Centres**

**Chair: Nicky Allsopp**

14h40	Capacity development and knowledge exchange in BIOTA AFRICA: A capacity to build capacity project	<b>Sinsin</b>
15h00	Passing on biodiversity data to decision makers and the public for sustainable land use planning and education. Examples from Morocco and West Africa	<b>Kampmann</b> , Koenig, Finckh
15h20	Creating enabling frame conditions for land user-scientist communication	<b>Koelle</b> , Kotze
15h40	Researcher-land user linkage: The par-ecologists in BIOTA AFRICA	<b>Schmiedel</b> , Christiaan, Dausas, Isaacks, Kooitjie, Kotze, Lot, Mukuya, <b>Pieters</b> , Todt, Dalitz, Analo
16h00	Paving the road for pollinator conservation in Kenya	<b>Kinuthia</b> , Gikungu, Hagen, Kraemer
16h15	The Zaï system: A West African traditional soil restoration system based on termite activity	Kaiser, <b>Konaté</b> , Linsenmair
16h30	Awareness raising film project on illegal logging in Northern Namibia	<b>Mukuya</b> , Pröpper

**Tea & Coffee 16h40-17h10**

**2. Poster Session 17h10-18h50**

**Parallel 18h00-19h30**

*Workshop: Improving the current impact, application and DSS based on monitoring products:  
Second meeting*

## Day 5 – Friday 3<sup>rd</sup> October 2008

### Topic 5 (cont.)

#### Chair: Wolfgang Wägele

8h30	Biodiversity data nodes – Digitization and integration of biodiversity data	Schmidt, <b>Thiombiano</b> , Dressler, Finck, Janssen, Jürgens, Khayota, Konaté, Muche, Schmiedel, Sinsin, Zizka
8h50	BIOTA AFRICA biodiversity data nodes in Germany	<b>Muche</b>
9h10	Transdisciplinary approaches in documentation of biodiversity	<b>Lampe</b>
9h30	Capacity development and data centers: Conclusions and visions	<b>Khayota</b> , Lampe

### Report from workshops

9h50	Impact & application of science products	<b>N.N.</b>
10h00	Integrating observation, experiments and modelling	<b>N.N.</b>
10h10	Stakeholder	<b>Shikongo</b> , Moll

### Tea & Coffee 10h30-11h10

#### 11h10-13h10:

#### *Presentations and discussions:*

#### *Market of new opportunities: Potential new partners and topics*

#### Facilitated by Norbert **Jürgens**, Germany

11h10	Needs and assets for biodiversity observation systems in Madagascar as a basis for sustainable land use management and conservation of ecosystem functions and services	Guy Suzon <b>Ramangason</b> , (ANGAP), Gerard <b>Rambeloarisoa</b> (Ministry for Environment, Forest and Tourism), Jörg <b>Ganzhorn</b> (University of Hamburg)
11h25	Namibia in the context of the Environmental Long-Term Observatories Network of Southern Africa (ELTOSA)	Johannes <b>Henschel</b> (Gobabeb, NaEON)
11h40	Biodiversity and sustainable land management in relation to climate change	Paula <b>Francisco</b> Coelho (Ministry of Urbanism and Environmental Affairs, Angola), Lucas <b>Miranda</b> (Ministry of Urban Affairs and Environment, Angola), Domingos <b>Lucano</b> (Ministry of Agriculture and Rural Development, Angola)
11h55	The WWF programme in Africa	Harrison <b>Kojwang</b> (WWF, Harare)
12h05	A 27 year-old observatory in the Sahel savanna of N Senegal – Design, present results, chances and limitations for long-term biodiversity monitoring	Sabine <b>Miehe</b> (University of Marburg), Jürgen Kluge, Heike Culmsee
12h15	Stakeholder dialogue as a strategic component of scientific research on land use issues – The example of farmer-cheetah conflict in Namibia	Bettina <b>Wachter</b> (Leibniz Institute for Zoo and Wildlife Research, Berlin), J. Melzheimer, S. Thalwitzer, J. Lonzer, S. Streif, H. Hofer
12h25	Towards conservation: Baseline data, skills and changing perceptions	Tharina <b>Bird</b> (EduVentures, Namibia)

12h35 Discussion

- 13h10

**Lunch 13h10-14h40**

**14h40-16h40**

*Final discussion: (1) Strength and weaknesses of today, (2) The road ahead for BIOTA: (a) themes and (b) cooperation format*

Facilitated by Brice **Sinsin**, Benin and Timm **Hoffman**, South Africa

16h40 End of congress