





Capacity development and data centers: Conclusions and visions

Dr. Beatrice Khayota¹, Dr. Karl-Heinz Lampe²

- ¹ Centre for Biodiversity, National Museums of Kenya (NMK)
- ² Biodiversity Informatics, Zoologisches Forschungsmsueum Alexander Koenig (ZFMK)





African-German BIOTA core participants





Core participant										
Click on flag to show participants of the country										
	Austria	1								
	Bénin	25								
*	Burkina Faso	23								
	Côte d'Ivoire	19								
	Finland	1								
	Germany	218								
	Kenya	28								
*	Morocco	5								
//	Namibia	28								
*	Senegal	3								
\gg	South Africa	49								
	The Netherlands	2								
0	Uganda	9								
Total:	411 participants from	13 countries								













BIOTA Africa: Scientific Publications

BIOTA AFRICA																	
ECO Total Africa	Total	in preparation	submitted	in review	in press	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	unspec. Year
Publications in Journals (peer-reviewed)		31	32	7	34	36	42	65	55	48	34	13	10	1	3	1	0
Publications in Journals (not peer-reviewed)	117	2	5	0	1	6	8	12	16	31	11	12	9	4	0	0	0
Contributions in Books		0	1	0	6	4	10	8	12	9	5	7	7	1	0	2	0
Conference Proceedings		0	4	1	0	8	10	12	12	17	7	5	4	0	0	0	0
Monographs	10	2	0	0	0	1	2	0	0	0	1	0	3	0	1	0	0
PhD Thesis	57	14	0	0	0	6	12	8	9	6	2	0	0	0	0	0	0
Diploma Thesis	106	1	0	0	0	1	12	7	20	24	26	10	5	0	0	0	0
DEA: Diplôme d'étude approfondie	12	1	0	0	0	2	1	0	2	2	1	3	0	0	0	0	0
Master Thesis	27	0	0	0	0	2	6	2	5	5	2	3	2	0	0	0	0
Bachelor Thesis	6	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0
Internet Publications	53	0	0	0	0	2	4	2	15	2	22	3	3	0	0	0	0
Software Products	5	0	0	0	0	1	0	2	2	0	0	0	0	0	0	0	0
Total	957	51	42	8	41	69	110	118	149	145	112	56	43	6	4	3	0
Posters	196	0	0	0	0	6	1	26	75	21	46	12	9	0	0	0	0
Conference Contributions Abstracts	390	1	3	0	2	17	37	40	80	62	80	34	31	2	0	0	1
Grand total	1543	52	45	8	43	92	148	184	304	228	238	102	83	8	4	3	1













BIOTA Africa: Training

EAST I	PhD N	Magister	Diploma/MSc	Bachelor 1	Undergraduate	e student project	Scientific Trainin	g (Technicians)	Scientific Training	Para-ecologist	Seminar	Field assistance		Internship	Institutional 4 Technical support of counterpart institutions		
E02	1			3	1							1			KWSTraining to operate the meteorological		
E03	3			3			11Technicans & fi	eld assistants trained							ICRAF		
E04 E06	2				4					2				5			
E07	2			1					16								
E08 E09	2			5					21					2			
E10	3			8					4					3	6		
E11 E12	3								3					1	Technical support NMK 1 Establishment herbarium & botanical garder	Maseno University	
E13	1			3													
E14 E15	1			1			1 2										
E16	1																
	19								45					2			
SUMME	19		0	31	5		3		45	2	0	1			Training of		
															manning or		
EAST II	PhD N	Magister	Diploma/MSc	Bachelor	•	e student project	Scientific Trainin		Scientific Training	Para-ecologist	Seminar	Field assistance		Internship	Institutional	_	
E01 E02	3 5			² 7	'nD	Magi	ster	Diplom	na/MSc	,	В	Sc	Tech	nnic	Technical support NMK/ Imps (1c 8 C	entists	
E03	4			7					1			33+ 10 casual work	ers 1 month		4 Technical support NMK/ WAC, Kisumu/ KEF	RI, Maseno/ KEEP, Kakam	ega
E04 E07	4			2										1	NMK/ Maseno Botanical Garden NMK/ Makerere University, Uganda/ IUCN/ I	kws	
E08	2			2	4.0				. 04			_		2	NMK/ Makerere University		400
Eas				7	₂ 19				; 31			5		6 4	11 Technical Support NMK	2	102
E13	3			6					19	9				4	University of Nairobi/ Kenyatta & Egerton Ur	niversity	
E14 E14b	2			2					2					3	3 KARI		
E14c E15	2		3	4					4	•				2	1 Technical support NMK		
	4 11				40		2		4 4	8		2				47	470
Eas E16	it li				40		3		₅ 41			3		2	Technical support NMK/ National Herbarium	Kampala/ Budongo Forest	Project / O
E16	2													2	NMR		
SUMME	40		3	41	3		0		71	17	0	1	2	25	23		
																	4.50
Sou	ıth.		Diploma/MSc	Bachelor	35	e student project	Calandella Tarlala	- (Testudeleus)	Scientific Training	Para-ecologist	Seminar	Field assistance		Internshin	_22		150
SOUTHIE	PND N	magister	Dipioma/wisc	Bachelor	Undergraduate	e student project	Scientific Trainin	g (Technicians)	Scientific Training	Para-ecologist	Seminar	Field assistance		internship	institutional		
Germany Namibia	26 1			31 31					0 14		4						
County Afrillia									0								
South Afrika	8			31					8		4						
Summe	35			93			0		22	0	8	0		0	0		
	30																
WESTI	PhD M	Magister	Diploma/MSc	Bachelor	Undergraduate	e student project	Scientific Trainin	g (Technicians)	Scientific Training	Para-ecologist	Seminar	Field assistance		Internship	Institutional		













Needs for Capacity Development

- 1. Training of personnel (para-ecologists, students, technicians, researchers & lecturers) on a continuous and sustainable basis
- 2. Collaboration on Global concerns and patterns
- 3. Sharing of country/region based experiences (e.g. Zai project, Ecolab, Pollination ecology & Awareness raising strategies)
- 4. Centers of excellence, either national or regional, for training, research and information (exit strategy!)
- 5. Mechanism to coordinate regional cooperation (including data sharing protocols; intellectual property rights, maintenance of websites etc.)
- 6. Planning of research should include participation of all relevant stakeholders in the research process to ensure implementation of results.





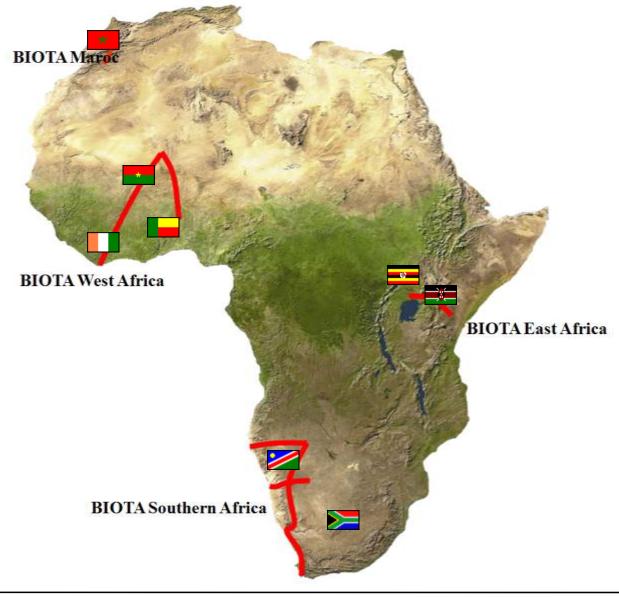








African Biodiversity data nodes















Biodiversity data nodes: Current status

Currently data nodes exists in all BIOTA regions, but there are differences in:

- Partner institutions involved: University versus memory institutions (ALM)
- Purpose (teaching, research etc.)
- Levels of digitization: raw data and /or deep analysis of primary data
- IT design: Hard- and Software
- Bandwidth of Internet
- Accessibility of data: local, regional and global
- Support of exchange format (interface for data transfer to other formats etc.)













Biodiversity data nodes: Needs

- 1. Cross-domain and regional data integration including standardization
- 2. Biodiversity data centers of excellence either national or regional for long term availability of information (exit strategy!)
- Avail data relevant for management and decision making issues to users such as site managers, researchers, policy makers etc.
- 4. Broader bandwidth to the Internet for information accessibility and integration













Capacity development and Biodiversity data nodes: Visions

Equal partnerships between South - South and South - North collaboration of all stakeholders in terms of:

- trained personnel in relevant fields
- infrastructure (IT and biological collection facilities)
- open access to biodiversity data in the sense of the Berlin Declaration
- data/information interfaces between partner institutions involved
- ontologies covering metadata as well as primary data from scientific and scholarly domains
- expanding and improving of a central inventory and archive of the BIOTA data
- development of tools for data access and data integration
- organizing data access via website and co-operation with international network such as GBIF













Capacity development and Biodiversity data nodes: Visions

Bridging gaps between land users, researchers and decision makers by providing special data/information to allow meaningful planning on the ground.

The information has to be reliable and easily understood by end users and based on sound science.













African-German Biodiversity network based on open access

