

**International Workshop on
Urbanisation, Land Use, Land Degradation and Environment,
Denizli, Turkey, 28th September – 1st October 2009**

***PARTICIPATING COUNTRIES:* 20 Countries (Including 14 Member Countries and 1 S&T-Industry Network Members of the NAM S&T Centre and 5 Non-member Countries**

***NUMBER OF PARTICIPANTS:* The Workshop was attended by 240 experts, academicians, professionals and university students from 20 countries including the host country Turkey**

Land mainly refers to geographic locations and has historically been the cause of much conflict and dispute. Land reform programmes, which are designed to redistribute possession and use of geographic land, are often the cause of great controversies since times immemorial. Land also refers to natural resources, river and water masses and mineral desposits, and conflicts over their use have contributed to many civil wars and continually remains a topic of concern between many nations and localities. Further, the land use and land management practices have a major impact on natural resources including water, soil, nutrients and plants, and the living beings. For instance, water bodies in a region that has been deforested or has eroded will have different water quality than those in areas that are forested. Land use information can be used to develop solutions for natural resource management issues such as salinity and water quality.

Environmental pollution is defined as the addition of any substance or form of energy to the environment at a rate faster than the environment can accommodate it by dispersion, decomposition, recycling or storage in some harmless form. Such pollution, especially in urban areas, is one of the biggest challenges the world faces today affecting us economically, physically and everyday of our lives. Water pollution is the contamination of streams, lakes, underground water and larger water masses by substances that are harmful to living being. Impure water kills plants and animals. It also causes humans to fall sick. Land pollution is similar to that of water. It is the contamination of land with hazardous waste like garbage and other waste materials that do not belong to the land, pesticides, herbicides, oil spills, petroleum products, etc. Many of these items are consumed by plants and animals and then when the next consumer feeds on either the plant or the animal, it piles up and contaminates the body. Thermal and heat pollution is a cause of greenhouse effect and global warming. Thus any type of pollution affects the abiotic - non-living - and biotic – living - components of life, which disturbs the ecological balance and thereby leads to a variety of detrimental conditions.

Urbanization is the physical growth of urban areas as a result of population migration from rural areas to an existing urban area. The outcome is a change in population density and pressure on administration services. In the developing and developed countries, the expansion of urban areas and infrastructure is encroaching on productive land and natural habitats.

Land degradation affects the earth's arability. Besides natural causes, land

degradation occurs where there is a deficiency in land use planning or in its orderly execution, or the existence of financial or legal incentives leading to the wrong land use decisions, or one-sided central planning leading to over-utilization of the land resources, for instance for immediate production at all costs. This often results in misery for large segments of the local population and destruction of valuable ecosystem. Such narrow approaches should be replaced by using integrated and holistic techniques for the planning and management of land resources. This would ensure the long-term quality of the land for human use, the prevention or resolution of social conflicts related to land use, and the conservation of ecosystems of high biodiversity.

Land is a part of our culture and society, and provides a distinctive networking in the community. Planning a viable land use programme requires an appreciation of the historical past, as well as an analysis of the environment in which it is supposed to operate, including its public and its stakeholders. This workshop is therefore highly topical and aims at promoting scientist-to-scientist contacts, interactions, exchanges and sharing of information on various aspects of the land and its use, urbanization and environment.

In order to deliberate on the importance of the subject, the Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre) organized a 4 days international workshop at Denizli, Turkey on 'Urbanisation, Land use, Land Degradation and Environment', jointly with the Pamukkale University and TÜBİTAK, the Turkish Scientific and Technological Research Council.

The Inaugural Session held in the auditorium of Pamukkale University was started with the Welcome Remarks by Prof. Fazil Necdet Ardiç, Rector / President, Pamukkale University, which were followed by an Introduction to the Workshop by Prof. Arun P. Kulshreshtha, Director, NAM S&T Centre highlighting the background of the workshop, the role being played by the Centre in promoting South-South cooperation in various scientific areas and specifically in context with environmental issues including land degradation, and ongoing and prospective dynamic partnership of Turkey with the Centre. H.E. Nihat Zeybekçi, Mayor of Denizli and Prof. Dr. Ömer Z. Cebeci, Vice President, TÜBİTAK addressed the audience followed by the Inaugural Speech by H.E. Yavuz Erkmen, Governor of Denizli.

In the afternoon session on the inaugural day invited key note lectures covering a variety of scientific topics related to the workshop were given by Prof. Arun P. Kulshreshtha, Director, NAM S&T Centre, New Delhi; Prof. Münir Öztürk from Ege University, Bornova-Izmir, Turkey; Prof. Ahmet Mermut from Saskatchewan University, Canada; Prof. M. Ajmal Khan from Karachi University, Pakistan; Prof. Vincenzo Belgiorno from Salerno University, Italy; and Dr. Süreyya Meriç-Pagano affiliated with the universities of Napoli and Salerno in Italy,.

From the next day onwards, the venue of the workshop for the technical sessions was shifted to the Richmond Pamukkale Thermal Hotel. About 240 experts, academicians, professionals and university students from 20 countries including the host country Turkey attended the workshop. There were 25 overseas participants from Argentina [Prof. Maria Virginia Luna, Universidad Nacional de Rio Cuarto, Argentina]; Bulgaria [Dr. Anely M. Nedelcheva, Assistant Professor, Department of Botany, Sofia

University]; Canada [Prof. Ahmet R. Mermut, Department of Soil Science, Saskatchewan University]; Cyprus [Dr. Salih Gücel, Assistant Professor, Environmental Sciences Institute, Near East University, Northern Cyprus]; Egypt [Dr. Wafik Noseir, Environmental Engineering Consultant, AUC, Cairo]; Indonesia [Mrs. Dwi Susilaningih, Senior Researcher, Biotechnology Research Center, Indonesian Institute of Sciences. Bagor]; Iran [Prof. Gholamreza Zehtabian, General Director of Academic Affairs, University of Tehran; Mr. Mehran Kiani Rad, Faculty member, Biotechnology Department, IROST, Tehran; and Prof. Mohammad Kafi, Head, Agronomy Department, Faculty of Agriculture, Ferdowsi University of Mashhad]; Ireland [Dr. Patrick S.M. Dunlop, Research Fellow, Nanotechnology and Integrated Bio-Engineering Centre – NIBEC – University of Ulster]; Italy [Prof. Vincenzo Belgiorno, Salerno University and Dr. Süreyya Meriç-Pagano from the Universities of Napoli and Salerno]; Kenya [Ms. Joyce Wanjiru Ngure, Chief Research Officer, Ministry of Higher Education, Science and Technology, Directorate of Research Management and Development]; Mauritius [Mrs. Cecily Cyparsade, Environment Officer, Ministry of Environment and National Development Unit, Port Louis]; Myanmar [Dr. May Thae Su Moe, Associate Professor, Department of Technical and Vocational Education, Ministry of Science & Technology]; Pakistan [Prof. M. Ajmal Khan, Department of Botany, Karachi University, Karachi and Prof. M. Anwar Baig, Institute of Geographic Information System (IGIS), National University of Sciences & Technology (NUST), Islamabad]; South Africa [Mr. Lulama L. Sombalo, Researcher, Agricultural Research Council, ARC-ISCW, Pretoria]; Sri Lanka [Mr. M.A.K. Munasinghe, Research Officer, Natural Resources Management Centre, Department of Agriculture, Peradeniya]; Syria [Er. Chadi Badra, Head of Division of Combat Desertification, Ministry of State for External Affairs, Damascus]; Tanzania [Dr. Dugushilu Mafunda, Principal Research Officer, Commission for Science and Technology of Tanzania, Dar-es-salaam]; U.K. [Ms. Shahina A. Ghazanfar, Head, Temperate Regional Team, Herbarium, Library, Archives & Art, Royal Botanic Gardens, Kew, Richmond, Surrey and Dr. Cathy McCullagh, The Robert Gordon University, Aberdeen, Scotland]; and Vietnam [Ms. Ngo Thi Loan, Vice Head of Project Department, Centre for Regional Research and Development, Ministry of Science and Technology (MOST), Hanoi; and Mrs. Luu Nam Phuong, Officer, Department of International Cooperation, Ministry of Science and Technology (MOST), Hanoi].

The overall programme of the workshop was organized in three parallel Technical Sessions and a joint Concluding Session. In these technical sessions, two were primarily for the Turkish speakers and audience. One session however was exclusively for the English speaking audience comprising the foreign delegates sponsored by the NAM S&T Centre and some other Turkish and foreign speakers. The papers presented in this session were on ‘Paradox of Halophytes Utilization as Biofuel Resources and Land sustainability’ by Prof. Mohammad Kafi; ‘Country Status Report for Mauritius’ by Mrs. Cecily Cyparsade; ‘Computation of Urban Heat Island created due to Changes in Land Cover and Land Use – Case Study of Twin Cities of Pakistan’ by Dr. M. Anwar Baig; ‘Urbanisation, Land use, Land Degradation and Environment in Myanmar’ by Dr. May Thae Su Moe; ‘Green House Gases Emission from Cement Manufacturing Industry and Mitigation Measures’ by Dr. Dugushilu Mafunda; ‘Evaluation of Sustainable Urban Agriculture in India for Applicability in Zwilitsha Township, Eastern Cape, South Africa’ by Mr. Lulama Ludumo Sombalo; ‘Land Degradation in Sri Lanka and Its Mitigation’ by Mr. M. A. K. Munasinghe; ‘Soil Protection Techniques from Erosion in the Sloping Areas of Vietnam’ by Ms. Ngo Thi Loan; ‘Global Environmental Information System’ by

Dr. Wafik Noseir; 'Effects of Continuous Thermophilic and Mesophilic Treatments on Maturity of Corncob Compost and Reducing of Composting Time' by Mr. Mehran Kiani Rad; 'Land Use in Kenya' by Ms. Joyce Wanjiru Ngure; 'Characterizing and Screening Oil Degrading Microbes for Land and Beach Reclamation in Indonesia' by Dr. Dwi Susilaningih; 'The Case of Desertification in Syria' by Mr. Er.Chadi Badra; and 'Urban Ecology of Edirne-Turkey' by Dr. Salih Gücel. A special invited talk on 'Halophytes – Potential of Cash Crops using Saline Resources' was given by Prof. Ajmal Khan and Prof. Arun P. Kulshreshtha made a presentation on 'the NAM S&T Centre and Its Role in South-South Collaboration in Science and Technology'.

The papers presented by Turkish participants in this session were on 'Watershed Rehabilitation Projects' by Dr. Serpil Erkmen of the Turkish Ministry of Environment and Forestry; on 'Integrating Environment into Land-Use Planning Through Strategic Environmental Assessment: A Case Study on Environment Plans in Turkey' by Dr. S. Sinem Ozyurt; on 'Extractable Boron in Naturally-Occurring High Boron Soils Around Bigadic Mining Area' by Dr. M. Serdal Sakçali, Assistant Professor and Chairperson, Biology Department, Fatih University, Istanbul; on 'Long-term Planning and Governance Concerns in Disaster Risk Mitigation and Sustainable Land Use Management: Lessons for City of Denizli' by Dr. Pinar Savas Yavuzçehre of Pamukkale University; on 'Socio-Economic Effects of Irregular Settlement and Industrialization on Land Use: The Research of Kahramanmaraş Urban Area' by Mehmet Pinar Yilmaz of Pamukkale University; and on 'Water Network Leak Detection and Pressure Management in Denizli' by Mr. Ümit Canturk of Denizli Municipality.

In addition to the above, there were poster presentations by the Turkish and overseas scientist.

The concluding part of the session with foreign participants was devoted mainly to the discussion on Pamukkale Recommendations on Land Use, Land Degradation and Environment.

The participants were taken on a field trip to Pamukkale Hieropolis and hills with geothermal activity and they also visited en route the city of Buldan with traditional Turkish hospitality and cuisine.

The participants thanked the organizers of the workshop, in particular, Prof. Fazil Necdet Ardiç, Rector / President, Associate Professors Ali Çelik, Ali Ramazan Alan, Hüseyin Selçuk and Ebru Dulekgurgen and their colleagues at the Pamukkale University; Prof. Ömer Z. Cebeci and Prof. Omer Anlagan, Vice Presidents of TÜBİTAK; Prof. Münir Öztürk from Ege University, Bornova-Izmir; and Prof Arun P. Kulshreshtha, Director, NAM S&T Centre and his colleagues Mr. M. Bandyopadhyay and Ms. Debanjana Dey, and unanimously hoped that more similar events will be held in future with a focus on South-South cooperation.