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Convention on
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Outcome Document on Education and Biodiversity Conservation

Adopted at the Parallel Event: International Conference on Biodiversity Conservation and Education for Sustainable Development

Learning to Conserve Biodiversity in a Rapidly Changing World

Held at the XI Conference of the Parties to the Convention on Biological Diversity (COP 11)

Hyderabad, India **October 13-14, 2012**

Setting the Context

Efforts to change the current treatment and condition of our biosphere must essentially engage and address human attitudes, values and aspirations in order to effect change in individual and collective behaviour and practice. We have long known that Education is fundamental to negotiating values towards attitudinal and behavioural change in favour of biodiversity conservation and sustainability. The Convention on Biological Diversity has clearly affirmed and recognised the critical need to engage society individually and collectively through education and public awareness. Accordingly, Communication, Education and Public Awareness (CEPA) as established drivers of behavioural change, have a crucial role to play in the achievement of the targets set at Aichi.

Early CEPA programmes have successfully demonstrated their effectiveness in creating widespread human concern for and awareness of biodiversity and sustainability issues. The critical need of the hour is to accelerate the momentum gained by the initial impact of wide ranging and innovative education, public awareness, training strategies and capacity building programmes to move society from awareness of biodiversity and sustainability issues to concerted action. Aiding the transition from awareness to action, the rapid development of the cross-cutting, multi-disciplinary approach of Education for Sustainable Development (ESD) is of seminal relevance to this process, for ESD can provide valuable tools, skills, methodologies, pedagogies and expertise for biodiversity conservation as part of the search for a sustainable future.

A strategic plan for ESD to meet the Aichi targets needs to be put in place drawing on the rich and diverse experience gained during the UN Decade of Education for Sustainable Development. Governments, international organisations, NGOs, academic organisations, community groups and individuals across the world have contributed to creative and innovative biodiversity and sustainability strategies based on traditional as well as increasingly sophisticated information and communication media and technology. These experiences need to be shared and extended in a spirit of partnership. People especially children, need to connect with nature and understand the role of biodiversity in our lives. Instances of best practice need to be identified, adapted to local context and scaled up. There is a need to focus on securing commitment through ESD as symbolised by the Handprint which can serve as a universal clarion call for awareness to action, individually and collectively, towards biodiversity conservation and sustainability.

The Outcome Document from the two day International Conference on Biodiversity Conservation and ESD, attended by over 250 participants including educators and held as a parallel event inside COP 11, outlines a way forward by providing recommendations towards a strategic plan of action for ESD in the context of biodiversity conservation.

Outcome Document on Education and Biodiversity Conservation

1. *Recalling* the objectives of the Convention on Biological Diversity (CBD) acknowledging the emphasis given to the need for public awareness and education in all sectoral and thematic items under the programme of work of the CBD (Article 13), we appreciate the framework on Communication, Education and Public Awareness (CEPA), adopted by CBD at VI Conference of the Parties (COP 6) (The Hague, 2002);

2. *Acknowledging* the due recognition given by the Parties to the CBD by prioritising education as one of the key drivers to achieve many of the Aichi Biodiversity Targets, and that the CBD has set education and public awareness as the first of the targets and reinforced it by the United Nations General Assembly Declaration of 2011-2020 as the UN Decade of Biological Diversity;

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
(Aichi Biodiversity Target 1)

3. *Further recognising* that the CBD understands the crucial role of education, public awareness and communication in the setting of Strategic Goal E - ***Enhance implementation through participatory planning, knowledge management and capacity building***;

4. *Commending* the efforts made by the CBD at COP 10 to impress upon the Parties the need to integrate CEPA activities into their National Biodiversity Strategy and Action Plans (NBSAPs) and strengthen CEPA activities with effective participation of all stakeholders;

5. *Recognising* that biodiversity conservation being intrinsically linked to sustainable development, it is important to move beyond CEPA to align with the concepts of Education for Sustainable Development (ESD), as we formulate educational strategies to achieve Aichi biodiversity targets;

6. *Recognising* that achieving Aichi Biodiversity Target 1 is crucial to the fulfillment of all the other targets, we stress the urgent need for a concrete strategy and plan of action

for Education within the CBD, and urge that a revitalisation of the education approach be considered;

7. *Urge* that a specific, effective strategy to enlist the energy and resources of the world's educational and training institutions towards biodiversity conservation be designed to achieve the Aichi biodiversity targets in the UN Decade on Biodiversity;

8. *Request* that the CBD facilitate the drafting of a strategy to be made available to the Parties by the end of 2013, and urge that the scope of the strategy be based on Target 1, Strategic Goal E, and other relevant aspects of achieving the Aichi Biodiversity Targets such as the training of citizen scientists to address the new challenges thrown up by a rapidly changing world;

9. *Recognising* the existing cooperation between the CBD and UNESCO, other UN Agencies working on Conventions, MDGs and similar UN initiatives and propose that the synergy be strengthened further based on the common goals;

10. *Understanding* that biodiversity is closely linked to climate change, water, disaster risk reduction and other areas of concern and underscoring the need to address these issues in an integrated manner in partnership with related UN programmes;

11. *Request* that in view of the current sub-critical funding levels, greater investment in biodiversity education activities be made through the creative development of strategic partnering and through efficient fund management with clear prioritisation of projects during the UNDB, we urge governments, the private sector and other donors to invest in ESD work programmes for biodiversity in the course of the decade;

12. *Suggest* that UNESCO and the UN Interagency partners that have worked during the UN Decade of Education for Sustainable Development (UNDESD) to develop worldwide education, public awareness and training programmes in ESD, continue to engage ESD partner organisations, such as higher education institutions, civil society organisations, corporate bodies and research networks in an ongoing effective synergistic alliance;

13. *Suggest* that the new strategy integrate advanced technologies like satellite communication, crowd sourcing and social networking trends like Facebook and Twitter that enable two way communication, to facilitate the achievement of Aichi Goal E of participation and engagement of a larger section of the population;

14. *Recognise* the power of the media in sensitising masses and influencing the

decision-making process on issues related to biodiversity and *recommend* working closely with both formal and social media;

15. *Suggest* that the new ESD orientation support the development of site specific tools and programmes based on local cultural diversity and value systems, in order to attain more positive outcomes in biodiversity conservation while enhancing benefits to the people;

16. *Call upon* governments at all levels to demonstrate their commitment to the achievement of the Aichi Biodiversity Targets, by utilising the potential of ESD oriented programmes and their expertise in synergy with other programmes wherever possible;

17. *Re-affirming* the overall goal of the UN DESD, which is to integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behaviour towards a more sustainable and just society for all. In this context, we recognise and strongly encourage the promotion and adoption of the Earth Charter Initiative as an important ethical framework for sustainable development within the new CBD education strategy;

18. *Anticipating* that this outcome document from the two day ***International Conference on Biodiversity Conservation and ESD***, attended by over 250 educators and others and held as a parallel event inside COP 11, will outline a way forward while providing recommendations towards the proposed strategic plan of action. Among specific recommendations: farmers be made aware of issues related to food security and seed security when faced with choices of new seeds; engagement with and experience of nature was felt to be critical for children with the strong suggestion that every school going child must have at least one nature camping/ residential field study experience; school syllabii should have local specific content on biodiversity; college students and youth be engaged in biodiversity monitoring; traditional practices wherever relevant be highlighted for their sustainable approach to biodiversity; consultative processes be favoured for decision making. These are a few of the numerous recommendations brought out in the working groups. Many more have been documented with the expectation that these recommendations will impact on and shape the education strategies of CBD in the coming years;

19. *Emphasising* the need for positive action towards sustainability while highlighting the multiple dimensions and issues involved in education, public awareness and training in the context of meeting the Aichi biodiversity targets. The concept of the Handprint,

born out of a school programme in the city of Hyderabad in 2005 at the start of the DESD, captures the mood and spirit of our recommendations. The five fingers symbolise the five components of ESD (awareness, knowledge, skills, values and participation) engaged in positive action towards sustainability. It also represents commitment, caring, collaboration and networking, and even assessing and measuring positive action. While the Handprint encapsulates measures to restore the balance between consumption and the planet's carrying capacity, it also epitomises the conviction that we can each make a contribution through our individual and collective actions for a sustainable future and acts as a clarion call for informed action.

20. *Strongly urge* that, in the spirit of Aichi biodiversity targets, in particular Target 1, the recommendations coming out of this consultative process in the parallel event ***International Conference on Biodiversity Conservation and Education for Sustainable Development: Learning to Conserve Biodiversity in a Rapidly Changing World*** at the COP 11, be taken forward by the Convention on Biological Diversity and adopted and integrated into the final recommendations and outcomes emerging from COP 11 at Hyderabad 2012.

Towards a Strategic Plan: Some Initial Ideas to Build on

Over the course of the two days and during the discussions at the thematic working groups, specific ideas were suggested. These would be helpful in developing an educational strategy for the achievement of Aichi biodiversity targets. These action points serve to demonstrate the range and variety of ideas and strategies that can form part of an overall ESD strategy for biodiversity conservation. These ideas need further working on.

1. Biodiversity and Formal Education

1.1 Biodiversity Education in Schools

- Recognising that direct learning from nature is a powerful educational methodology, it is recommended that experiential learning in the area of biodiversity conservation be made a part of the formal curriculum.
- Biological diversity is closely linked with cultural diversity; usually the hotspots of biological and cultural diversity overlap. The teacher needs to help make this connection and discuss it. The curriculum and teaching/learning materials also need to address ethnic and socio-ecological diversity and its relationship to biodiversity.
- Assessment of the ESD component in school education needs to use varied and innovative methods, in order to effectively measure whether the learning outcomes are achieved.
- Infusion of ESD should be carried out in such a way that biodiversity content is available in all the relevant subjects/textbooks with clear action and activity components.
- Each school should be encouraged to make a school biodiversity plan which includes what plant species they have, what they attract, what food to cook, etc.
- Food served in schools is a great opportunity for creating awareness about biodiversity. Food can be linked to traditions and its origin.
- School plantation programmes are an effective way of creating a better understanding of local species. It would also be important to relate local plant species with the birds, insects and other small animals they attract.
- Biodiversity loss at the local level can be taught through history classes in schools. Children can be encouraged to talk to elders in their community to ask them to recall species that were in the area and may have become rare or have disappeared..

1.2 Biodiversity and Higher Education

- Web based learning programmes, especially at the university level, have huge potential. One needs to caution that web based learning does not replace direct experiential learning. Relating the information available on the net with the knowledge available locally would be a good way to do this.
- We recommend the use of outdoor education, social learning and learning for change, building on real life experiences and solutions from learners in other parts of the world, as unrivaled pedagogical tools to achieve deep learning in the context of biodiversity conservation.

- While courses should address locale specific issues in a diverse natural and human environment, care should be taken to include the rapid changes around these environments as well.
- Teaching modules should be developed to sensitise students to biodiversity conservation values.
- The world's indigenous and traditional peoples are currently poorly served by mainstream education and other institutions. Their knowledge and wisdom regarding biodiversity could become a strength which could bolster their self esteem and also enhance formal education from a perspective of ESD.
- Involve students of higher education institutions in monitoring biodiversity in their locality. Protocols need to be developed to ensure that proper methodology is used and the data collected is valid and can be compared across years and between institutions. Such data should also corroborate and act as a means of ground-truthing for satellite and other macro data.
- Students should be encouraged to take up action projects in the area of biodiversity with the involvement of academic institutions, local government and local communities.
- Students should be encouraged to connect with their peer groups, both at the national and international levels, through networks such as the Regional Centres of Excellence (RCE) and Mainstreaming Environment and Sustainability in Africa (MESA), using modern ICT tools.
- Many real conflicts between development demands and preservation of biodiversity that are in the news need to be brought into the classroom. This would relate education to real life issues. This would also be a good opportunity to discuss ethics in the classroom.
- Biodiversity is a "global commons" issue that is ripe for both social and practical applied science discussions in a wide variety of higher education disciplines such as mining, forestry, law, medicine and even philosophy, pursuing the concept of biodiversity.

1.3 Biodiversity and Teacher Education

- Biodiversity conservation education must be approached as a cross cutting theme which can bring together what students learn in several different disciplines. Teachers need to be oriented to encourage students to use methodologies and data from more than one subject in a biodiversity project.
- The CBD education programme should make use of existing ESD networks such as the network of hundreds of teacher education institutions, spanning more than 70 countries, addressing various ESD issues. Biodiversity would be a national fit.
- Field-based/hands-on experience must be made an integral part of the training of teachers and teacher educators for biodiversity.
- Development of values for biodiversity conservation should be developed at all levels of teacher training and education.
- Issue-analysis orientation to biodiversity conservation needs to be made a part of teacher education.
- Teachers should be encouraged to bring in local examples to the classroom. For this local level teacher workshops should be organized. Development of local level

resource material is a must and it must be carried out with the involvement of necessary resource people working with the local teachers.

2. Biodiversity and Non Formal Education

2.1 Facilities: Zoos, Botanical Gardens, Museums and Others

- We suggest that at least one Education Officer be dedicated to carry out education programmes in zoos and gardens.
- For zoos to function as effective Biodiversity Conservation Education Centres, programmes and activities need to be conducted on free ranging fauna and local flora in and around the zoo.
- We recommend the development of educational programmes around zoos, gardens, parks, museums in which school and college students and members of the communities are involved as volunteers, interns, research assistants or guides.
- Zoos must be encouraged to set up an education and interpretation centre to orient visitors to the history, role of the zoo, zoo ethics, management aspects, information about fauna, flora, conservation efforts and issues.
- We emphasise the need to develop conservation education programmes and resource materials with a focus on local biodiversity, wildlife and conservation issues, targeting children, youth and the general public in zoos and gardens.
- We recommend that interpretative techniques be used in larger educational efforts for sustainability and that biodiversity be interpreted in scientific, livelihood, larger socio-economic and cultural contexts to enable visitors to, and communities living near, wildlife areas and zoos, as well as other sections of society, to appreciate and imbibe the sustainability values of biodiversity-rich areas.

2.2 Ecotourism and Camping/ Residential Field Studies

- We recommend that all school systems endeavor to ensure that every child in the age group of 10–14 years gets at least one camping experience during their schooling. Being in nature, experiencing nature firsthand and learning from your natural environment is a unique educational experience. Camping accompanied by proper instructional material and trained guides is an excellent way for young children to understand biodiversity and become its champions.
- Capacity building of educators and practitioners involved in eco-tourism and camping is of utmost priority, including in tourism and hotel management courses, since there is a great demand for such professionals.

2.3 Engaging Youth

- We recommend involving young people in biodiversity conservation through engaging them in local decision making, planning and governance.
- IT skills such as GPS and GIS could become a common denominator in the attempt to engage indigenous people by learning the skills to create GIS maps, that document traditional hunting and other biodiversity related data through interviews and travels with community elders while preparing youth with employable skill sets for future employment.
- We encourage governments and

corporates to develop volunteering programmes and internship opportunities for youth on an annual basis to support skill and capacity building in biodiversity research, documentation and outdoor education, including camping and management of ecotourism sites.

- "Peer to peer" learning among youth should be supported by providing avenues for demonstrating and showcasing best practice by youth. Dissemination of information and best practice using social networking sites and other innovative mechanisms must also be supported. Youth can undertake campaigns that make biodiversity conservation fashionable and cool.

3. Rural Communities and Sustainable Livelihoods

3.1 Education for Agricultural Biodiversity

- We propose the mainstreaming of agro-biodiversity conservation education into the regular government livelihood and capacity building programmes to reach out to rural/urban communities, consumers, and government functionaries. . The focus needs to expand beyond the value of agro-biodiversity to include conservation methods, legal/management frameworks and also promote green economy to maximize benefits to the local communities.
- We recommend that appropriate pedagogy (locale-specific, innovative, learner centric approaches such as farmer field schools, mobile village exhibitions, community agro-biodiversity repositories) be adopted by agriculture extension institutes to effectively conserve and promote agro-biodiversity.
- We advocate the introduction of a course on agro-biodiversity in higher education institutions which would lead to sustainable agriculture and food security.
- We recognise that a significant amount of agricultural extension activity relevant to agro-biodiversity conservation is currently happening outside mainstream agricultural institutions, which need to be recognised and mainstreamed.
- We recommend that facilitating mechanisms be established to enable the sharing of expertise among local communities that have nurtured agro-biodiversity.
- There is a need to encourage people to cultivate variegated dietary habits which not only help to maintain biodiversity, but also decreases pressure on species diversity, helping to disseminate traditional knowledge.
- Biodiversity conservation education needs to be built around the livelihoods of communities in order to encourage participation of the local communities.
- Traditional technologies and practices on biodiversity conservation accumulated over generations must be respected, documented, validated and disseminated for a sustainable future.
- We propose that government should invest in community owned and managed extension education systems which include barefoot practitioners identified by the community to facilitate community based platforms (self help groups, fishermen associations, farmer field schools and others).

3.2 Education for Marine and Coastal Biodiversity

- We urge policy makers to use consultative processes and engage coastal communities in the decision making process while formulating coastal policy to protect the traditional rights of the coastal communities over coastal resources, including bioresources.
- We recognise the need for capacity building for coastal managers regarding sustainable coastal management, integrating climate change adaptation and disaster risk reduction, while promoting the concept of environmental economics to account for the benefits derived from coastal and marine biodiversity.
- We recommend capacity building for coastal communities to enable them to undertake annual regional assessment studies covering transboundary and international linkages of marine pollution. Transparency on coastal environmental status and greater accessibility to such information - both spatial and temporal - at the local level is needed to enable public participation in coastal decision making processes.
- We propose that all colleges in the coastal areas be involved and engaged in environmental auditing and review of existing Environment Impact Assessments (EIAs) to enhance their role as communicators to interpret the EIA findings.
- We urge policy makers and law professionals to recognise, understand and respect various cultures so that biodiversity is seen in its 'biocultural' value, as part of the decision making process. We suggest the use of consultative processes to engage local communities in the decision making process while formulating policy and protocols related to access to genetic resources in order to protect their traditional rights, livelihoods and independence.
- In this context, we recognise and stress the need for legal education, particularly on the emerging protocols on Access to Benefit Sharing (ABS) as an important area of empowerment for the protection of rights, safeguarding of biodiversity and maximising of benefits to stakeholders.
- We strongly urge that the local community be enabled through education to engage more actively in Marine Protected Areas.
- It is important that environmental educators identify (at least five) major business interest groups in the coast, particularly the ports, power plants and Special Economic Zone (SEZ) industries, tourism establishments, and sensitise them to marine and coastal ecosystem services and cumulative impacts of projects, while creating awareness and understanding amongst them regarding fishing communities and their lifestyle, livelihood and traditional rights issues.
- Corporate establishments along coastal areas must receive a corporate communication note kit highlighting sustainable approaches and methods for balancing business interests to maintain a healthy coastal ecosystem.
- Governments and international funding agencies should allocate more funds and technology resources for coastal and marine conservation.
- With the demonstrated success of mobile exhibitions which are interactive, such as

the Science Express Biodiversity Special in India, an exhibition mounted on a boat could become a very effective medium in raising awareness on coastal and marine ecosystems.

3.3 Livelihoods and Biodiversity

- Acknowledging that sustainable practices in biodiversity conservation form a part of traditional societies, we suggest documentation, dissemination and replication wherever possible of such efforts, thereby protecting and promoting the livelihoods of such communities.
- Build capacity of communities in order to equip them to become entrepreneurs, create market linkages /spaces, and build multi stakeholder partnerships to enable the scaling up of such activities.
- Encourage participation of corporate houses by sensitising them to biodiversity conservation in order to protect biodiversity and to increase investment in its conservation.

4 Industry and Urban areas

4.1 Cities and Biodiversity

- Recognising that while cities impact biodiversity and ecosystems, at the local, regional as well as at the global level, they are also venues for innovation, we urge that educational efforts focus on biodiversity and the governance of biodiversity in urban areas with a view to conserving biodiversity, enhance the use of green infrastructure and monitor changes in biodiversity which may provide early warnings of emergent risks.
- We suggest that urban communities be made aware of the impact of their choices and lifestyles on biodiversity not only in their immediate environment, but also in their neighbouring and other regions.
- We encourage building capacities of local government bodies to develop local Biodiversity Strategy and Action Plans and institutional mechanisms for devolving decision making at the local level, and developing a City Biodiversity Index on the lines of the Singapore City Biodiversity Index . We recommend creating awareness about and training of Local Bodies to help redefine the role of cities from being perceived as sinks to becoming sources of eco-services.
- Recognising the implications of the nature and scale of current and impending urbanization - many of the goals of the Convention on Biological Diversity, as well as the Millennium Development Goals for providing clean water for consumption and sanitation, and the UNFCC goals for mitigating and adapting to climate change, are unlikely to be met - we call upon the relevant agencies to use the power of education to mobilise different segments of society to re-vision urbanisation and urban areas, and urge that a comprehensive plan be made for ESD in relation to urban areas.
- We need to create awareness and build capacity among citizens for participatory governance.
- We urge documentation of local biodiversity through developing Public Biodiversity Registers involving citizen participation, especially that of youth. We suggest Public and Private Partnership models for engaging multi-stakeholder groups in researching, documenting and taking local action for habitat conservation.
- We believe that participation of cities is very important to achieving the Aichi

targets and encourage awareness and education, peer learning across city alliances and networks to share best practices and learnings.

4.2 Industries and Biodiversity Conservation

- As the corporate sector and industries can help reduce the negative impact on biodiversity, we suggest that CSR activities focus and invest further in educational programmes for biodiversity conservation.
- We believe that special management development programmes on biodiversity conservation and sustainable ecosystem management are required for industries and the corporate sector in order to give more emphasis to biodiversity issues in their existing Environment Impact Assessment (EIA) systems.
- We strongly suggest that at least 10% of employees should be sensitised every year on biodiversity conservation by participating in action projects initiated by their employers in the private and public sectors. Industries need to promote 'biodiversity conservation culture' in their work environment.
- There is a need for education to strengthen the biodiversity indicators in the Global Reporting Initiative (GRI), which are at present mild and weak.
- There is also a need to orient communities on the components of EIA so as to enable them to protect biodiversity and their rights.
- Legal education for communities is essential to empower them to safeguard their resources, their livelihoods and their rights.
- Industrial growth and expansion necessitates the opening up of more ecosystems including wilderness areas. Decision makers need to be sensitised and made conscious of the implications of the loss of biodiversity when they declare large areas as Special Economic Zones (SEZs), Development Corridors, Ports, etc, so that they plan for mitigation, rehabilitation and compensation as a mandatory requirement if total avoidance is not possible.
- Tools such as Paying for Eco-system Services (PES) are powerful measures for evaluating and valuing ecosystems. Best practice examples on the development and use of similar tools from around the world can be used as educational resources for practitioners and communities.
- We need innovative methods to engage politicians and decision makers, sensitising them to the need for long term plans that integrate biodiversity conservation with sustainable development.

"By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably."

(Aichi Biodiversity Target 1)

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