



**ICE AND WATER IN THE 21<sup>ST</sup> CENTURY:**

**THE NEW IMPORTANCE OF THE  
ARCTIC AND THE HIMALAYAS**

**Speech  
by the President of Iceland  
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at the  
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Your Excellencies  
Ladies and Gentlemen

It is indeed an honour to be invited by the Chicago Council on Global Affairs to speak here today on the importance of ice to the future of our planet, on its relations to the water systems of the most populous parts of the earth, and the challenge of bringing the threat of irreversible climate change to the forefront of global concerns.

There have, as we know, been multitudes of forums and conferences; dialogues and discussions in abundance. The world's diplomats and negotiators have met at jamborees and made proposals and speeches: in Kyoto, Bali, Copenhagen, Cancun and Durban. Presidents have taken office and departed: Clinton, Bush and Obama, now well into his second term; Al Gore was awarded an Oscar and the Nobel Peace Prize; yet we are still far from taking the necessary action. Even the new IPCC report has not gathered urgent attention.

As the Greenland glaciers and the Arctic sea ice continue to melt faster than ever and NASA issues extreme warnings, some of us ask, a bit

bewildered: Why does the political and corporate leadership of most countries honour and respect the Space Agency because it landed a man on the Moon, and recently a robot on Mars, but ignore it altogether when it gives us alarming news about Mother Earth?

The answer is, of course, complicated, but the question highlights the fact that the core problem regarding climate change is one of perception: the absence of a comprehensive and compelling vision. While we see the Moon and Mars as a whole, we have always had a fragmented view of our own planet.

This is especially so with respect to glaciers and the ice-covered regions. In Iceland we have traditionally been preoccupied with our own glaciers, which are, admittedly, the largest in Europe. Although the Arctic is now coming higher on the global agenda, the significance of Greenland is not generally understood. It is a glacial ice mass, close to Canada and the United States, half the size of Western Europe; larger than Germany, France, and Italy put together.

The Himalayas, with their thousands of glaciers, harbour water reservoirs for the great rivers of China, India, and other Asian countries. Although this hospitable harmony might soon be threatened, the world has not yet comprehended that horrific prospect, though Chinese scientists are now using the striking expression, *the Third Pole*, in order to make the Himalayas, as well as the Arctic and Antarctica, central to our concerns. Perhaps by starting to use the terms The First Pole, The Second Pole, and The Third Pole we might help to alert the world more thoroughly to our common fate.

We have culturally, historically and politically, in all nations, been brought up with a view of Mother Earth in which the ice is peripheral. We have not acknowledged that in fact we all live in an ice-dependent world.

Our weather, our climate, our crops and our cities are dependent, in one way or another, on what happens to the ice. The glaciers are not divorced from our fate; they are at the core of our future.

The Arctic and the Himalayas are not isolated and separate parts of our global homeland. Their fate and our fate, their future and our future, are closely connected.

Unless we bring them together and to the centre of our joint scientific and political concerns, the discussions and the dialogues on the future of water systems, the oceans and climate change will probably continue to be of little consequence.

It is in fact remarkable how recently the educated western world, the public in Europe and the United States, became in historic terms, familiar with the remote, vast, unknown Arctic regions.

My father was still a young shepherd chasing sheep in Icelandic valleys when the famous Norwegian discoverers, Amundsen and Nansen, made their pioneering Arctic journeys. Together with their Icelandic-Canadian colleague Vilhjalmur Stefansson, they embodied, in the early decades of the 20<sup>th</sup> century, a spirit of discovery that was widely admired.

So fresh in living memory were their explorations that the generations which celebrated the independence of Norway and Iceland saw them as their respective national heroes.

And yet, throughout the 20<sup>th</sup> century, the Arctic remained largely unknown except to the indigenous people who for millennia had made it their home. The escalating military build-up across the northern regions, from Alaska to Murmansk, with its numerous military bases, missiles, submarines, aircraft, in fact, every military technology invented, placed it at the heart of the Cold War confrontation, a no-go zone during almost the entire second half of the last century.

Thus, in historic terms, compared to the thousand years of European and Asian civilizations, the Arctic as a territory of cooperation, as a playing field of economic and political interests, is practically like a new planet; a region so young in global context that it is almost without parallel.

When the Arctic Council was established in the 1990s, the eight member states – the United States, Russia, Canada, and the five Nordic countries – were still so hesitant in their endeavours that the mandate was very limited, mostly restricted to science and the environment, but now the Arctic Council has matured, been transformed into a successful instrument of treaty negotiations, wide-ranging agreements and practical endeavours. And even more remarkably: After the decision by the Kiruna Ministerial Meeting last year, from now on more than half of the G-20 countries, including leading states in Europe and Asia, will in one way or another, together with the United States, Russia and the rest of us, be at the Arctic table: China, India, Japan, France, Germany, the United Kingdom, plus South Korea, Singapore and Italy with other countries now deciding whether to apply.

There are of course many reasons. The Arctic is probably the largest reservoir of untouched natural resources anywhere in the world: minerals, and rare metals, oil, gas, hydro and wind energy. Furthermore, with the melting of the Arctic sea-ice, new sea routes will open up, linking China

and other Asian countries, to Europe and the United States in a new way, shortening the sailing time by ten days or more, saving fuel and other cost; a transformation of global significance like the Suez canal was in its time.

The Arctic, still remote and unknown at the outset of the 20<sup>th</sup> century, has now become a new global playing field where prominent economic and political forces of our times move gradually towards securing their long-term presence and interests.

The melting of the Arctic sea-ice is also of great consequence for extreme weather patterns in faraway parts of the world, including China and the United States.

This was demonstrated when the Polar Research Institute of China sent nearly two years ago the icebreaker Snow Dragon from Shanghai along the Northern Sea Route to Iceland and back to Shanghai across the North Pole. Aboard were about sixty young Chinese scientists who had, along the way, carried out research on the transformations taking place in the Arctic.

They studied the relationship between the melting of the ice in the Arctic and weather patterns in middle and low latitudes in China, because data had demonstrated that there was a correlation between the freezing rain in Southern China during the winter of 2007-2008 and the Arctic sea-ice minimum of 2007. Then again, in January and February last year, China suffered its worst winter in decades due to the 2012 melting of the Arctic sea ice, destroying fields and food production, freezing almost 200,000 cattle to death out in the pastures. Thus, what happens in my Arctic neighbourhood has within a few months profound effects on the daily lives of people in China.

These dramatic events were not covered extensively in the Western media and yet they are consistent with the findings of the US scientist Jennifer Francis of Rutgers University in New Jersey, an expert on atmospheric science who showed that there is a correlation between increased heat in the Arctic and jet streams which in turn cause extreme weather events at lower latitudes.

The destruction by Storm Sandy in New York, New Jersey and other Eastern US regions also send the message that the disappearance of the Arctic sea ice is threatening cities as we have known them; it should be a wake up call to citizens and elected leaders, to every suburb and city hall.

Increasingly I have come to the conclusion that by linking the ice, both in the Arctic and the Himalayas to a new vision of how its melting

affects people everywhere, we can change the global framework of cooperation. Therefore I have in the last three years worked with others to initiate new instruments to that effect.

Last October in Reykjavik, at the first Assembly of the Arctic Circle, a new venue for international dialogue and cooperation on global ice related issues, attended by about 1,200 participants from over 40 countries, we not only discussed the recent scientific discoveries, the resource utilisation, business cooperation and the opening of new sea routes linking Asia to Europe and America through the North, but also how the nations in the Himalayan region could learn from the success of the Arctic cooperation.

The Arctic-Himalayan dimension throws a light on the interaction between glaciers and vegetation, water and soil, between people and the ice, on the fate of communities, on how our continents are linked together.

We will continue that Arctic-Himalayan dialogue in the fall of this year at a forum in Bhutan, attended by scientists and policy-makers from the Himalayan region and other parts of the world and also at the Second Assembly of the Arctic Circle in Reykjavik towards the end of October.

The linking of the Arctic and the Himalayan dialogue started in the summer of 2011 when I hosted together with the University of Iceland, a meeting of the Third Pole Environment Workshop, attended by numerous scientists from across the Himalayan region as well as from Europe and the United States.

After discussing for a few days the retreat of the Himalayan glaciers, and the consequences for water systems, soil and vegetation, the scientists made a field trip to the largest Icelandic glacier Vatnajökull, observing how it is possible to gain insights into what is happening in the Himalayas by doing research on Icelandic glaciers.

Then the participants joined the Open Assembly of the Northern Research Forum, an association of scholars, scientists, and policy-makers from the eight Arctic countries. It was in fact the first time in history that the scientific and research communities of the Himalayas and the Arctic joined hands in such a way.

This Arctic-Himalayan cooperation is among the signs that the leaders in many Asian countries are becoming increasingly aware of how the melting of the ice will affect the fate of their people, causing profound changes in the ecology of their regions, affecting rivers and water systems, atmospheric circulation, agriculture and hydropower.

Glacial melting contributes up to 45% of the total river flow in the tributaries of the Indus, Ganges and Brahmaputra. Water from these three rivers is crucial for the food security of 500 million people; they are the life-lines of some of Asia's most densely populated areas, from the arid plains of Pakistan to the thirsty metropolises of Northern China 3,000 miles away. Around two billion people in more than a dozen countries – nearly a third of the world's population – depend in one way or another on rivers fed, at least partly, by the snow and the ice of the Himalaya region.

And yet so scarce is the available data that the term “white spot” has been used in relation to the Himalayas to highlight the limited scientific efforts, the alarming lack of research.

We, however, know that melt water contributes 30% of the total flow of water in the eastern Himalayas, 50% in the central and western Himalaya and 80% in the Karakoram mountains of Pakistan.

Grievances over water abound in every corner of the region. Bangladesh, Myanmar, Laos, Cambodia, India, Thailand and Vietnam have all registered serious grievances against China's dam and water projects. In the face of profound changes in the ecosystems, mainly regarding water, dialogue and research, yes, indeed extensive collaboration among those nations are of utmost importance.

These prospects help to explain why China, and also India, are now putting funds and enhanced scientific resources into monitoring their ice-dependent world; why Nepal and Bhutan are profoundly concerned.

The most eminent glaciologist of the Himalayan-Third Pole region, Yao Tandong, has warned that in twenty years time another 30% of the Himalayan glaciers will have disappeared and by the middle of this century perhaps 40%; in all likelihood, 70% by the beginning of the 22nd century. Such full-scale shrinkage will eventually lead to monumental ecological, political, economic and even military catastrophes.

Therefore, my dear friends, as we meet here today, we can soberly reflect on these dramatic connections between people and ice, between glaciers, water and the fate of our nations.

But more optimistically I am also able to invite you, the Council members and other institutions and organizations in Chicago and elsewhere in the United States, to engage in the newly established and successful avenues for dialogue and cooperation on the Arctic and the Himalayas, both by attending the Arctic Circle Assembly in Reykjavik this coming October and by linking your efforts to the Himalayan-Third

Pole Circle which has already been accepted as a venue for both regional and global cooperation in the Himalayas. Thus you can join others in helping the world to comprehend the crucial connection between people and ice.