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## **First International Conference on Biodiversity and its Role in Sustainable Development**

**October 15 and 16, 2016, Helwan University Convention Center**

**Under the auspices of Helwan University President  
And the Dean of the Faculty of Science, Helwan University**

**Conference Chairman: Professor Abdelfattah Badr, Botany and Microbiology Department**

**Honorary Chairman: Prof. Maher H. Helal, Vice Dean for Postgraduate Studies and Research**

**Managing Secretary Prof. Ibtisam Hammad, Head Botany and Microbiology Department**

**Conference Coordinator: Professor Shehata Elsebai Vice Dean for Student Affairs**

**Chairman of the Executive Committee: Professor Mohamed Soliman**

**Chairman of the Scientific Committee: Professor Loutfy Mohsen**

### **Potential Additional Sponsors**

**Egyptian Academy of Scientific Research and Technology**

**Egyptian Authority for Environmental Affairs**

**The Egyptian Botanical Society**

**The Fulbright Bilateral Commission, Cairo Office**

### **About the Conference**

In the current context of an increasing world population, changes in social habit towards increasing consumerism and climate change, a growing awareness of the need to preserve and use sustainably world natural resources are evident. Therefore, we need to address how ecosystems restoration can be achieved under the threats of massive demand for food and potential climate changes that may result in fragile ecosystems. The First International Conference on Biodiversity and Sustainable Development that be held during 15 – 16 October 2016 in the Convention Center of Helwan University, Cairo, Egypt will bring together leading academics, scientists, researchers and scholars in the domain of interest from around the world. The conference is of interest to both researchers and policy makers working on issues in the area of biodiversity and its importance for sustainable development.

## **Rational for the Conference**

### **What is Biodiversity?**

The term biodiversity covers all levels of genetic and phenotypic natural variation at the molecular, individual, population, species and ecosystem levels. However, scientists use a broader definition of biodiversity, designed to include living organisms and their complex interactions, with the abiotic (non-living) components of their environment. As defined by Convention on Biodiversity (<http://www.biodiv.org>), biodiversity was defined as the variability among all forms of living organisms including, terrestrial and aquatic ecosystem. The objectives of the CBD convention are:-

- ✓ Conservation and sustainable use of biological diversity
- ✓ Fair sharing of benefits of the use of genetic resources
- ✓ Appropriate transfer of relevant technology for sharing genetic resources

### **Importance of Biodiversity**

Biodiversity provides goods and services that have direct use values as food, wood, textiles, pharmaceuticals...., and source of innovations. In addition, plants biodiversity support ecosystem services that have indirect values such as primary production, nutrient cycling, soil formation, crop pollination, water purification, climate regulation and disease control. Moreover, wild plants are indispensable genetic resources since they form the basis for agricultural development and act as a reservoir of genetic adaptability against environmental change.

### **Threats to Biodiversity**

Biodiversity is under serious threats as a result of human activities. The main dangers worldwide are population growth and resource consumption, climate change, global warming, habitat destruction and urbanization, invasive alien species, over-exploitation of natural resources and increased pollution. The main factor currently driving biodiversity loss is habitat destruction on land; in streams, rivers, and lakes; and in the oceans. Human activities such as: deforestation; bottom trawling in the oceans; the damming and dredging of streams, rivers, and lakes; and the draining and degradation of wetlands, estuaries, and mangroves are also responsible for

biodiversity loss. In arid environments, Desert ecosystems are exposed to environmental stress of drought, uncontrolled tourism activities and others human activities

### **Biodiversity and Sustainable Development**

Across scales from genes to species, ecosystems and biomes, biodiversity is an important resource for humanity. It is of direct importance for human well-being and for cultural and other values including recreation. The provisioning of clean water and diverse food supply makes biodiversity vital for food security due to population growth, poverty, globalization, climate change and other factors. Supplying healthy food to all peoples is crucial for global development - to reach it, not only food production but also equitable access to food for all people must be improved substantially. Biodiversity conservation is tightly linked to food security and conserving biodiversity is likely to generate multiple benefits for social, ecological and economic development.

### **Main Topics of the Conference**

- 1) Biodiversity of wild and economic plants
- 2) Biodiversity of microorganisms
- 3) Biodiversity of animals and insects
- 4) Biodiversity of ecosystems and communities
- 5) The threat indicators to biodiversity
- 6) Reasons to maintain biodiversity
- 7) Biodiversity conservation programs
- 8) International and national efforts to protect biodiversity
- 9) The role of biotechnology in the conservation of biological diversity
- 10) The role of herbaria and botanical gardens in conserving biodiversity
- 11) Nature reserves and their role in conservation and sustainable use of biodiversity
- 12) Climate change and its impacts on biodiversity
- 13) Ecosystem creation and restoration
- 14) Ecosystem services and Ecosystem health
- 15) Ecotoxicology and Environmental health
- 16) Fragile ecosystems and hotspot management