

SPEECH AT THE CLOSING CEREMONY OF THE 35TH ANNUAL SESSION OF THE UNU GEOTHERMAL TRAINING PROGRAMME.

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I would like to welcome all of you to this Closing Ceremony of the 35th annual session of the United Nations University Geothermal Training Programme. It is a special pleasure for us to have with us here today the Minister of Industries and Innovation, Ms. Ragnheidur Elín Árnadóttir, assisting her are Mr. Ingvar Pétur Guðbjörnsson and Ms. Helga Bardadóttir. A special welcome also to the representative of the Ministry of Foreign Affairs, Mr. Emil Breki Hreggviðsson. We also have distinguished guests from ICEIDA – The Icelandic International Development Agency, and from our sister programme the UNU Fisheries Training Programme, representatives of United Nations associations in Iceland, and members of the Studies Board of the Geothermal Training Programme.

This ceremony marks a special occasion in the operations of the Geothermal Training Programme, as the Director from its foundation in 1979, Ingvar Birgir Fridleifsson, and my close colleague for the last 24 years, has recently stepped down from his post into a well-earned retirement. We all know what Ingvar has stood for so I do not need to go into that here, but I would like to use this opportunity to ask all of you to give a special applause for Ingvar, at this milestone in his life.

It is now time to look back at this 35th year and the operations of the UNU-GTP during this year. The United Nations University was established in 1975, as an international community of scholars and to serve as a think-tank for the UN system as well as a bridge between the UN and the international academic community. And one of its primary functions has been capacity building in the developing countries.

The Icelandic government soon realised that this could be an excellent venue for Iceland for its multilateral development aid. And today the four United Nations University programmes in Iceland are the most important part in Iceland's contribution to assisting developing countries in the sustainable use of their natural resources and capacity building based on gender equality. The Geothermal Training Programme is the oldest in the family having been established at the end of 1978, so we have now a fairly long history. We have been able to record an almost continuous growth during this period, where the last few years have been the busiest ever, and that is despite the economic crisis that Iceland has gone through in the last 5 years. Here it must be stated that we have had very good support from the

Icelandic Government which has been protective in ensuring the strength of the UNU programmes despite the economic climate. However, at the same time the UNU-GTP has also experienced an increased need for international geothermal capacity building associated with available funds to sponsor it. Together this has helped us to keep our flag flying higher than ever. A special occasion during the year, was the visit of Ban Ki-Moon, General Secretary of the United Nations in July. In him the United Nations University has a strong supporter.

I said that this was our busiest year from the start, and that is no exaggeration. In all the four main pillars of our operations, the 6-month training, the academic studies, the UN Millennium Short Courses and the Customer-designed courses we have experienced strength, and growth in most of them. Once again the number of UNU Fellows attending the 6 month training in Iceland was a record, with 34 UNU Fellows. Eight out of nine study lines were operated, with the 4-6 participants attending the different study lines, with the biggest number in Reservoir Engineering, 6. The UNU Fellows in Iceland come from 15 countries in 4 continents. The biggest number, 12, comes from Kenya, where geothermal development is now in a fast-tracking phase that has not often been seen in the world. Most these Kenyan UNU Fellowships have been financed by Kenya. Similarly, 3 UNU Fellowships have been sponsored by the EDC in the Philippines, for the support of its staff members. A breakthrough here is also that through Courses and Advanced training, sponsored by the customer, we have for the first been able to give a similar training in a cooperation country, with 5 borehole geologists from KenGen in Kenya who were trained on site in Kenya. Consequently, they have been given a similar status to the 6-month UNU Fellows in Iceland, meaning that in all 39 trainees have completed this kind of training in 2013. Hence, we can say, that during 1979-2013, 554 scientists and engineers from 53 developing countries have completed the equivalent of the six month training. Another milestone here is that Kenya has now overtaken China with the highest number of UNU Fellows, with 89 compared to 82 from China. Gender equality is important to the Geothermal Training Programme but here we have to face the fact that in many developing countries energy business and research is not an appealing working place for women. With 109 female participants and a record number of 10+2, this year, we have though finally reached a 20% female share in the 6-month training. But we will certainly be aiming higher in the coming years, and as a minimum expecting that at least a third of the participants in the next few years will be women.

We are proud to acknowledge that in many countries UNU-GTP graduates are in key positions in geothermal research and energy development. And that close to 80% of all the trainees have continued working in the geothermal sector for many year after training, and the majority have made geothermal their career.

This year, twelve former UNU Fellows have been doing MSc studies under the cooperation agreement between the UNU-GTP and the University of Iceland.

Of these twelve two graduated in April, one from each of El Salvador and Kenya, while 7 have started their studies this year, two in January and five in September. Thirty five UNU Fellows have now graduated with an MSc degree from UI under a UNU MSc Fellowship. And this spring we signed a similar agreement with the University of Reykjavik, which will be implemented from the start of 2014.

Under the same agreement with UI, three former UNU Fellows have done their PhD studies, and as the minister mentioned, it was a proud moment for the Geothermal Training Programme when Pacifica Ogola from Kenya became the first UNU PhD Fellow to defend her thesis in February and at the same time the first African to defend a PhD thesis at the University of Iceland.

The UN Millennium Short Course Series in Kenya for East Africa and in El Salvador for Latin America, have also continued to grow in status with increasing number of participants and new countries being added every year. Last year has seen more than 60 participants for both series, and a total number of close to 800 participating in all the UN Millennium events. New countries in Africa include Nigeria and Sudan, while Cameroon and Niger are expected for the scheduled November event. In Latin America, Peru was the addition for this year's course. And, in El Salvador and Kenya, we are now seeing our ideas on regional geothermal centres in these countries in cooperation with the UNU-GTP being developed through new Diploma Courses in geothermal at local Universities.

This year, we have also experienced high demand for the customer-designed courses and training, where we have been working in close co-operation with ISOR – Iceland GeoSurvey (which has provided most of the teachers and supervisors for this). As mentioned before, early in the year, Advanced Training in Borehole Geology was completed for KenGen in Kenya, and more training courses are now in the pipelines for KenGen. In Rwanda, the UNU-GTP has been given the task by ICEIDA to assist in training the staff of EWSA – Energy, Water and Sanitation Authority in association with the drilling of the first deep geothermal wells in Rwanda. This project has been ongoing since late June. Finally, in late September one week course was given in Kenya for Decision-Makers in geothermal from DR Congo, Burundi and Rwanda. A similar course is planned in late November for, Malawi, Tanzania and Zambia.

Our annual UNU Visiting Lecturer this year was Dr. Kevin Brown, a chemist and one of New Zealand's foremost geothermal experts. He gave a series of fascinating lectures on geothermal development. It has to be noted that rarely have we seen such interest and attendances at similar occasions.

The UNU Geothermal Training Programme has certainly received recognition this year. The minister mentioned earlier that the UNU Geothermal Training Programme is one of 10 nominees for the Nordic Council's Environmental Price, which will awarded at the end of the month. I can also inform you that this week it was announced by LaGeo in El Salvador that the UNU Geothermal Training Programme would receive the annual Victor de Sola Award for its large

contribution to geothermal development of the country and the region for more than 25 years, to be given on November 1.

I would like to thank the many teachers, trainers and supervisors that we have been able to call upon during this year. Here, the experts of ISOR – Iceland GeoSurvey have carried the biggest burden with about 70%, the Universities 10%, and specialists from other institutions, energy utilities and consulting engineering offices about 20%. In all about 50 teachers have contributed to the teaching, training and supervision this year. Without you the Geothermal Training Programme could not exist.

I would like to give my deepest thanks to the permanent staff of the UNU-GTP, Þórhildur Ísberg, Ingimar G. Haraldsson, Markús A.G. Wilde, and Málfríður Ómarsdóttir, who are the wheels on which the UNU Training Programme wagon rolls, through their selfless endeavour in their work.

This year we have had a very good class in the six months programme, which has worked hard to reach their goals but still never forgotten that outside work there is also life to be enjoyed. I hope that through your training and project work you have realised, if need be, that geothermal development is a fascinating science which can be very important for your home country. Also that with this a burden has also fallen on your shoulder, as you have been given the important task to assist with developing this environmentally friendly energy source in your home country, not only to increase the power supplies of your country but also at the same time make sure it is done in an environmentally friendly way. You were selected to come to Iceland, because you impressed us through your interviews and background, making us believe that you could play an important role in geothermal development. Now it is your task to show that this faith was justified.

Dear UNU Fellows, you will be returning to your home. You have been a long time away and made sacrifices in not being close to your families and friends. But we hope that you have enjoyed your six months in Iceland and that you will benefit from your studies and experience here, both professionally and in your private lives. We the staff members will remember you. You are the class that never experienced a good Icelandic summer, which we Icelanders had grown accustomed to during the last decade at least. This was a summer during which many Icelanders starting doubting if global warming is a reality. We can tailor-make most things here in Iceland to your needs and will, but the weather is though beyond our control. When you return home, please remember to keep in touch with us and your fellow students. We live in the “age of information and connection” and none of us can have an excuse for not being able to be in touch. Also, you are now members of new families, the UNU Geothermal Family which keeps on growing every year, but the same applies to the Big Geothermal Family, with development of geothermal resources all over the world as its common goal and burning ambition. As with other family ties, this means both duties and pleasures. We will be following you from distance and supporting you in your work as

possible. I wish all of you a very good and safe journey home, and look forward to see you soon again. Thank you.