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Organización
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**Address by Mr Koïchiro Matsuura, Director-General of UNESCO,
on the occasion of the Public Lecture in Malaysia
on the International Year of Planet Earth**

Kuala Lumpur, Malaysia, 14 March 2008

Fellows of the Academy of Sciences of Malaysia,

Dear Guests,

Ladies and Gentlemen,

It is a great honour for me to join you today, and to address such a distinguished audience. My sincere thanks go to the Academy of Sciences of Malaysia for giving me this unique opportunity.

I am delighted to see such a large and diverse gathering of Malaysian scientists and academicians, government officials, students, representatives of civil society and the private sector, and members of the general public. I believe we can look forward to a very lively and interesting discussion.

The subject I have been invited to speak about is the International Year of Planet Earth: its goals and what UNESCO is doing to promote them, in particular here in Southeast Asia.

The initiative for proclaiming 2008 International Year of Planet Earth (IYPE) came from UNESCO and our longstanding partner, the International Union of Geological Sciences (IUGS). It expressed our deep felt conviction that while the Earth sciences are vital to addressing a great many of the challenges facing our planet, their importance is not yet sufficiently appreciated, neither by policy makers nor by the public at large.

The UN General Assembly designated UNESCO lead agency for the IYPE, in recognition of the Organization's long experience in the Earth sciences, notably through the joint International Geoscience Programme with IUGS.

The IYPE is very much a collaborative endeavour. UNESCO is working with a broad range of partners to implement the Year's objectives, as the multistakeholder Global Launch Event held last month at Headquarters demonstrated. These include: the United Nations Environment Programme (UNEP), along with other relevant UN bodies; IUGS, of course, together with other Earth science societies and groups from around the world; as well as representatives of industry and the private sector.

We have also established an impressive outreach programme at the national level. With the support of UNESCO National Commissions, IYPE National Committees have been created in some 65 countries to lead awareness-raising and capacity-building activities. There are seven here in Southeast Asia, including Malaysia.

A regional IYPE committee has also been established, which covers the 11 countries represented by the Coordinating Committee for Geoscience Programmes in East and Southeast Asia (the CCOP). The national and regional IYPE committees are formally linked to the CCOP through Memoranda of Understanding, helping to ensure maximum impact.

What, then, are the IYPE's main goals?

The ultimate aim is to draw global attention to the major role that the Earth sciences can play in helping to foster a safer, healthier and more sustainable Planet.

We are at a crossroads in human history. In the eight million years since the first ancestor of humankind, australopithecus, appeared, our planet has been subjected to many dramatic changes. But never before have there been such profound threats to life on Earth.

First among these is global warming. World attention is now rightly focused on how to mitigate its effects; and it is imperative that we reach an international agreement on carbon emissions by 2009, as all participants at the UN Bali Conference in December 2007 recognized.

Yet climate change, however important, is just one among a series of challenges facing humanity. I would like to stress this, because there is the tendency to see climate change as the only threat. This is not the case. There are others. Population growth, urbanization the freshwater crisis and the increasing risk of natural disasters also demand urgent action if we are to secure the future of our planet. As this Year will demonstrate, we cannot respond effectively to any of these threats without the Earth sciences.

One goal, therefore, is to raise awareness of the importance of the Earth sciences to the sustainable and equitable management of our Planet.

The Year also has the ambitious target of fostering closer collaboration between Earth scientists and policy-makers, as well as industry and the private sector, in order to ensure that the geoscientific knowledge we have is better harnessed for the benefit for society.

Today, there are around 400,000 Earth scientists worldwide. But their numbers are dwindling. Developed and developing nations alike are witnessing a decline in the number of young people studying the Earth sciences, a situation that will inevitably lead to a lack of expertise in managing energy and mineral resources in the future.

Hence the third major goal of this International Year is to attract more young people to the geosciences. To this end, UNESCO launched the IYPE Student Contest, aimed at encouraging creative approaches to Earth science questions. Of the estimated 2,500 students who took part, there were some 190 winners, who were invited to participate in the Global Launch Event at UNESCO Headquarters in February. There were 5 winners from Malaysia.

It is very encouraging to see that, as a result of IYPE activities, the geosciences have already been re-introduced into the secondary-school curriculum of several countries. I encourage other Member States to take steps in the same direction.

Yesterday, I was honoured to participate in the opening ceremony of the 43rd Council Meeting of the Southeast Asian Ministers of Education Organization (SEAMEO), of which Malaysia will take over the presidency. As I said on that occasion, together, UNESCO and SEAMEO can make an important contribution to

strengthening science education in Southeast Asia. This will be a priority for our two Organizations as we look to expand our collaboration in coming years.

Ladies and Gentlemen,

The IYPE will focus on ten themes, chosen for their social relevance and outreach potential. These are: health, life, megacities, climate, natural hazards, resources, soil, deep earth, groundwater and oceans.

Let me introduce some of the issues involved.

Today, there are over 6.6 billion people living on the Earth. Many enjoy full and healthy lives, but around one billion people still live below the poverty line, with little hope of realizing their basic right to human security.

By 2050, the human population will probably go beyond nine billion, possibly to 9.2 billion, with the greatest increases occurring in developing countries, and in particular in cities in developing countries.

If we are to provide for the needs of present and future generations, all sharing the resources of our one small Planet, we need to better understand the functioning of the Earth's complex systems and humankind's interaction with them.

This challenge is particularly urgent for Asia, which hosts more than 50% of the total world population, and has some of the areas of highest population density.

For the first time in human history, more than half the world's population lives in urban areas. As a result of population growth and migration, it is estimated that by 2050, over 60% of the world's population will live in cities. Many cities have already reached their physical limits. As an alternative to building skyscrapers, underground space may provide a safer environment for some public and commercial concerns. But for this to be the case, we need much better knowledge of subsurface conditions and processes, including the detection of potential hazards.

At present, about half of the world's population is concentrated within 200 km of the coastline. By 2010, 20 out of the world's 30 megacities will be on the coast and therefore increasingly vulnerable to sea-level rise, coastal erosion, and other

physical hazards. The systematic observation of the marine environment is essential to mitigating these risks.

We received a tragic reminder of this in the tsunami that killed a quarter of a million people around the Indian Ocean three years ago. This staggering death toll resulted both from the huge populations living in coastal areas, and from the lack of seismological monitoring stations to alert these populations of the underwater earthquake that led to the tsunami. Had such an early warning system been in place, the human impact would have been far less devastating, despite the high concentration of people living in coastal areas.

The Asia-Pacific region is the most vulnerable in the world to water-related hazards. Severe water-related disasters – such as floods, storms, windstorms, landslides and tsunamis – have escalated since the turn of the 21st century. It is expected that climate change will further exacerbate this situation.

Scientific knowledge is integral to managing these risks. It enables us to develop the tools for building resilient societies, less dependent on a culture of reaction, and more on a culture of planning, prevention and mitigation.

The quest for energy sources and raw materials has become a vital economic issue for the world's emerging and developing economies. Yet, how can a developing nation benefit from its Earth resources if it does not have enough geoscientists to provide advice on their effective and sustainable use?

All our fossil energy and all our mineral resources come from the Earth. Our daily supplies of water and food are also inextricably linked to the existence of healthy Earth systems.

Take groundwater, for example. As the most reliable, naturally protected available source of water, it is increasingly called upon to satisfy the world's growing water needs. However, to manage this resource sustainably we need to know much more about how to replenish and conserve groundwater; and this requires knowledge about the surrounding geology.

The need for more effective freshwater management is particularly urgent here in Asia, which, with more than half of the world's population, has only around 36% of the world's freshwater resources.

The same is true for the management of other natural ecosystems. Asia is endowed with some of the richest marine and terrestrial ecosystems in the world. Millions are directly dependent on these resources. Yet they are being damaged and even destroyed through environmental degradation and climate change, threatening the socio-economic security of entire communities.

The aim of the International Year of Planet Earth is to promote science-based policies to address these challenges: both to better manage and sustain the long-term capacity of the environment to provide the goods and services on which human development depends, and to ensure secure and equitable access by the poor to environmental assets and the benefits they offer.

Ladies and Gentlemen,

Let me turn to some concrete examples of what UNESCO is doing in support of the IYPE.

At the heart of our action is the International Geoscience Programme (the IGCP), which serves as the main model of the International Year.

Since its inception in 1972, this joint programme with IUGS has benefited from the strong participation of the geoscientific community in Asia. As the only long-term research and capacity-building programme in the geosciences in the UN system, the programme has provided Asian geoscientists with opportunities to develop international networking and North-South and South-South cooperation in the field of Earth sciences. This provides a strong foundation for regional action in support of the International Year.

One area of particularly active collaboration – and a regional priority for focus under the IYPE – is the sustainable management of karst landscapes.

Karst landscapes are fragile environments that need extremely careful management in order to sustain the living conditions of their inhabitants. They cover

a large part of Asia, but also vast areas of other continents. In total, some forty countries and one billion people are exposed to the process of karst formation.

For more than 15 years the Asian geoscientific community has been very active in developing and leading IGCP projects on sustainable karst management.

Just last month, I signed an agreement to establish an International Research Centre on Karst, in Guilin, China, as a category II centre. This is the first centre created under the auspices of UNESCO in the framework of our Earth sciences programme. Its purpose is to strengthen interdisciplinary research on karst geology, and also to stimulate sociological and economic studies on the sustainable and industrial development of these areas. In this respect, the centre will cooperate with UNESCO's international environmental programmes, as well as with our international social sciences programme, MOST.

Indeed, UNESCO sees the International Year of Planet Earth as an opportunity to create greater synergies between its international scientific programmes.

Over the past 40 years, UNESCO has significantly contributed to building the world's knowledge base in the fields of oceanography, hydrology and the ecological and Earth sciences. We have also been active in probing the complex dynamics between the natural environment and human societies and cultures. The challenge posed by the IYPE is to draw this knowledge and expertise together, in order to promote a much broader understanding of our Planet.

This interdisciplinary and multisectoral approach is well brought out in three of UNESCO's flagship initiatives, which we are mobilizing in support of the IYPE.

These are: the Man and the Biosphere programme (MAB), which now boasts 531 reserves in 105 countries; the World Heritage Programme, which includes 166 natural and 25 mixed (natural and cultural) sites in 83 countries; and the Global Network of Geoparks, which consists of 53 geoparks in 17 countries.

These three initiatives can serve the Year in many ways, including through showcasing spectacular examples of natural heritage, promoting sustainable management practices, and raising awareness of the role of culture in environmental conservation.

This potential is well illustrated by the tropical Malaysian archipelago geopark, Langkawi, here in Malaysia, which in June 2007 became the fifty-second member of the Global Network of National Geoparks, and the first geopark in Southeast Asia.

Langkawi owes its membership of the Global Network of National Geoparks to its rich natural geological and biological diversity, including its beautiful tropical karst landscapes. To date, 90 geoheritage sites have been identified throughout the Langkawi Geopark, nine of which feature in the National Geological Heritage List of Malaysia.

Langkawi makes an ideal open-air classroom for geotourism at all levels. Langkawi Island has already become Malaysia's premier tourism destination, thanks largely to the Langkawi Development Authority, which, by promoting the archipelago as a national and international destination for ecotourism, has helped both to stimulate economic development and environmental sustainability.

This is just one example of the very strong cooperation UNESCO enjoys with Malaysia in geological heritage, a field in which Malaysia has longstanding experience, in particular through the National University of Malaysia, UKM, and its Institute for Environment and Development.

Further examples of UNESCO's support for the International Year include the 'OneGeology' project, which we have launched together with the Commission for the Geological Map of the World. This aims to give interactive Internet access to the geological map of our planet, similar to 'Google Earth'. It will be of particular use to developing countries, in helping them gain access to valuable geological data and know-how.

Let me also refer to our work in disaster mitigation, in particular through the Intergovernmental Oceanographic Commission's efforts to establish a global tsunami early warning system.

Since the tragedy of 26 December 2004, we have made remarkable progress, especially with regard to the development of an Indian Ocean Tsunami Early Warning System. We have adopted an integrated approach, investing not only in

national tsunami information centres, but also in national preparedness strategies, including education and public awareness-raising.

For example, we have teamed up with the Secretariat of the UN International Strategy for Disaster Reduction (UN/ISDR) for the global campaign “Disaster Risk Reduction Begins at School”. The goal is to ensure that disaster risk reduction is fully integrated into school curricula and that school buildings are built to withstand natural hazards. UNESCO is also leading activities to enhance school- and community-based disaster preparedness in the region, including through the development of relevant assessment tools.

Promoting disaster reduction through education is an important part of UNESCO’s action under the UN Decade of Education for Sustainable Development. As lead agency for the Decade, we are mobilizing partners around the world to integrate the principles, values and practices of sustainable development into all aspects of education and learning.

Such a broad-based and integrated approach also characterizes our work in freshwater management. A good example is the “SWITCH Project” for Urban Water Management in the City of the Future, coordinated by the UNESCO-IHE Institute for Water Education in Delft, The Netherlands. The project aims to develop efficient and interactive urban water systems and services for today’s new megacities. It could provide an ideal response to many of the challenges faced by countries in Asia and the Pacific.

This is, after all, the region with the highest number of people without water and sanitation, the highest urbanization rates, and the most pressing water quality and water quantity issues. It is for this reason that UNESCO is proposing a specific “SWITCH-Asia Pacific” project, devoted to developing sustainable urban water management strategies for the region’s cities.

UNESCO is ready to lead the project, and invites a broad consortium of partners – including many of those represented here today – to join us in its further development and implementation.

Ladies and Gentlemen,

There are many other examples I could give of UNESCO's action in support of the International Year of Planet Earth. What I would like to highlight is the common theme that cuts across them all: that is, the need for partnership, not only between scientists working in different areas, but also between scientists, government, the private sector and the public at large.

Here, I believe, the IYPE National Committees, with the support of UNESCO National Commissions, have a vital contribution to make in fostering collaboration among different stakeholders at grass-roots level. Malaysia is showing us the way forward in this regard.

In November last year, the Malaysian IYPE National Committee organized a major International Symposium on Cities and Conservation in Putrajaya, which brought together researchers, policy-makers and experts to critically assess the capacity, management and financing of conservation in cities. The important aim was to promote collaboration across disciplines and innovative partnerships to reduce threats and enhance sustainability.

I am also pleased to see that the Malaysian Government has embarked on several programmes to promote debate at secondary school and university levels on IYPE topics. Engaging the minds of young people is vital if we are to meet the future challenges facing our Planet.

The Government is also supporting several international activities aimed at highlighting the effective use of geoscientific knowledge for the betterment of society.

I hope that all of you present here today will lend your support to these initiatives. In particular, let me encourage the young people among us to seize this opportunity to take part in the debate.

With this in mind, I would like to announce that a major International Geological Congress will be held in Oslo, Norway, this August. Convened under the patronage of UNESCO, the event is expected to bring together around 7,000 geoscientists from all over the world. I hope that many of you will attend.

The International Year of Planet Earth is about people coming together, from all walks of life, to pool their knowledge, share their ideas and experience, and build the critical momentum needed to put the earth sciences firmly where they belong: at the heart of our development efforts.

Peace and security, the UN Charter notes, “depend on the social and economic advancement of people”. Let us be clear: there can be no social and economic advancement without knowledge, no knowledge without education, science and research. Our understanding of the Earth’s systems is our insurance policy for the future. In this interdependent world we must work as one to find ways of using the Earth resources in a sustainable and equitable way. The International Year of Planet Earth is an opportunity to do just that.

Thank you. I look forward to your questions.