



SHARING KNOWLEDGE AND EXPERIENCE

A Celebratory Speech

by

the President of Iceland

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at the “Soils, Society, and Global Change” Conference

held on the Centenary of the Conservation of

Soil and Vegetation in Iceland

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September 4, 2007

It is with profound pleasure and excitement that I salute your conference and thank the distinguished experts and leaders for making the journey to Iceland. We meet at a time when the erosion of soil and vegetation poses the world with more complex and more difficult challenges than ever before.

Of course, my knowledge of soil science is somewhat limited and I am ready to admit that I have not entirely ploughed through the enormous Encyclopedia of Soil Science Professor Rattan Lal presented to me when he first came to Iceland. But the Encyclopedia is still on my table in the Presidential Library, not to be missed by anyone who attends the many meetings I host there, indicating to my visitors the importance for all of us, whatever our position or responsibilities, to understand the science of the soil.

Iceland is indeed a fitting location for our dialogue. Throughout the centuries the harsh natural conditions made life here a struggle for survival, often against impossible odds and all-powerful forces which eventually created the largest desert in Europe.

Medieval Icelandic literature describes how the country was covered with woods from the sea to the mountains but the following centuries were a story of desertification due partly to overgrazing and exploitative chopping of the woods. The settlers cleared the trees for pastures, used them for firewood and charcoal. Within the first few

decades about 80% of the original woodland had been cleared and the grasslands of the interior became the desert we can see today. The soil was carried from the highlands down to the lowlands and out to the sea.

It is indeed disturbing when we understand how this process of deterioration came about. The wood was wasted or burned; and due to grazing by sheep and rooting by pigs, seedlings could not possibly be regenerated. In his recent book, *Collapse: How Societies Choose to Fail or Succeed* Professor Jared Diamond discusses the Icelandic case of soil erosion as an illustration of a society that, as it were, choose to fail. The Icelandic experience throughout our early centuries was certainly a case of failure. For far too long the nation failed to appreciate the volatility and sensitivity of the vegetation, failed to understand the combination of factors that contributed to the withering of the soil.

It is tempting to ask: How on earth could this happen? Were the settlers and their descendants of an exploitative frame of mind? What were they thinking? What is the lesson in the Icelandic journey?

Yes, it may have been a case of failure but our ancestors did not choose to fail. As Professor Diamond does in fact discuss in his influential book our case is a story of people finding themselves in new and unfamiliar circumstances, confronted with difficult problems of land management for which they were not prepared. Of course, there were volcanoes, geysers, and glaciers, but Iceland had nonetheless looked similar to the regions in Norway and the British Isles that were familiar to the first generation of settlers who did not know, however, that the soil and vegetation of Iceland were much more fragile than the grasslands they were accustomed to farming. They found it natural to occupy the highlands and bring flocks of sheep there just as had been done in Scotland. The result was that after the first centuries Iceland became the country in Europe with the most serious ecological damage.

The Viking immigrants offer us an important lesson. They had not suddenly thrown caution to the winds when they settled in Iceland, but they found themselves in an environment which appeared lush but was actually fragile. Their previous experience could not possibly have prepared them for the challenges ahead, somewhat akin to the situation facing the global community in our time.

The conservation of soil and vegetation ultimately became an important issue in my country, a development which began in the last stages of our campaign for independence. Towards the end of the 19th century people with foresight and vision understood that special efforts were required. A crucial milestone was the establishment in 1907 of

special agencies for forestry and soil conservation, created only three years after the Danish Government had agreed to give Home Rule to Iceland, enabling the nation to leave the colonial past behind and establish authority over domestic affairs.

The agencies for forestry and soil conservation were symbols of a new era, reflecting the foresight and determination of the newly self-governing people, who resolved to deal with modern challenges in a constructive and responsible manner. The Icelandic pioneers in soil conservation were empowered with energy and vision, courage and determination, and campaigned long and hard to protect the land and halt over-grazing, to stop the exploitative utilization.

On this celebratory occasion I pay homage to the distinguished scientists and officials who have led this effort in Iceland over the last 100 years and thank them for the leadership that has enabled the nation to witness success which also entails important lessons for others.

This conference is therefore both a celebration of a remarkable journey and a manifestation of new ways of thinking; marking the search for methods to deal with global challenges we face here and now and in the decades to come.

It is indeed appropriate to preface our thoughts with reference to the Icelandic experience, for due to the rapidly changing natural environment people around the world are constantly finding themselves in circumstances for which their previous experience has failed to prepare them. Now more than ever, we must channel scientific knowledge and practical lessons into projects of paramount importance but at the same time appreciate new ways of presenting complex tasks, mindful that our knowledge and understanding are inevitably always imperfect.

This mode of thinking must characterize how we approach the challenges which confront us, how we construct the necessary cooperation. The art of human existence is indeed the art of adjustment. We react to something which was not expected, not even imagined. As Francis Bacon – the great pioneer of modern science – put it some 400 years ago: “He that will not apply new remedies must expect new evils; for time is the greatest innovator.”

In recent years we have gained increasing awareness of how our eco-world is in fact a single system, how developments in a particular area of the grand mechanism of our existence may have hitherto undreamt-of consequences in another. Perhaps the most dramatic contemporary manifestation of this interdependence is the relationship we

have come to understand between climate change and the destruction of the soil, how it constitutes a vicious cycle.

As land loses its cover and vegetation retreats, carbon capturing capabilities are reduced, accelerating climate change. Warmer years cause significant droughts, affecting water resources and an endless number of eco-systems, often furthering the spreading of dangerous diseases. In many cases water reservoirs are disappearing. Enormous lakes – such as Lake Chad on the border between Nigeria, Niger, Cameroon and Chad – have all but evaporated, leaving the land to wither into dust.

The comprehensive nature of the global challenge is coming into ever starker relief, as illustrated by the words of Monyane Molelek, the Foreign Minister of Lesotho, who described how climate change is profoundly affecting the agriculture of his country. He said: "The farmers are suffering because nothing happens when it is supposed to. The traditional rainy seasons are no longer predictable. The numbers of droughts have doubled since the late 1970s and when the rains come, they come in torrents."

These environmental challenges consequently translate into human conflicts, soil erosion becoming the root cause of humanitarian crises, ethnic confrontation, vicious and tragic. The crisis in Darfur is but one example. In a score of countries, in Africa, Asia and other parts of the world, the deteriorating quality of the land and the enlargement of the deserts threaten to sow the seeds of enormous crises and conflicts in the years to come.

An ever-changing natural environment brings us enormously complex and difficult challenges, demonstrating clearly the imperative need for fresh approaches, new ways in which the international community addresses urgent policy decisions, translates scientific knowledge into improved and more effective ways of solving practical problems. Cooperation is called for more strongly than ever and the sharing of knowledge and experience across national borders is an imperative task.

In the same vein as Iceland is already sharing with others in different parts of the world how to explore and develop clean energy, we are now eager to bring to people in other countries the experience and practical wisdom which Icelandic scientists and public leaders have gathered in the field of soil preservation. If efforts to nurture vegetation and avoid excessive grazing could achieve success in the harsh northern climate, they could surely be effective, for example, in Africa and South

Asia because the Icelandic journey demonstrates that desertification is not only a problem for the tropics.

From the experience of Iceland and the recommendations made by this conference we can together, I hope, formulate an Action Program that could bring renewed enthusiasm into the much-needed global cooperation. We must not wait because time is of the essence. Allow me therefore to suggest some elements in such an Action Program:

1. The expansion of the training programme for experts from developing countries which Iceland has now established, the first students being present at this conference. This programme can enable many to learn from our experience in the same way as more than 300 experts from all over the world have been trained in geothermal energy and fisheries programmes which Iceland has run as our contribution to the United Nations University.
2. Encourage the establishment of field laboratories conducting site-specific research on desertification control, providing further training opportunities for researchers and practitioners. One such field laboratory to serve as a model could be located here Iceland.
3. Send scientists and people with practical experience as envoys to locations judged to be of particular relevance, for example in Malawi, Zambia, Ghana and Senegal in Africa or in the states of Haryana, Rajasthan and Andhra Pradesh in India, or in the lower and middle Himalayas in Nepal. The envoys could bring to these locations new modes of thinking concerning the selection and adoption of land use, and new technologies to restore degraded soils and ecosystems, bringing the projects to the grass roots and fostering active participation of the farming communities, by people in villages which over the world are homes to more than a billion.
4. Initiate efforts to assess desertification controls and restorative technologies in a range of regions in Africa, Asia and Latin America as well as efforts to enhance worldwide the carbon pool in soils and trees.
5. The creation of a comprehensive system of tradable carbon credits linking it to the monitoring of changes in land use and the ecosystem carbon pool.

6. Establish ways to use the income stream generated by carbon trading to provide incentives to restore degraded soils and ecosystems. For such purpose we could create what I call a “Desertification Control and Carbon Trading Centre” in order to facilitate scientific exchanges and promote the adoption of new technologies.
7. Improve existing programmes for graduate research and create networks of research cooperation in order to foster the growth of a global community of committed scientists.
8. Raise the awareness among people and nations of the causes and consequences of desertification and emphasize the benefits of soil preservation to carbon sequestration.
9. Encourage the community of scientists and experts all over the world to increasingly collaborate with governments and international authorities and engage both the private sector and civil society to think in constructive and novel ways. If the four pillars of modern society – scientific communities, governments, business sectors and civic associations – could unite and combine their resources we can build the foundations for enormous success.

In conclusion let me emphasize that like the medieval settlers of Iceland we find ourselves in a new era. Like them we could neither foresee nor prepare for the unexpected but must now do our best to improve our understanding and act constructively in new modes of cooperation.

This conference and others like it can be instrumental in such a process of learning and cooperation and encourage new policies formulated on firm scientific foundations. There are in fact no limits to what can be achieved but the enormity of our tasks obliges us to combine our resources in order to bring help where the need in terms of human lives is enormous and urgent.

If we succeed in sharing our knowledge and experience across national borders and with all social sectors we can indeed create a new beginning.