**Project Results Assessment with
Final Documentation and Reporting**

# Heritage Education
# for Sustainable Development:
# Dialogue with Indigenous Communities
# in Africa



**Tuareg artisan women, Gougarom village, Iférouane, Niger.** *Photo N. Crawhall*

UNESCO contract n° 409645
With funding from the Japanese Funds-In-Trust for ESD

**December 2008**

Dr Nigel Crawhall, consultant

**Tuareg camel herder, Agadez market, Niger.** *Photo N. Crawhall*

## *Foreword*

As the twenty-first century gets into gear, it is clear that the defining characteristic of our era is that of climate insecurity. The United Nations' Framework Convention on Climate Change's 14th Conference of Parties in Poznań, Poland held in December 2008 ended with a stalemate in north-south talks on how to cut carbon emissions required to slow the rate of global warming[1]. Scientists of the Inter-governmental Panel on Climate Change (IPCC) warned parties and humanity that we are hurtling towards a global crisis of such immense and irreversible proportions that the very future of the human race will be placed at risk as the century unfolds.

The UN's Decade of Education for Sustainable Development (ESD) was born in the shadow of the UNFCCC talks. We may now ask ourselves: *How did we get to this place in history where the water is so deep and the waves are threatening to drown us, and moreover, is there a way to swim back to the shore before it is too late?*

Though rural indigenous and local Africans are often cast as 'victims' of climate change, the African indigenous peoples' ESD reports to UNESCO demonstrate that indigenous peoples also have the potential to be active players in policy, advocacy, adaptation and ethical elements which could be beneficial for guiding us back to the safety of the shoreline.

This summary report explores reflections and efforts from three different parts of Africa as to how oral heritage, cultural resources and traditional knowledge provide communities, nations and humans with insights into sustainable living in the shadow of global warming. Through the memory, new technologies and artful surfacing of tacit knowledge about subsistence economies the ESD case studies explore the contract between generations to sustain peaceful coexistence between humans and with the rest of the living world.

All errors or misinterpretations are the fault of the author.

---

[1] COP14 made some progress in technical issues but was generally considered to have broken down due to North-South dynamics. See for example the review at http://www.iisd.ca/vol12/enb12395e.html

**Ogiek adults work on a 3 dimensional map of the Mau forest escarpment, Kenya.** *Photo N. Crawhall*

## Introduction: ESD; heritage and knowledge of indigenous peoples in Africa

> *Sustainable development is that which meets the needs of the present without compromising the ability of future generations to meet their own needs.* (Brundtland, 1987)

The aim of the United Nations' Decade of Education for Sustainable Development (2005 – 2014) is to integrate principles, values and practices of sustainable development into all aspects of education and learning. In the 21st century, *sustainability* has to be understood in the context of the unfolding crisis of climate instability caused by global warming, which is due to excessive Green House Gas (GHG) emissions from industrialised and newly emerging economies. At a more local level, *sustainability* is understood to mean how humans will live within the limits of the capacity of local ecosystems (including sustaining the mutual interdependence of endemic biodiversity as well as judicious and equitable use of natural resources) to support human livelihoods over the medium and long term. Sustainability is thus a combination of understanding natural ecological limits and capacity on the one hand, and assuring peaceful coexistence of diverse peoples and their economic and consumption patterns on the other.

The Decade of ESD asks us to consider the intergenerational and intercultural exchanges, dialogue and learning required to achieve sustainability in a manner that is not defined by winners and losers, by violent conflicts and gross human rights violations, but rather by being guided by moderation, restraint and an emphasis on living wisely within local and global resource constraints. Our particular and collective human cultural heritages are a great resource in finding values, methods, practices and insights into how to achieve a harmonious relationship both with nature and within human civilisation. Moreover, reflecting on the challenges of sustainability and the value of cultural heritage is a way to anticipate the challenges which face us and the types of solutions which we will be considering.

The climate crisis which has been brought about by 'modernisation' (i.e. burning fossil-fuel and the release of excessive Green House Gases (GHG) without concern for the Earth's adaptive capacity) finds its roots not just in industrialisation, but more deeply in the logic of agricultural expansion which has slowly engulfed the planet during the Holocene. For most of the last 300 000 years in which modern humans have been on the scene, we have lived as hunters and gatherers. Our survival as a species was related to our understanding of the natural ecosystems and our ability to insert ourselves into the dynamics of those systems. It is only in the last 10 000 years that humans have developed the idea that they are masters of the natural world and can transform it with impunity (see Brody 2000).

One of the defining aspects of this human adaptation to the ups and downs of ecosystems, climates and predators has been, at least in the last 100 000 years, our ability to use language and cultural systems to ensure intergenerational teaching to ensure that humans would be able to understand the natural world, navigate its physical complexity, and locate themselves in a supernatural and spiritual interpretation of rights and responsibilities between humans and between humans and other living things. The evolution of human culture has been premised on transmitting knowledge about biodiversity and ecosystem capacity from generation to generation through the medium of culture (song, stories, dance, learning methods, language specificity, and so forth).

In the last twenty years, linguists have been emphasising that human cultural and linguistic diversity is closely correlated with biological diversity (see Nettle et al 2000, Maffi 2005). Where biodiversity is most dense and abundant, human cultures have also managed to propagate in diverse forms, each culture finding a specific niche in the ecosystem and developing expertise, knowledge, wisdom, practices and values to sustain itself in that niche. In areas of the planet with less abundance, such as the arctic tundra, the great deserts of the planets and high altitude mountain terrains, human density has been low and human linguistic and cultural diversity has been also less dense. Hence we find ourselves today with thousands of languages clustered in Papua New Guinea, but only a handful of languages running from Greenland through Arctic Canada to Alaska. Similarly, in Africa the equatorial rainforest is rich in cultural diversity, with much lesser density in the Sahara Desert. Each culture, whether tightly packed or thinly spread, represents part of the development of human civilisation on the planet, with its particular heritage of living in cooperation with natural resources.

Popular writers such as Jared Diamond (1997) and anthropologist / writer / film-maker Hugh Brody (2000), have argued that modernity and the clash of civilisations did not start with industrialisation; it was rather pre-ordained from the start of agriculture. Agriculture - the ability to manipulate wild plants into domestic crops - was only possible over the last 10 000 years of human civilisation. This was, as Diamond has emphasised, a fluke of climate, whereby relatively stable temperatures meant that humans particularly in the subtropics, could become sedentary and use cultivation of crops to reshape the landscape and slowly become masters over nature, rather than living within natural systems. Agriculture requires humans to increase their population density to manage the labour-intensive cycles of planting and harvesting, hence pushing humans into an upward cycle of population growth and over time, into ever greater territorial expansion, fusion and conquest.

The consolidation of human and material resources in agricultural empires led to slavery, distant territorial conquests and the accumulation of such populations, labour and resources that fostered specialisation and financing of new technological breakthroughs, including industrialisation, modern medicine and the exploitation of fossil fuels for combustion.

This rather sweeping introduction is intended to set the scene for a discussion of what modern hunters and herders in Africa know, value and think about sustainability and inter-generational obligations just as the human race begin to ask if 'modernisation' may also mean that the West has overstepped the boundary of what Earth and its ecosystems can tolerate and adapt to. The idea that Man is a life-form like all others, infused with '│qe' (the N│uu San term for *life-force'.* See SASI 2006) which infuses and binds together the destiny of all living things, including the Earth, is inherent in indigenous cultures, but somehow got put aside by the industrial world. Elements within the Christian world adopted a doctrine of the *'dominion of man over nature',* regardless of the consequences. Christian theologians and activists are now the ones leading new thinking about the environment in the West (See Church of Sweden 2008). The challenge for Africa is to hear the voices of those closest to the ground, to the threatened ecosystems, with daily knowledge of biodiversity, who can play a role in mobilising culture and heritage to help all of us shape policy in favour of sustainability.

**Indigenous and local in Africa**

The notion of *'indigenous people'* in the African context may be unclear to some readers. In 1995, the United Nations launched its 1st International Decade of the World's Indigenous People. During this time, ethnic groups who considered themselves to be indigenous to their territories and in need of human and civil rights protection negotiated with the member states of the UN to create a Declaration on the Rights of Indigenous Peoples which was eventually adopted in September 2007.

In Africa, the term *'indigenous'* as a legal and rights concept has had two different meanings in reference to international law and norms. In the first instance it refers to Africans who were colonised by Europe and subsequently regained sovereignty through the decolonisation process. In this usage, the African state's sovereignty arises from its legitimate representation of 'indigenous' people liberated from colonial (alien) rule.

The second use of the term *'indigenous'*, as in 'indigenous peoples' refers to a more recent legal and rights terminology in Africa and at the United Nations. Since 1995, the term has come to apply to *aboriginal* or *first nations* peoples who experience various forms of discrimination inside Africa. These peoples are for the most part living in a subsistence economy different from the national norm, usually by hunting and gathering or by transhumant / nomadic pastoralism. The claim has also been made by communities who experienced assimilation into in-migrating language and cultural groups, such as the Imazighn ('Berbers') of North Africa and the Afrikaans-speaking Khoisan peoples of South Africa. The African Commission on Human and Peoples' Rights (ACHPR) debated the applicability of the term 'indigenous' in the African context and in 2003 adopted a report by its working group recognising the importance of redress and rights for these communities (ACHPR 2005). In 2007, the Africa group of states voted in favour of the adoption of the UN Declaration. For a more detailed discussion of indigenous peoples and development policy see Crawhall 2007, Saugestad 2008, Veber 1994.

## Learning, teaching and sustaining

Much of the information provided in the ESD Africa reports deal with traditional ecological knowledge (TEK) which is passed orally from one generation to another. I have used TEK in this report, though in UNESCO instruments the term 'indigenous knowledge systems' (IKS) is also widely used. TEK and IKS can be considered equivalent though TEK is emphasising knowledge of nature. UNESCO's mission is to foster awareness about this non-formal type of knowledge (and values) transmission, and to explore the possibilities of bridging from the oral and non-formal into State-managed formal, literacy based education.

The first hurdle in UNESCO's work with its members is to help stakeholders recognise that *'knowledge'* is itself something that is fluid, complex, and shaped by local contexts. It is a major challenge to ensure the recognition of local and indigenous African knowledge systems which have for one reason or another been marginalised or even damaged. Much of Africa's TEK and cultural heritage is oral and undocumented, stigmatised by European ideas of the primacy of the written word.

P.T. Zeleza, speaking in the academic context, notes that:

> "Almost invariably, the construction and conceptualization of knowledge have social, spatial and temporal contexts and referents. Few would disagree that knowledge, whatever the prevailing disciplinary labels, is produced through specific paradigms that are developed by certain groups of people in particular places and periods. Knowledge production is, in this fundamental sense, a spatialized social practice notwithstanding the vigorous, but often vain, attempts by some scholars to free their disciplines, specialties, theories and models from the supposedly suffocating confines of time and space. The disciplines and interdisciplines are rather porous and changing branches of knowledge, epistemic and social constructs whose intellectual, institutional, and ideological configurations are mediated and mapped by the unyielding demands of historical geography." (Zeleza, 2007)
>
> Mobilising African heritage and knowledge for sustainable development thus requires clarity about what is meant by culture, heritage and knowledge. The application of GIT, which includes geo-referencing of local knowledge, land usage and cultural landscapes helps to reshape and valorise local knowledge, both in the eyes of the owners and in the eyes of dominant cultural groups and civil servants.

A discussion of Education for Sustainable Development will be best served if we start with the point that inter-generational and even intercultural education is fundamental to all human and many non-human cultures (Dunbar 1996, Pennisi 2004) and formal Education, as managed by the State in modern times is a product of the dominion of agricultural, industrial and colonising states over both the natural world and the world of indigenous peoples. Some theorists argue that contemporary formal education in Africa is a hybrid of colonial intellectual domination and local elite agendas of nation-building, sovereignty and limited *Africanisation* (See discussion in Woolman 2001).

In his review of dependency theory and critiques of knowledge and epistemology between the north and the south, Mignolo says succinctly: "*The scenario is very simple: Western expansion was not only economic and political, but also educational and intellectual.*" (Mignolo 2001).

Formal education which offers a passage into literacy, numeracy, information technology, science and medicine is accompanied in Africa by complex relationships with European colonisation and intellectual heritage. As the African ESD reports demonstrate, there are still African governments today which fail to recognise the complex knowledge systems of indigenous and local peoples. State education ministries may without reflection default to the cultural hegemony of the colonising culture and language, arguing that *culture* is synonymous with *tribalism*, *regionalism* or other assaults on the current power matrix. It is in such a context that we may explore both the richness of orally transmitted culture and the challenges to marrying this with formal, State governed education for sustainable development.

ESD and the pressures of sustainable development and climate instability may well be a catalyst for transformation in Africa. Accepting that the task is not easy, we can ask: *how is it that change-agents can build bridges between local intangible heritage and oral culture on the one hand, and more formalised education and environmental / ecological experiential learning on the other?*

Schools can play a significant role in mediating the relationship between particular cultures and the nation-state. National stability and strength depend on effective integration of plural traditions. Under colonialism, cultural diversity was submerged by the exclusion of most African traditions from education. An alternative reconstructive approach would identify the common values within diverse traditions and integrate these with modern content and skills. (Woolman 2001: 27)

The Kenya ESD report notes that tertiary education for scientists and teachers tends to value Western knowledge systems and enhance urban views of development and resource usage. A dialogue about ESD in Africa provides an opportunity to rethink how professionals can learn from rural communities and work in partnership to apply traditional African knowledge systems, culture and values to sustain natural resource use and conservation. By placing '*sustainability*' in the equation, ESD quietly disturbs the hegemony of consumption, growth and dominion of '*Man over nature*'. It asks questions about equilibrium of ecosystems and responsibilities for ecosystem services, usage and conservation.

As the Kenyan report emphases, rural schools can be centres of innovation and training that marry National development priorities with local knowledge, competence in relation to ecosystems and ecosystem services. In the context of the certain impact of climate instability and global warming, ESD is a foundation stone for a viable future for both rural and urban Africans.

The knowledge, values and practices of African indigenous hunter-gatherers and nomadic pastoralists remain excluded from curriculum across the continent. Researchers and indigenous elders warn that current approaches to formal education in Africa, particularly at primary level, actively alienate youth from traditional knowledge, practices and values which are necessary to sustain the environment. Education favours urban and agricultural models of over consumption and 'development' along the lines of elite culture at the risk of exhausting fragile local ecosystem services (see Hays 2002, 2007, Crawhall 2006).



"The forest is our school; our ancestors are our teachers…"

Papa Nze (left) traditional Baka healer,
Zangaville, Woleu-Ntem Province, Gabon (personal communication)

Papa Nze, a traditional Baka healer, while discussing non-formal and formal education during an IPACC mission to Gabon emphasised that the forest itself is a school, nature can teach you many things through observation. The wisdom to understand nature and live off it sustainable is a heritage passed down by the ancestors. For Papa Nze *formal* education is undermines young peoples' skills, self-confidence and their place within the culture. He argues that it leaves Baka youth ignorant of nature, alienated from the forest, and only able to abandon their culture and move to the cities like all of the other migrants. Fundamentally, formal education is breaking down the sacred alliance between the living and the ancestors – this contract is based on respect and knowledge of nature, both its helpful and harmful attributes.

Woolman quotes a number of influential African academics on the theme of alienation and urban-bias in post-colonial education. He notes that Ali Mazrui (1978:16) highlights cultural discontinuity and the deepening of the rural-urban divide:

> Western education in African conditions was a process of psychological de-ruralisation. The educated African became… a misfit in his own village… when he graduated… his parents did not expect him to continue living with them, tending the cattle or cultivating the land. (Woolman 2001: 29)

Indigenous and local communities may offer key solutions to crises of sustainability, both technically, but also from the perspective of value systems and reduction of conflict between communities competing for scarce resources. The ESD reports from Niger, the Central Africa Republic (CAR) and Kenya all suggest that in contrast to current formal education in Africa, informal / non-formal learning in combination with participatory applications of information communication technology (ICT) promise new avenues for indigenous peoples and local communities to participate more explicitly in inter-generational and inter-cultural transmission of knowledge, values and practices married to important policy transformation in favour of conservation of nature, management of ecosystem resources and coping with the impacts of climate change.

In Africa, we are faced with a gap between the local context and the national policy making domains. A major challenge for Africa will be to create platforms of dialogue between institutions of the State and rural knowledge-rich communities who speak from fragile and threatened ecosystems. In a classic view of power, the indigenous world is the periphery, yet, in the context of ecological knowledge systems is rather the *nexus* of pertinent knowledge.

The gap between local perspectives and the interests of the State may also not be as great as we fear. An Australian government report on environmental education for sustainability states the following:

> "… the following elements are important:
>
> * Ethical awareness
> * Shaping values and attitudes
> * Skills and behaviour consistent with sustainable development
> * Effective public participation in decision making
> * Making decisions and taking action
> * Consideration of future generations. "

(Environment Australia 1999)

This Western perspective derived through the bureaucratic State mechanisms of a multicultural nation colonised by Europeans comes to the same kinds of conclusions as those expressed by indigenous communities in Africa in 2008.

African states may not spontaneously awaken to the importance of local and indigenous traditional ecological knowledge (TEK) and related management of local resources. Dialogue is going to require strategy, methods, and support by key allies in the civil society and multilateral agencies. Those elements within the civil service that recognise the value of TEK and safe-guarding intangible heritage will need to be effective in winning over support of their principals.

The imperatives of sustainability, unstable climate conditions and food security will augment pressure in both the North and the South to rethink how Education, nature and heritage fit together. An Australian report on education for sustainability highlights the following objectives:

## Three ESD projects

This paper reviews three experiences of mapping and cultural inventories by indigenous peoples in Africa. UNESCO, in cooperation with partner agencies, asked indigenous peoples to reflect on their own insights into sustainability, using particular platforms for representation of their unique heritages and their culturally specific expressions of their knowledge about nature. Each effort involved outside agencies offering new technologies to indigenous communities to represent their oral and intangible understanding of their landscape and the sustainable practices relevant to maintain an equilibrium of the natural resources within that landscape. The emphasis was on a *cultural* approach to representing territory, landscape and knowledge systems, but which intentionally also made visible what would otherwise have been invisible: orally-transmitted and often tacit traditional ecological knowledge (TEK). Within UNESCO's priorities, the projects were exploring the applicability and value of using participatory mapping techniques (part of a suite of geo-spatial information technologies) to represent and reflect on TEK within a cultural – natural landscape.

The cases involve three substantially different cultures in substantially different ecosystems in Africa.

*Niger*: The first project site involved assisting Tuareg activists in the Agadez / Iférouane area of northern Niger to map their knowledge of a section of the Aïr & Ténéré National Park (a UNESCO World Heritage Site) within the Sultanate of Aïr. The focus was creating a map of the watershed system on the western flank of Mont Tamgak facing the village of Iférouane. The people of Iférouane and the surrounding territory live as nomadic camel herders, oasis garden cultivators, artisans or other economic livelihoods such as tour guides or administrators. The second aspect of the work involved interviews with Tuareg elders about their topographic concepts; building up a legend of sites, zones and pathways which would later feature in a participatory 3 dimensional modelling (P3DM) exercise.

The original Niger plan had been to conduct a P3DM exercise in Iférouane, covering the planes, oases and dryland mountain territory of the Tamgak watershed. However, a civil war situation during the elaboration of the project required re-organising of the programme and training opportunities. Iférouane has been abandoned and knowledge holders from the region have been scattered through the Sahara. The project was reduced to a 'pre-mapping' exercise, whereby members of local community organisations were trained in the use of Google Earth and the elaboration of map legends through oral research, and proceeded to interview elders and knowledge holders about the topography, toponymy and intangible heritage of the watershed territory.

**Central African Republic**: The second site involved the equatorial rainforest territory of the Aka hunter-gatherers of the Mongoumba district in South West Central African Republic, with contributions also from the northern region of the Congo Republic. The Aka people of this region are historically hunter-gatherers living in a complex symbiosis with surrounding agriculturalists and now faced with dire pressures of deforestation.

The Central Africa Republic project involved researchers and facilitators from the *Centre de Référence des Traditions Orales Pygmées Aka* (TOPA – Aka Pygmy Oral Traditions Documentation Centre) in a programme entitled *Education on Heritage for Sustainable Development: Dialogue with Aka Pygmies of Mongoumba*, *Central African Republic*. TOPA ran two workshops at Mongoumba in June 2008 followed by field visits to Aka villages, developing an inventory of traditional knowledge of the territory and promoting dialogue

about the concept of sustainability and its expression in both non-formal and formal education.

The focus of the CAR work was on working with Aka villagers to provide an inventory of their intangible heritage, initiate mapping, assess threats to the transmission of intangible heritage, and make recommendations on how to connect the communities with Education for Sustainable Development.

**Kenya**: The third site involved a collaborative exercise of the Yiaku, Ogiek and Sengwer peoples, three erstwhile hunter-gatherer communities from the forest territory of Mukogodo in central Kenya, the degraded mountain forest of the Mau Escarpment around Nakuru, and from the high-altitude alpine forests of the Cheranganyi in Western Kenya around Kitale, respectively. Their project focussed on reflections on the benefits of participatory mapping and the use of geo-spatial information technology in the representation of their cultural and natural heritage in Kenya.

The Kenyan project was the flagship of the series, involving communities who had already completed Participatory 3 Dimensional models of their territories (Mukogodo forest around Doldol, Cheranganyi Forest and watershed system around Kapulet, and Mau Forest around Nessuit) over the last two years, and were coming back together to reflect on how the Information Communication Technology (ICT) platform had assisted them in promoting inter-generational and inter-cultural dialogue and learning about sustainability, drawing on their respective intangible heritages and traditional ecological knowledge systems. Subsequent to community dialogues about P3DM, ICTs and TEK, representatives of the communities entered into another round of dialogue with Kenyan national agencies responsible for promotion and innovations in education for sustainable development.

Each project has its own detailed report on processes, insights and outcomes available from UNESCO. This report is an overview and analytical review of the three projects and some observations which may be germane to considering the meaning of each event, lessons learnt and pitfalls to be noted.



**Southern African indigenous delegates show plant knowledge maps to Congo Basin delegates, Windhoek Namibia.** *Photo N. Crawhall*

***IPACC's Conference on GIT and TEK: Windhoek Namibia***

Between the start of the ESD heritage projects and their conclusion by December 2008, the Indigenous Peoples of Africa Coordinating Committee (IPACC), a regional network of indigenous peoples' organisations and leadership, met in Windhoek, Namibia for its own reflection exercise on a related theme. The IPACC Windhoek meeting involved case studies from electronic mapping project conducted by indigenous peoples and partners in Congo Republic, Cameroon, Democratic Republic of Congo, Botswana, Namibia, South Africa, Kenya and Niger. Other delegates attended from communities which had not yet been involved in mapping from Morocco, Algeria, Chad, Gabon, Tanzania and Uganda.

The IPACC Windhoek conference was asking delegates the questions:
- Do Geo-spatial information technologies (GIT, including mapping, GIS, GPS technology and Cybertracker) help indigenous peoples in their quest to conserve their territories, intangible heritage, knowledge systems and human and civil rights?
- What opportunities do GITs pose for communities who wish to be active players in the conservation of biodiversity and playing a positive role in adaptation and mitigation in the face of global warming and climate change?
- Of the GIT methodologies presented in case studies, which ones showed the strongest benefits for inter-generational transmission of knowledge and affirming the integrity and 'agency' of communities?
- How do GITs / ICTs create opportunities for indigenous peoples to advocate more effectively by being able to represent their oral intangible heritage and traditional ecological knowledge in media that can be more easily grasped by influence makers and decision-makers?

IPACC has worked for several years in partnership with the Technical Centre for Agricultural and Rural Cooperation (CTA), a mechanism of the ACP – EU trade accords. CTA's mandate is to help rural communities conserve natural resources, raise awareness about climate change, and strengthen their advocacy capacity through the use of training and new technologies.

The conclusions and observations of the Windhoek conference can be seen as parallel to the results of the individual ESD projects. The main observations in Windhoek included:

1. Indigenous peoples in Africa are holders of rich and complex knowledge about the biodiversity, natural resources and ecosystems of their territories;

2. All mobile peoples survive by managing the natural resources in their territories in such a manner that equilibrium of biological diversity is sustained, even where the climate functions in disequilibrium; the ultimate expression of this wisdom and approach is nomadic migrations in the territory (over spaces, between rainfall zones, or between altitude zones) to ensure full restoration of the underlying ecosystem services and biodiversity;

3. Traditional ecological knowledge (TEK) arises from the sustainable use of natural resources, including hunting, gathering wild food and medicine, herding, animal husbandry, water management particularly in arid and sub-humid areas;

4. TEK is dynamic and taught through didactic apprenticeship, experiential learning, as well as through cultural practices such as songs, taboos, myths, stories and dreams;

5. TEK has ethical, moral and spiritual aspects, expressed through taboos, interdictions, communal rights and responsibilities, religious / faith system beliefs, interactions with the ancestral spirit world, and obligations which run from former generations to generations not yet born.

6. Knowledge, as transmitted traditionally, is inseparable from norms, customs, practices and beliefs. Knowledge without wisdom and respect for or adherence to cultural norms and practices destabilises both human culture and natural systems. Hence the goal in advocating for sustaining TEK does not only concern knowledge documentation and transmission (or commodification) but also ensuring transmission of values, ethics and wisdom about sustainability – cultural integrity and self-determination are foundations on which TEK transmission rests;

7. Traditional ecological knowledge and its cultural / normative framework are threatened by changes in local economies, land alienation, invasion by agricultural neighbours, invasion and negative impacts of extractive industries, degradation of lands, forests and biodiversity (mostly through human activity but also from climate instability). In some communities, there is a sharp break between knowledge and culture held by elders and the younger generation who are not competent in sustaining equilibrium in the territories;

8. Maps and other Geo-spatial information technologies (GIT) are powerful tools for valorising the complexity and functions of traditional ecological knowledge;

9. GITs ability to represent spaces and territories in a geo-referenced format, drawing on local knowledge systems can easily be understood by both elders and youth, as well as those from outside the cultural milieu;

10. All communities involved in participatory applications of GIT felt that mapping their territories had brought substantial benefits in terms of advocating for tenure right, resisting land invasions, partnering with inclusive conservation interests, resisting extractive conservation interests, affirming their cultures, knowledge systems, values, heritage, history, traditional practices, languages and the elders who are bearers of their culture. Mapping provided practical advocacy tools and increased peoples' confidence in their own cultural heritage;

11. Delegates at the Windhoek conference, having witnessed the different types of mapping projects, concluded that open-ended fully participatory techniques of mapping, conducted in the local language, involving elders and youth, men and women, for purposes determined by the community (rather than external agencies) had the added benefit of expressing a much broader and more nuanced representation of intangible heritage and culture, which was, overall, more empowering to communities;

12. Single purpose mapping exercises, such as delimitation of community forests or resource rights, while useful and practical, tended to affirm an alien view of land, rights and territories which was harder for elders to 'own' and transmit. Approaches such as Participatory 3 Dimensional Modelling which were more open ended, had the advantage of taking youth more deeply into tutelage with elders and left a physical model behind which stimulated ongoing learning and dialogue both between generations and with outside agencies and stakeholders.

**Louis Liebenberg, Cybertracker Foundation with delegates at Windhoek GIT / TEK workshop.**
*Photo N. Crawhall*

It is worth noting that most of the delegates were exposed to Cybertracker technology for the first time, despite previous experience with hand-held GPS devices. Delegates from the rainforest countries were impressed how Cybertracker put traditional knowledge holders in leadership / agency positions relative to GIT. The Cameroon and DR Congo delegation felt there would be new and important breakthroughs if Cybertracker technology could be linked to maps and GIS expressions. Delegates from nomadic herding communities of dryland areas felt that the Participatory 3 Dimensional Modelling was a powerful tool but would not work in vast low relief areas. They called on technology intermediaries to help them develop methods that were similar to P3DM but could be used to map indigenous transhumance systems and territories.

The Windhoek conference dealt with aspects of adaptation (both natural systems adaptation and human adaptation to climate / aridity variability). Delegates demonstrated substantial confidence in community based knowledge and values associated with successful adaptation. The conference was not able to explore adequately and document issues of mitigation and the role of forests, savannah and soil types in sequestration of carbon. A second IPACC conference was held in Marrakech, Morocco in November 2008 focussing exclusively on adaptation, mitigation and the main climate change policy issues relevant to indigenous peoples in Africa. A third workshop was held in February 2009 concentrating on mitigation issues and the joint application of ICTs and TEK to carbon assessments.

**Sengwer children and school master, Kapolet, Kenya**
*Photo: N. Crawhall*

**Kenya ESD**

The Kenyan ESD team was well represented in Windhoek and had a substantial impact on the Windhoek conference results. Prior to Windhoek, the Kenyan ESD partners held their first workshop on ESD and mapping. The workshop was held in Nakuru, and involved elders and activists from the Yiaku, Ogiek and Sengwer communities. The meeting was facilitated by ERMIS Africa, an NGO technology intermediary partnered with IPACC, CTA and local indigenous peoples' organisations. SHALIN ry supported the mapping projects as well as the reflections meetings in 2009.

The report recommends to stakeholders that TEK (including values, practices and knowledge) needs to be recognized as a critical element for successful ESD. Advocacy should focus on achieving State recognition of the inherent ecosystem expertise and culturally-embedded approach to sustaining natural resource use (for example, through clan based management techniques and sanctions) held by local and indigenous peoples which is an invaluable resource for ESD. Such oral knowledge is of immediate use in State planning, as well as for negotiating partnerships at ground level to apply local knowledge and resources to stabilize ecosystem services. TEK needs to be factored into national programmes of action on adaptation, mitigation and sustainable development.

The report however warns that safeguarding TEK cannot be divorced from fundamental human rights and good governance. Local knowledge and governance are dependent on security of land tenure and the State accepting partnership with its citizens to manage forests, water and biodiversity in rural areas. The mapping exercises show not only a gap in knowledge between the communities and the States' formal education system; they also highlight a gap in values and governance capacity. The moral imperative for sustainability is more evident at the local level and in local cultures than it is in governance emanating from distant urban areas that are over-consuming scarce national resources.

The Kenyan ESD report calls for a renewed dialogue between all stakeholders to bring knowledge, values and practices into new types of partnership between the State, State institutions, indigenous peoples and local communities. Technology intermediaries have an important role to play in creating platforms where the different stakeholders may speak, listen, and enter dialogue.

Main recommendations in Kenya report:

- Promote inter-African dialogue on the value of TEK to sustainable development;
- Strengthen community capacity to advocate for the inclusion of TEK in State planning and formal education;
- Improve community awareness of the role of TEK in adaptation and mitigation of climate change, as part of an approach to sustainable development;
- Promote financial and technical support to help local and indigenous communities access information communication technology and other appropriate resources to provide examples and documentation of TEK valuable for the promotion of sustainable development, food security, peace building, and conservation of biological and cultural diversity;
- Build alliances between civil society organisations, conservation agencies, academic institutions, rural communities and technology intermediaries to demonstrate, valorise and promote recognition of TEK and community based governance of natural resources and ecosystem integrity
- Stimulate United Nations agency engagement in the promotion of ESD and the application of TEK in rural development strategies;
- Promote an integrated awareness and approach of UN agencies and other multilateral agencies supporting development and good governance in Kenya;
- Encourage UNESCO to share its normative instruments and approaches with different Ministries in the National government, as well as with other UN / global agencies, notably GEF, UNDP, UNEP, the World Bank and UNFCCC.

The Kenya report raises some promising but also worrying issues about intercultural dialogue and ESD. Those agencies of the civil society, including Universities, were intrigued, fascinated and very positive about the efforts to use GIT to elicit awareness and discuss of TEK in education, both non-formal and formal. The Museums of Kenya, the Kenyan Education Institute and others all recognise the central importance of engaging with local and indigenous communities about preparing technically, conceptually and ethically for climate instability. Education is seen by people at community level and experts at tertiary level as being a key ingredient for securing a stable future. In this sense, the ESD project in Kenya was the most successful at triggering real dialogue and new thoughts about partnerships and cooperation.

In contrast, the Kenyans report a general hostility from State officials who tended to see cultural inventories and mapping as a threat to state power, a type of ethnic mobilisation that could only bring trouble and conflict. Local school staff expressed cautious support and even wonderment at the complexity of community knowledge systems demonstrated in the 3-dimensional maps. The national Ministry of Education, Science and Technology as well as the National Environmental Monitoring Authority seem not to have solicited high-level political support to promote the status of local and indigenous knowledge and heritage in primary school education. There is apparently political inertia in Nairobi, driven by an absence of senior political patronage, which blocks further dialogue between non-formal community-based education and State efforts to embed Education for Sustainable Development into the national curriculum.

**Tuareg trainers learning to use Google Earth, Windhoek**
*Photo N. Crawhall*

## Niger ESD

The 7.7 million ha Aïr & Ténéré Reserve is the largest protected areas in Africa. It is also the traditional territory of Tuareg nomads and oasis dwellers, with pockets of other communities. In 1991, it was declared a UNESCO World Heritage Site and a joint management mechanism was established, COGERAT (Joint Management of the Aïr and Ténéré Reserve) supported by UN Environment Programme (UNEP), UN Development Programme (UNDP) and the Nigerien Ministry of the Environment.

COGERAT's mandate is to use participatory methods to encourage community involvement in decision-making related to the Reserve and the protection of biological resources. COGERAT's mandate recognises the link between natural resources and the livelihoods of those living in the Reserve. Joint management was severely constrained during the five year armed conflict in Niger from 1991 to 1996. The Peace Accords were meant to transfer more resources and decision-making from the south to the north of Niger. This has not happened and Tuareg and other mobile peoples are now faced with competition for scarce natural resources with residents in the new uranium towns such as Arlit.

According to local informants, co-management arrangements in the Aïr & Ténéré Reserve do not adequately take into account the cultural heritage, TEK and natural resource management held by local and indigenous peoples. The presence of uranium mines on the border of the protected area are causing surges in population density, exacerbated by droughts and floods, which lead to an over consumption of natural resources, particularly wood. Tourism may also be having some negative effects on the environment.

At the 2006 Association Tunfa – IPACC regional conference on development and the rights of mobile indigenous peoples in the Sahara and Sahel, the *ad hoc* environmental commission made the following observations:

> There exists an intimate relationship between the indigenous peoples and the ecosystems which have protected and nurtured them over the millennia in Africa. Farming has, over the centuries, displaced transhumant indigenous economies of hunting and herding. Only in isolated climates have the languages, cultures and economies of indigenous peoples survived the expansion of agriculture and farming peoples.

> Today, indigenous peoples are to be found especially in desert zones or humid forests. With technological and climatic changes, these environmental zones and their associated sensitive biological diversity are being threatened. The destruction of ecosystems places the traditional economies of indigenous peoples at grave risk. The means of subsistence of indigenous peoples are

directly taken care of by nature while respecting a certain equilibrium of the ecosystem.

The State ought to be guided by this indigenous wisdom, investing to a greater degree in the protection of the indigenous peoples and the environment. The Environmental Commission of the Agadez Congress refers government and donor agencies to the principles included in the Convention on Biological Diversity's Addis Ababa Principles and Guidelines on the Sustainable Use of Biodiversity (http://www.cites.org/eng/res/13/addis-gdl-en.pdf ). (IPACC 2006)

The 2006 Conference placed an emphasis on the link between appropriate education in mobile indigenous territories and the challenges of sustainable development. The Conference recommendations included the following points:

During the 2006 IPACC and Tunfa conference in Agadez dealing with development issues for mobile indigenous peoples, a number of delegates highlighted challenges of education for mobile peoples and the specificity of heritage and ecological knowledge.

The recommendations from the conference included the following:

- Apply the UNICEF N'Djamena educational strategies as well as the spirit of the series of documents relative thereto, in the domain of education, within the nomadic milieu.
- Encourage the process of experiential exchanges within countries exhibiting nomadic issues.
- Involve indigenous peoples of the Sahelo-saharan zone more in the conceptualisation, setting up and observation of public policies;
- Adapt the educational and sanitary infrastructure of the nomadic way of life.
- Take into account the interests of the indigenous peoples in the process of natural resource exploitation (prospecting, exploitation, evaluation).
- Sensitise and conscientise the indigenous peoples to participate as citizens in the political, economic, social and cultural life at local level.
- Increase communication between indigenous civil society and donor / technical partners in the Sahara-Sahel;

*(from IPACC 2006)*

In the preparatory stages of the Niger ESD project, local school officials explained that Niger once had innovative nomadic schools which helped camel herders have access to literacy and numeracy during the 1970s. With increasing ethnic and regional conflict, the Republic of Niger has phased out nomadic mobile schooling and de-emphasised culture and language diversity related to knowledge and skills in the school curriculum. In 2006, frustration over marginalisation of nomads escalated into a new round of armed conflict in northern Niger which continues today.

Despite a low population density, Niger is a culturally highly diverse country with a rich and vibrant cultural heritage of agricultural, semi-nomadic and fully nomadic peoples. Nigeriens pride themselves on having maintained cultural diversity and important traditions that pass from generation to generation. Yet, over time the state has become more conservative, reducing the number of programmes and innovations related to local knowledge and heritage.

The field work prior to the ESD project demonstrated that school teachers were confused about how much local knowledge they were allowed to integrate into the curriculum. In some of the remote schools, local teachers were teaching through the medium of French to junior primary school students who could not understand the language. The teacher was not aware that Niger has a multilingual language in education policy and was afraid to teach in the local language, believing it was illegal. All of the teachers consulted in the Iférouane and Aïr region expressed a deep respect and awareness of local knowledge of biodiversity, ecosystems services and the relationship between the local heritage and the landscape. Nonetheless they perceived that the central Ministry of Education would not be pleased if they introduced local knowledge and culture into the curriculum. Already they were struggling to meet the curriculum examination standards set in Niamey.

The situation in northern Niger deteriorated rapidly just as the local organisations began to establish their mapping project. Association Tunfa created a working team with COGERAT and ONG GAGE, in cooperation with local government and the traditional chiefs and sultan. The goal was to organise a Participatory 3 Dimensional modelling exercise of the Tamgak watershed above Iférouane. The map would serve to affirm indigenous culture and heritage and serve as the basis for improved planning of tourism, land use and heritage conservation in the region.

The mapping project had to be indefinitely postponed as the violent conflict around Iférouane grew in intensity and the whole region of the North became insecure. Iférouane was eventually abandoned by most of the population, fleeing to Agadez for safety.

The ESD project adopted as a means of maintaining the momentum around the heritage documentation. It was agreed that Association Tunfa would work with local elders and people interested in cultural and language to do an inventory of the topography and toponomy of the Tamgak watershed region near Iférouane.
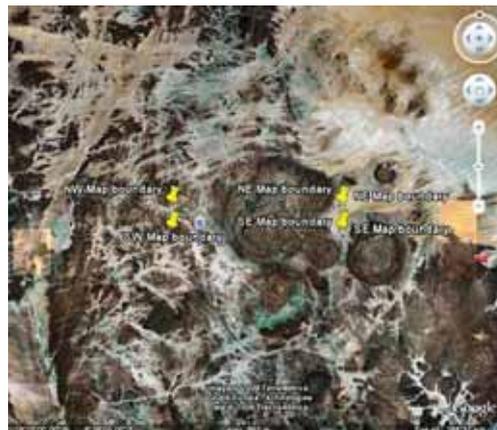


**Google Earth image of Mont Tamgak watershed and proposed mapping zone, Niger**

*2007-08 training for the Niger project included:*

- Training local activists in the basics of Participatory 3 Dimensional Modelling and the creation of a legend based on local knowledge;
- Training video on P3DM construction and the participatory elements;
- Training in Google Earth navigation and mapping (two sessions);
- Training in forwarding Google Earth data by email and shifting it into an inventory database in Microsoft Access;
- Training in font management and how to down-load a Tifinagh font from the Internet;
- Trainees also participated in a workshop on the use of GPS technology, participatory mapping methodologies and the use of Cybertracker to collect geo-referenced field data.

Members of Association Tunfa and SADEP-Prodecap from Niger attended IPACC's Windhoek conference on GIT / TEK, and received training on how to develop the legend for a P3DM, as well as how to use Google Earth. Google Earth has been evolving rapidly and proved to be an ideal tool for mapping in a territory where it was not safe or feasible for researchers to travel.

Association Tunfa organised a workshop in Agadez with elders and young people from the region. They set out the objectives of heritage mapping and trained people in navigation and point identification on Google Earth. An initial inventory of place names, mostly related to mountain peaks and water points was compiled by the participants and coded onto Google Earth in KMZ files which can be easily sent by email. The full legend still needs to be prepared. Notably, the research technique did not identify polygons (zones) or other Tamacheq conceptual labelling of the landscape. They focussed more on toponyms than on indigenous topography. This will require further interaction and documentation.

**Niger project implementation**

The project involved three steps:
1. Trainees used Google Earth to navigate through the target territory to identify different landscape natural and cultural features;
2. Trainees interviewed elders about the territory, land use, traditional knowledge of the landscape, and then confirmed information on Google Earth – pins were dropped onto the Google Earth map with explanatory notes;
3. Data on place names and topographical concepts were entered onto a data base in Tamacheq, then again in Tamacheq in the old Tifinagh alphabet, and finally with an explanation in French – where possible the sites were geo-referenced using the Google Earth pin references. Due to technical difficulties, this last part was eventually done by hand rather than onto computers.

**Achievements**
- The project successfully built the capacity of local actors in preparing a participatory cultural mapping exercise;
- Electronic Web2 (Google Earth) data base of place names in the targeted territory was produced,
- The aim was that the research and interviewee team would develop a draft legend produced based on the inventory of place names and topographical concepts in Tamacheq language (to be applied to future cultural mapping work). The toponymic inventory was completed but not the full legend with the topographic information.

Even though the original project had been more ambitious (the building of the map, consultation with villagers and nomads, involvement of local government and traditional leaders, as well as reflective exercises), the process of exploring the link between traditional knowledge, technology and heritage management has been empowering for local actors. There is increased confidence that once the conflict situation is resolved, indigenous peoples have an important role to play in the UNESCO World Heritage Site management.

**Difficulties**

The Niger project was conducted under difficult circumstances, but it did help highlight that even in difficult circumstances that heritage research, awareness-raising, training and site management preparation work can go forth.

Trainers also found it difficult to work in the Tifinagh alphabet on computers. IPACC had worked with Tunfa trainers to download Tifinagh fonts, but using these in databases and spread sheets proved difficult and the final inventory has been done by hand only.

The goal had also been to mesh Google Earth points (which are accurately geo-referenced) with the database of toponymic inventory. In theory it should have been possible to link Google Earth with Microsoft Access so that the pins would convert their geo-referencing into the main database but this proved too difficult and will also have to be captured manually.

**Humid rainforest, Congo Basin**
*Photo: N. Crawhall*

## Central African Republic ESD

The Aka indigenous peoples of South West CAR are primarily threatened by the ongoing devastation of the rainforest which is the environmental niche which sustains their subsistence economy of hunting and gathering and its related culture. Like other indigenous peoples of the Congo Basin, the Aka are rich in ecological knowledge with a sophisticated and widely respected intangible heritage, consisting of dance, music, myths, the culture of forest spirits, as well as traditional knowledge of biodiversity, medicine and sustainable exploitation of non-timber forest resources.

The TOPA work was conducted with respect and enthusiasm for the local culture and there is a great shortage of information about how indigenous peoples in that country feel about their knowledge and cultural heritage. The TOPA project was the most academic of the three reports and the one where the community members had the least agency. Ethically, it is not necessarily advisable that external agencies raise expectations about what resources may derive from consultations. The recommendations imply that UNESCO will be able to address some of the severe resources and rights problems. The report highlights perceived shortages but without exploring an evident strategy for advocacy and finding real solutions. The report suggests for example that the school year should be adjusted to allow for mobile economic practices, without recognising that apparently no African government has been willing to do this in the last 20 years.

Some aspects of the report seemed to favour an assimilationist approach (integration into the market economy and agriculture) without exploring the barriers and constraints to such an approach. The TOPA report did not elaborate substantially on the role of ICTs / GITs in intergenerational transmission, advocacy and bridging between the systems of education. The TOPA research could benefit from further exposure to mapping work done in Kenya and neighbouring Cameroon and Congo Republic.

Overall, the CAR report highlights the absence of capacity at community level rather than using cultural inventory and mapping processes to encourage agency, empowerment and transformation. This is particularly noticeable in relation to the Kenyan process which has evolved over several years of mapping, and the Niger project which was entirely managed and conceptualised by local people with only technical support from external agencies. The Aka of CAR have not built an active civil society, despite long term contact with conservation and research organisations.

Below is a summary of the main observations and recommendations from the CAR ESD report.

## 1. Education

The TOPA consultations reported that Aka of Mongoumba regretted their low level of literacy. They considered the lack of education to be core issue in their current vulnerability. Community members asked UNESCO if it could help them establish a local school which would take account of their seasonal migrations and gathering cycles.

*Recommendations*
- Train Aka teachers in both formal and non-formal education;
- Adjust the school calendar (and curriculum) to accommodate seasonal subsistence activities;
    i. Fishing and collecting honey takes place between January and March;
    ii. Gathering of wood grubs, mushrooms and hunting is conducted from July to September;
- Integrate Aka socio-cultural conditions into the formal curriculum – promoting livelihoods based on existing knowledge and skills, such as wood work, building, sewing and crafts ;
- Supply their schools with teaching materials, equipment and furniture.

## 2. Culture

The consultation team conducted an inventory of tangible and intangible heritage.

*a) Inventory of tangible heritage*
The inventory included implements for hunting, fishing, self-defence, music, dance, art / craft and carrying vessels (e.g. wicker baskets)

*b) Inventory of intangible heritage*
The inventory included stories, legends, the collected body of oral history known in Aka as "*mossimo*", songs, dance and music

*Recommendations*
- Refurbish and equip the Documentation Centre of Aka Pygmy Oral Traditions (TOPA) for the protection, conservation, valorisation and distribution of their arts and culture;
- Supply TOPA with an audio-visual system;
- Establish a recording studio to document and transcribe Aka songs and dance;
- Assist with the marketing of indigenous arts and crafts;
- Train Aka people in management and protection of artistic products and rights.

## 3. Health

The Aka communities expressed their concerns about access to health care. They raised the question of whether it would be possible to establish a clinic in one of the encampments and train local people, employ Aka and provide medical supplies.

The Aka people have a rich knowledge of traditional medicine which they would like to combine with modern medicine. The transmission of traditional medicinal knowledge is described as "subordinated", implying that knowledge is transmitted through occult practices and associated with mysticism and apprenticeship.

*Recommendations*
- Ensure that Aka youth are trained in health care and the management of a health centre;
- Organise a seminar to raise awareness amongst Aka people about education and traditional medicine, with a focus on promoting training of healers;
- Integrate a complimentary relationship between traditional and modern medicine.

## 4. Environment

The Aka communities expressed their grave concern about deforestation by logging companies and the destruction of the natural resources on which they rely. Deforestation impacts on indigenous livelihood and poses a major threat to biodiversity of the equatorial rainforest.

*Recommendations:*
- Take actions to stop the over-exploitation of forest resources;
- Engage with the CAR government to secure a community managed conservation area for the Aka people;
- Train Aka youth as eco-guards to ensure conservation and sustainable use of local resources

## 5. Economy

The Aka are not notably embedded in the market economy. They rely on the resources provided by the forest. They understand that natural resources are provided by grace of the forest without a financial cost. Communities currently rely on trade relations with their neighbours, exchanging forest products (honey and meat) for manufactured products including salt, clothing and alcohol. This configuration is changing and Aka people are starting to sell produce into the markets, though usually for very low prices.

During consultations, community members felt that it would be in their interest to establish a market place closer to their settlements. They would specialise in forest products. The report indicates that the Aka would like to sell craft products and wild products from the forest. The community members believed that entering the market economy was in their interest and that neighbouring peoples would respect them more for partaking in this type of economy. They called on each other to abandon fear and engage in economic activities.

The TOPA team noted that the Aka people maintain their traditional adherence to the principle that wealth must be shared and that knowledge in the community is communal and for the benefit of all. The transmission of knowledge and values is achieved primarily through apprenticeship and experiential learning, whether from subsistence activities or cultural practices. Part of the success in sustaining Aka culture has been the practice of keeping children close to their parents, with transmission happening in both passive and active practices (imitation, copying, apprenticeship and practice).

*Recommendations:*
- Provide business training to Aka people to help them develop their ability to handle money and market products;
- Provide training to Aka people in agriculture, animal husbandry, fishing and modern market management as well as resettlement;
- Approach the UN Food and Agriculture Organisation (FAO) to supply small tools and seeds to assist in horticulture at village level;
- Intensify training in the villages related to human rights, rights of women and children, and promote the security and liberty of Aka people

**Main mosque, Agadez, Niger**
*Photo: N. Crawhall*

## CONCLUSIONS

The theme that links together the three African indigenous peoples' ESD reports is whether *cultural heritage is a resource for sustainable development*, and how such cultural resources can be transmitted from generation to generation in the context of rapid economic and climate changes.

Each report deals with the tension between traditional forms of knowledge transmission (through cultural practices, lateral and indirect forms of learning, as well as apprenticeship and mimicry in the study and use of natural resources) and formal State-based education which generally in Africa does not engage with traditional ecological knowledge and sometimes undermines young peoples' confidence in their own cultures and heritage.

Without advocacy and dialogue, not all African states are going to embrace oral heritage as a resource in formal Education or planning for sustainable development. If that were going to transpire it would have happened decades ago. The experience of many indigenous peoples is that contemporary African states remain cautious or even suspicious of ethnically-specific solutions, local governance capacity or the ability of illiterate / low literacy communities to actively shape and inform policy. This comes from a colonial legacy and is reinforced by bureaucratic culture and the urban-rural rift in governance.

In UNESCO's 2001 report on cultural resource auditing with San people of the southern Kalahari it was concluded that:

> "By mobilising cultural resources …we are bringing into play a new outlook, a new paradigm for triggering sustainable development potential. This new development paradigm marries economic, cultural and environmental components. The management of culture becomes a national resource and benefit. If this effort can be a partnership between the communities themselves … and the national states… it creates a win-win situation without a large outlay of capital and scarce resources." (Crawhall 2001: 27)

Culture and heritage, both intangible and tangible, remain valuable resources for Africa, both at local and national level. Colonialism exacerbated a dislocation between local governance over natural resources (both within and between

communities), as well as displaced knowledge, wisdom and education from the formal schooling sector. It is in the interest of African states and local communities to recover this resource and work together to integrate local knowledge, values, practices and approaches into sustainable natural resource management and governance.

UNESCO, in cooperation with IPACC, CTA and ERMIS Africa has been promoting the use of participatory mapping techniques and access to GIT to facilitate the expression, documentation and mobilisation of cultural heritage related to landscapes and ecological niches that both underpin and shape indigenous and local cultures. The Kenya and Niger GIT applications and reflections show that innovative applications of GIT / IC technology can be motivating and stimulating for communities, creating new platforms and language for inter-generational and inter-cultural dialogue about culture, heritage and knowledge, as well as creating new forms of advocacy and dialogue with State planners and other agencies responsible for sustainable development.

Mapping and the application of new technologies have an important impact on this context. The bias of '*primitivism*' associated with rural oral and intangible heritage as well as traditional ecological knowledge is replaced with a new language and medium which valorises the complexity of indigenous culture and knowledge. An elder telling an important but non-linear story about the life habits of a hyrax may not impress a civil servant from the city, but a map showing how local people understand watershed management and how their traditional culture has encoded practices to protect swamps, clean drinking water, and manage conflicts can have a different effect. The visualisation, the change of medium, the translation of knowledge systems via the application of GIT / ICTs to oral heritage may open new doors for dialogue, advocacy and policy transformation (See Rambaldi et al 2007).

The other outstanding feature of the African indigenous ESD reports is that simply discussing and working with oral and intangible heritage, linking it to the issue of sustainability and the application of knowledge to management of natural resources is deeply affirming to rural indigenous peoples. The younger generation in particular bears a burden of stigma throughout their years of schooling and interaction with dominant communities. It is a source of pride for young indigenous people to spend time mapping with their elders and learning the rich intricacies of the interface between nature and culture.



**Yiaku women reclaim their language and culture. Jeniffer Koinante on far left.** *Photo: N. Crawhall*

Yiaku activist Jeniffer Koinante gave the following feedback on her experiences of mapping and ESD workshops:

> "My feelings after 3D mapping of Ogiek and Mukogodo community land and territories are like some confidence has been developed within all the members of the community. The youth learned various issues about their land; the elders were able to remember a lot of the culture based on land and eco-system that is rich within the Yiaku people.
>
> Some land was recovered through this exercise and people have some hope that they have a tool to use to claim back their land and territory."

> (Jeniffer Koinante, Yiaku activist, Kenya email correspondence)

In ESD projects, it is also important to give attention to the issue of community empowerment. In the 2001 report on cultural auditing, the author quoted two Canadian geographers on knowledge management and empowerment:

> "The most important lesson learned from the Nunavik [Quebec] experience is that the indigenous peoples must first and foremost control their own information. It has also become clear over the years that the knowledge base of indigenous peoples is vital, dynamic and evolving. Merely 'collecting' and 'documenting' indigenous environmental knowledge is in fact counter productive. These knowledge systems have been under serious attack for centuries and the social systems that support them have been seriously undermined… It is not a question of recovery and recording of indigenous knowledge, it is one of respect and revitalisation. (Kemp and Brooke, 1995, quoted in Crawhall 2001: 17)

It is important that ESD projects are seen as a longer term process to empower and help communities sustain their own knowledge, cultural resources and intangible heritage management. Evidently, different communities have very different resources and abilities to handle some of these challenges. Greater land insecurity will lead to a greater degree of dislocation but also perhaps greater over self-organising. The Tuareg of Niger, the mountain forest peoples of Kenya, and the Aka of CAR are evidently on a continuum of organisational capacity, social cohesion and empowerment around their heritage management.

Mohamed Ewangaye, Tuareg member of the IPACC Executive from Niger noted in the IPACC 2008 workshop on adaptation and mitigation in Marrakech:

> "We the modern indigenous peoples of Africa, we know both worlds. We can cross the Sahara on our camels, locating water, medicine, honey and meat. Or we can drive to the city in a 4x4, catch a flight to meetings in Europe and live as you do in the West. The difference is that we know both worlds and both ways, whereas Westerners do not know our world or how to survive on what nature has provided." (Personal communication 2008)

Whereas this is true for some Tuareg activists (artisans, tour guides, or religious leaders) it may not reflect the current situation of the Aka in CAR. The challenge is then to adjust the approach to consultation, documentation and research to the local conditions. The TOPA team could do with experimenting with methodologies, trying tools which may be more empowering not in terms of just giving voice to indigenous peoples and expressing a long 'wish-list' but concrete steps to create dialogue between the State and the indigenous peoples. Participatory approaches, such as participatory cultural mapping aim to affirm agency of the local people in heritage and knowledge management.

There may be some concern that mapping and heritage management seem to provoke sensitive issues of land rights. The ESD projects were conceptualised with this reality in mind. As noted previously, African diplomats on occasion have referred to indigenous rights as being provocative in a democratic context (Africa Group 2006). This tension in African democracies comes from a particular political legacy and is in contradiction with United Nations obligations, standards and norms. It is also in contradiction with the African Charter and African Commission on Human and Peoples' Rights (ACHPR) report on indigenous peoples from 2003. Nonetheless, it remains a political reality for both UNESCO and indigenous peoples. The recommendation of this report is that it is normal that indigenous peoples with insecure land title should be concerned about their rights over traditional territories. It is unrealistic to expect communities to document their heritage and cultural landscape without also wanting security of tenure and rights. In the context of climate insecurity and rural poverty, it is the duty of the State, within its sovereign mandate, to engage with its citizens to find sustainable solutions to food security, development requirements, health care and education.

ESD is thus a dialogic activity. ESD is a dialogue between generations, between knowledge-holders, between communities, and between citizens and national governments. The United Nations framework (norms, standards, instruments, technical assistance and the sharing of information and ideas) serves as a resource to stimulate and support such dialogues. The more coherent the United Nations role is in Africa, the more likely that such dialogues will lead to policy changes and new approaches to both development and national education. Good practices of ESD need to be integrated by UN agencies, not just UNESCO, and require a sustained approach to inform and encourage both holders of valuable intangible heritage and TEK, and the civil servants and politicians responsible for national policy design and implementation. These innovative approaches to combining technology and oral knowledge systems provide an exciting platform for new forms of dialogue and policy making.

IPACC has recommended to the UN Permanent Forum on Indigenous Issues that UN agencies should consider working with governments and indigenous peoples in Africa to set up consultative / dialogue forums which review how multilateral agreements can best be implemented according to local needs and context. UNDP and UN Office of the High Commissioner for Human Rights (OHCHR) supported the United Nations Indigenous Peoples Advisory Committee of Kenya (UNIPACK) but it has subsequently been left to lapse. UNIPACK joined together civil servants, UN agency delegates and representatives of diverse indigenous peoples' interest groups. UNIPACK would be the ideal type of forum for discussing Education for Sustainable Development and sharing practical and conceptual advances with national ministries, communities and agencies.

# Appendix 1

This section includes extracts from IPACC's annotated notes on the indigenous peoples of Africa. The term 'indigenous peoples' has only recently been adopted in Africa to identify mobile hunter-gatherer and pastoralist peoples. For a discussion of '*indigeneity*' in Africa see Crawhall 2007, Saugestad 2008 and ACHPR 2005.

## Aka

### Also referred to as Babenzelé / Babenjele / Mbendjele / Bendjele / Bambezele / Aka / Central African Foragers / Pygmies

The **Aka** (plural, **BiAka** or *Ba'Aka* or *Bayaka*; singular **MouAka**) are a mobile African indigenous people who live by hunting, foraging, trading and small horticulture. Although the Aka people call themselves *BiAka*, they are also known as *Babenzele, Mbenjele* or *Babenjele*. The term 'Pygmy' is widely used in the Congo Basin but is considered pejorative (see below). The Aka language is from the Nilo-Saharan language family.

Aka people live in a variety of terrains in south-western Central African Republic and northern Congo Republic in 11 different ecological zones of the Western Congo Basin. They are a related, but distinct from the Baka people of Cameroon, Gabon, northern Congo, and south-western Central African Republic. A small group of Aka (also labeled as Mbuti due to their location in the Ituri forest) remain in the eastern Congo and are found associated with the Mangbetu people.

*Sources:  M.Kisliuk's 1997 review of Bayaka: The Extraordinary Music of the Babenzele Pygmies by Louis Sarno, Bernie Krause, Larry Charno, Ethnomusicology 41 (1); Ethnologue; Wikipedia*

## "Pygmies"

Forest-based hunter-gatherers, tropical rainforests of Central African Great Lakes region, which stretch from Cameroon to Uganda. Population estimated at more than 300 million.

The term '*Pygmies'* is used by some organisations but is widely considered pejorative. Central African Foragers will be used as a replacement for the overarching term Pygmies.

Central African foragers are genetically, culturally and economically distinct from their Bantu and other farmer neighbours. Though they likely preceded Bantu-speaking peoples by tens of thousands of years, they have in recent times existed in symbiotic relations with Bantu farmers, trading honey and meat out of the forest for agricultural produce.

During the pre-colonial era, Bantu speaking peoples took over parts of the Central African Foragers' territories. This was part of the massive expansion of agriculture and metallurgy across Africa. The indigenous peoples lived by hunting and gathering or in some areas, by nomadic pastoralism. Indigenous economies were protected by the environmental conditions of the Equatorial rainforests which made agriculture difficult. Bantu and Pygmy peoples came to live in a co-operative relationship with trade and one way intermarriage.

In the Great Lakes, under the Tutsi kings, some Central African foragers served in the court as entertainers, potters and even as Royal bodyguards. During the colonial and postcolonial periods most Central African Foragers were ignored during state formation and economically

marginalised. Due to the absence of birth certificates, Central African foragers in some countries were not considered to be real citizens. Post-independence economic policies have been built on the assumption that development requires villagisation and sedenterisation. Sedenterisation has brought problems for indigenous peoples and generally reduced their autonomy and health situation.

In more recent times, with the great civil disturbances and armed conflicts in the Great Lakes, Central African Foragers have become extremely vulnerable. During the 1994 genocide in Rwanda, one third of the Central African Foragers population perished during a conflict that was waged by the majority ethnic groups.

Since the 1994 genocide, the Rwandan authorities have sought to remove all reference to ethnicity and, under Rwandan law, advocating ethnic difference is a crime. However, critics continue to believe that the government has used the excuse of ethnicity to suppress freedom of expression and political opposition. Serious human rights abuses occur on account of discrimination shown towards Central African foragers by dominant ethnic groups. In 2003, the world was horrified by evidence that dominant combatant groups in DRC were cannibalising civilian Central African foragers. The conflict continued in 2005, with female Central African foragers being singled out for rape and abuse by rebel soldiers.

Despite having relatively shared histories and cultures relative to the national, non-Central African forager populations, there is enormous cultural and linguistic diversity among Central African forager populations. They speak different languages, they occupy different ecologies, they have different subsistence patterns and different relationships with neighbouring farming groups.

*Sources: IPACC website; The Indigenous World 2006*


## **Ogiek**

### **Also referred to as Okiek /Akiek / Akie / Akiye / Msiro / Mósiro / Kinare / Dorobo / Ndorobo**

Hunter-gatherers and fishers, northern Tanzania (south of Arusha) and southern Kenya (East Mau Escarpment, Nakuru District, Rift Valley Province; and southern Mau Forest between the Amala and Ewas Ng'iro rivers near the Nosogami stream), population 37,000 (2000, Ethnologue). The Ogiek in Tanzania and Kenya have only limited contact with each other.

The Ogiek are also known as *Dorobo* (Maa term meaning outsiders / those without cattle – considered derogatory).

The eastern Nilotic language spoken by the Ogiek is also called Ogiek, and includes dialects called Suiei and Sogoo / Sokoo. Speakers of this language are thought to number just 500 and it is increasingly vulnerable to extinction as the Ogiek use instead the languages of surrounding peoples - the Ogiek in northern Tanzania now speak Maasai and the Ogiek of Kinare, Kenya now speak Gikuyu / Kikuyu. Some also use Kalenjin.

The Ogiek grow vegetables and keep livestock in addition to hunting and gathering in the forest. They have traditionally hunted antelope and wild pigs but this is now generally illegal. They gather wild plants and honey using beehives made from hollow logs and placed in high branches. Honey plays a central part in Ogiek society; it is used for food and for brewing beer, and also to trade with neighbouring peoples outside the forest. Many Ogiek live in small groups amongst the Maasai.

Since colonial times there have been attempts to evict the Ogiek from their ancestral forest, often on the pretext that they are degrading it. Logging and tea plantations that have moved in have progressively degraded the environment while the Ogiek, environmental stewards rich in knowledge of how to protect and sustain the forest's biodiversity, are displaced and dispossessed.

Many Ogiek are resisting eviction and are fighting to have recognised their ancestral rights to sections of the Mau forest which have been gazetted as a National Forest. In recent years, numerous Ogiek civil society groups have been established.

*Sources: Indigenous World 06; Wikipedia; UNESCO (http://portal.unesco.org/ci/en/ev.php-URL_ID=10510&URL_DO=DO_TOPIC&URL_SECTION=201.html); Survival International; www.ogiek.org*

## Sengwer

### Also referred to as Cheranganyi / Dorobo

Hunter-gatherers and honey-collectors, Kenya (Rift Valley province, districts of Trans Nzoia, Marakwet and West Pokot), population approximately 60,000 (2001, SIDP)

In the past, some of them have been assimilated by other communities including the Pokot, Marakwet, Keiyo, Nandi, Tugen, Luhya, Maasai, Kipsigis and Sabaot.

The **Sengwer** speak the Sengwer language, part of the Nilotic language cluster but it is considered to be endangered as a result of the continued threats to their livelihoods. Sengwer and Ogiek are distinct languages but with a fair degree of mutual intelligibility.

Historically the Sengwer lived in small, scattered groups spread over large areas in the plains of Kapchepkoilel (Trans Nzoia) and part of Uasin Gishu. At the beginning of the 20th Century the colonial government occupied those lands, divided them up, and distributed them among the settlers. By 1930 the Europeans were well established there and began to discourage Sengwer presence, even burning their houses. The Sengwer, deprived of rights to any land, were constrained to the Cherangany forests, source of numerous streams, springs and rivers some of which flow into river Nile waters and some to Lake Turkana.

When Kenya gained Independence in 1963 the Sengwer were forced to assimilate into mainstream society and participate in an economy in which they were, and still are, systematically discriminated against. Sengwer cultural practices have been influenced by this and by the loss of ancestral territory, and their social economic status has not improved as it did at Independence for the other ethnic groups.

Today the Sengwer are still struggling for legal recognition by the government and are one of the most marginalised ethnic groups in Kenya. Only about 5,000 still live in their original forest land of the Embobut Forest in Marakwet.

The Sengwer have little to no representation in local or national government, and have not benefited from land devolution policies in recent decades. The government has taken part of the Sengwer ancestral land and converted part of it into tea zones without the consent of the community. The Sengwer community receives none of the benefits, neither a proportion of the proceedings of the produce nor compensation. Distress has been caused by government recommendations that small Sengwer communities be merged and assimilated into the larger ones.

*Sources: Sengwer Indigenous Development Project (SIDP) - http://membres.lycos.fr/sengwer/*

## Tuareg
**Tuareg / Tamasheq / Tamachek / Tomacheck / Tamajaq / Tamashekin / Tuareg / Touareg / Tourage / Imazighn Amazigh / Tahoua / Tewellemet / Tahoua / Tamajeq**

Nomadic pastoralists and agriculturalists, North-west Africa (south of Algeria, north of Mali and Niger, with small pockets in Libya, Burkina Faso and Mauritania). Population estimates vary between 300,000 and 3 million. 640,000 (Ethnologue, 2007).

The **Tuareg** are a group of the Imazighn people, also called 'Berbers'.

Tuareg is an Arabic name for the people, applied to them by early explorers and historians. They call themselves variously Kel Tamacheq, Kel Tamajaq "Speakers of Tamacheq" and Imouhar, Imuhagh, Imazaghan or Imashaghen "the Free people".

The Tuareg languages are Tamacheq, Tamajeq/Tamajaq and Tamahaq. The Tuareg have an ancient script known as the Tifinagh.

The Tuareg emphasise their historical relationship with the Sahara and their continued adherence to nomadic pastoralist economic and cultural systems and a cultural heritage that predates agriculture in the region.

The Tuareg adopted camel nomadism along with its distinctive form of social organisation from camel-herding Arabs about two thousand years ago, when the camel was introduced to the Sahara from Saudi Arabia. For over two millennia, the Tuareg operated the trans-Saharan caravan trade connecting the great cities on the southern edge of the Sahara via five desert trade routes to the northern (Mediterranean) coast of Africa.

In the early nineteenth century, the Tuareg resisted the French invasion of their Central Saharan homelands for the purpose of colonisation. After numerous massacres, the Tuareg were subdued and required to sign treaties in Mali 1905 and Niger 1917. In southern Algeria, the French met some of the strongest resistance from the Ahaggar Tuareg. Their Amenokal, traditional chief Moussa ag Amastan fought numerous battles in defence of the region. Finally, Tuareg territories were taken under French governance and their confederations were largely dismantled and reorganised. Following the independence of African countries in 1960s, Tuareg territory was divided into modern nations.

Long-standing competition for resources in the Sahel has impacted Tuareg conflicts with neighbouring African groups, especially after political disruption and economic constraints following French colonisation, tight restrictions placed on nomadisation, desertification exacerbated by global warming and the increased firewood needs of growing cities. Today, some Tuareg are agriculturalist and some work in towns and cities.

*Sources: Wikipedia; Ethnologue*


## Yaaku
**Also referred to as Yiaku / Yaakua / Mukogodo / Mogogodo / Mukoquodo / Mukogodo-Maasai / Siegu / Ndorobo / Dorobo / Dol Dol**

Pastoralists and hunter-gatherers, Kenya (Laikipia District, Mukogodo Division, Mukogodo Forest west of Doldol, foothills north of Mt. Kenya), population 250 (Ethnologue, 1983).

The Yiaku are regarded as 'Dorobo' (Maa term meaning outsiders / those without cattle – some consider the term derogatory). Former hunter-gatherers and bee-keepers, the Yiaku have adopted many aspects of the pastoralist culture of the Maasai in the first half of the twentieth century, although some still keep bees.

Of Eastern Cushitic origins, the Yiaku almost completely gave up their Cushitic language (Yaaku) between 1925 and 1936 for socio-economic reasons, in favour of the surrounding dominant language - Eastern Nilotic Maasai. The Maasai variant spoken today by Yiaku is called Mukogodo-Maasai.

In 2002 UNESCO certified the Yiaku language extinct, although old Yiaku words are still found in some parts of the bee-keeping vocabulary and a small number of older Yiaku who can recollect and speak the Yiaku language do exist.

In recent years a Yiaku indigenous peoples' movement has been building and legal rights to Yiaku ancestral territory are being sought based on the presence and revival of a distinct Yiaku language.

*Sources: Wikipedia; Ethnologue; http://www.nciv.net/engels/Yaaku.html*

## References

Africa Group (2006) Aide Memoire. 9 November 2006.
http://www.ipacc.org.za/uploads/docs/Africanaidememoire.pdf

African Commission on Human and Peoples' Rights (2005) Report of the African Commission's Working Group of Experts on Indigenous Populations / Communities. IWGIA: Copenhagen

Association Tunfa (2008) Rapport d'activité de la conception de la légende en vue de la préparation d'une cartographie participative à Iférouane. Unpublished report with .kmz file points. Agadez, Niger.

Bahuchet, S. and Guillaume, H. (1982) Aka-farmer relations in the Northwest Congo Basin. In: Politics and History in Band Societies, edited by Leacock, E. and Lee, R. Cambridge: Cambridge University Press: 189-211.

Brody, H (2000) The Other side of Eden: Hunter-Gatherers, Farmers and the Shaping of the World. London: Faber and Faber.

Brundtland, G. (1987) Our Common Future: World Commission on Environment and Development. Oxford: Oxford University Press.

CAR UNESCO National Commission (2008) Education sur le patrimoine en vue de développement durable : dialogue avec les Pygméees Aka de Mongoumba en Centrafrique. Unpublished report to UNESCO. Bangui, Central African Republic.

Church of Sweden (2008) Uppsala Interfaith Climate Manifesto. Church of Sweden: Uppsala.

Crawhall, N. (1999) Going to a better life: Perspectives on the future of language in education for San and Khoe South Africans. In: International Journal of Education Development (19). London and Oxford: Elsevier Science: 323-335.

Crawhall, N. (2001) Written in the Sand: Auditing and Managing Cultural Resources with Displaced Indigenous Peoples: A South African Case Study. Cape Town: South African San Institute and UNESCO.

Crawhall, N. (2006) MDGs, Globalisation and Indigenous Peoples in Africa in Indigenous Affairs Copenhagen: IWGIA. http://www.iwgia.org/graphics/Synkron-Library/Documents/IndigenousIssues/Thematic%20Focus/1-2006/Article1.pdf

Crawhall, N. (2007) Indigenous Peoples in Africa. Occasional Paper 03/2007. Oslo: Norwegian Church Aid

Crawhall, N. (2009 forthcoming) African Hunter-Gatherers: Threats and Opportunities for maintaining Indigenous Knowledge Systems of Biodiversity. In Peter Bates, Douglas Nakashima (eds) Safeguarding the transmission of local and indigenous knowledge of nature. UNESCO: Paris.

Crawhall, N. and K. Sena (2007) Report on projects related to the Environment and Recognition of Hunter-Gatherer Indigenous Peoples in East Africa. Cape Town: IPACC

Diamond, J. (1997) 1998. Guns, Germs and Steel: A Short History of Everybody for the last 13,000 Years. London: Vintage.

Dunbar, R. 1996. Grooming, Gossip and the Evolution of Language. Cambridge MA: Harvard University Press.

Environment Australia (1999) Today shapes tomorrow: Environmental Education for a Sustainable Future – A Discussion Paper. At http://www.environment.gov.au/education/publications/discpaper/sec1.html

Hays, J. (2002) "We Should Learn as We Go Ahead": Finding the Way Forward for the Nyae Nyae Village Schools Project. Perspectives in Education, 20(1):123-139

Hays, J. (2007). Learning indigenous knowledge systems. Paper presented at the 5th International Conference on Researching Work and Learning (RWL5). Cape Town, South Africa, 2 – 5 December 2007

Hewlett, B. S. (2000) Central African Government's and International NGOs' Perceptions of Baka Pygmy Development. In Hunters & Gatherers in the Modern World. P. Schweitzer, M. Biesele and R.K. Hitchcock (eds.), Oxford: Berghahn Books.

IPACC (2006) West African Regional Conference of Indigenous Peoples of the Sahara and Sahel. Report published online. Download from www.ipacc.org.za

Jackson, D. (2005) Implementation of International Commitments on Traditional Forest-Related Knowledge: Indigenous Peoples' Experiences in Central Africa. In: Our Knowledge for Our Survival: Traditional Forest Related Knowledge and the Implementation of Related International Commitments. Vol. 1. Edited by H. Newing. Chiang Mai: IAITPTF. Pp. 151 – 303.

Maffi, L. (2005) Linguistic, Cultural, and Biological Diversity. Annual Review of Anthropology. 29:599-617

Mazrui, A. (1978) Political Values and the Educated Class in Africa. Berkley CA: University of California Press.

Mignolo, W. (2001) Geopolitics of Knowledge and Colonial Difference. At: Incommunicado: http://www.incommunicado.info/node/18

Muchemi, J. and N. Crawhall (2008) Education for Sustainable Development: Safeguarding Traditional Ecological Knowledge (TEK) through Participatory Natural-Cultural Landscape Mapping in Kenya. Report to UNESCO. ERMIS Africa & IPACC. Due to be published out of Cape Town and Nakuru.

Nettle, D. and Romaine, S. 2000. Vanishing Voices: the extinction of the world's languages. Oxford: Oxford University Press.

Pennisi, E. (2004) The First Language? In *Science* 27 February 2004:Vol. 303. no. 5662, pp. 1319 – 1320.

Rambaldi, G, J. Muchemi, N. Crawhall, and L. Monaci (2007) Through the Eyes of Hunter-gatherers: Participatory 3D Modelling among Ogiek Indigenous Peoples. Information Development. Vol 23, May 2007

Rambaldi, G, J. Muchemi, N. Crawhall, and L. Monaci (2007) Through the Eyes of Hunter-gatherers: Participatory 3D Modelling among Ogiek Indigenous Peoples. Information Development. Vol 23, May 2007

Saugestad, S. (2008): Beyond the 'Columbus Context': New Challenges as the Indigenous Discourse is Applied to Africa, in Minde (ed.), 2008.

South African San Institute (2006) Life Forces Life Choices: ‡Khomani San Action Research on HIV / AIDS. SASI: Upington. Also online at: http://unesdoc.unesco.org/images/0014/001464/146436e.pdf

Veber, H et al (1993) "…Never drink from the same cup": Proceedings of the conference on Indigenous Peoples in Africa. CDR / IWGIA Document 74: Copenhagen.

Woolman, D. (2001) Educational reconstruction and post-colonial curriculum development: A comparative study of four African countries. In International Education Journal, 2:5, 2001. WCCES Commission 6 Special 2001 Congress Issue. See http://ehlt.flinders.edu.au/education/iej/articles/v2n5/4Wool/paper.pdf

Zeleza, P. T. (2007) African Studies from a Global Perspective. Blog: The Zeleza Post. At: http://www.zeleza.com/blogging/african-affairs/african-studies-global-perspective

**Sengwer dog inspects local cultural tourism project, Kapolet, Kenya**

*Photo: N. Crawhall*