

## SPEECH AT THE CLOSING CEREMONY OF THE 39<sup>TH</sup> ANNUAL SESSION OF THE UNU GEOTHERMAL TRAINING PROGRAMME.

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Director General *Ingví Már Pálsson* and Senior Adviser Hreinn Hrafnkelsson, Ministry of Industries and Innovation, and Counsellor *Þórdís Sigurðardóttir*, Ministry for Foreign Affairs, distinguished guests and UNU Fellows.

In recent years, the four United Nations University programmes in Iceland have been a key part in Iceland's assistance and contribution to developing countries. The Geothermal Training Programme is the oldest in the family, established at the end of 1978, and even the oldest of any UNU programme. A considerable part of Iceland's Official Development Aid (O.D.A.) has been used through these four programmes. The big question is - has this been money well spent? This is a question, which our Government has been asking and rightly so.

For that purpose an extensive evaluation project was initiated in late 2016 in cooperation with the UNU headquarters in Tokyo. The Swedish international evaluation firm, *NIRÁS indevelop* was contracted for the project and after a process, which has taken almost a year, involving many discussion sessions and in-depth evaluation, together with several visits to our cooperation countries, the report on their findings was published a week ago. Improvement is always possible, as can be seen in the several recommendations made in the report. However, generally the programmes can be quite satisfied with the results, which are positive for them. Quoting from the report's executive summary, it says a.o.t:

*“Different factors contribute to the results achieved by the programmes at the country level. First, the UNU programmes in Iceland provide training that is of high quality. Theory, professional skills training, and project work are combined, which gives fellows a unique edge. Overall, the four programmes have managed to achieve a relevant balance between theory and practice that maximises the usefulness of the programmes for the fellows. Moreover, the programmes take advantage from the Icelandic context and have catered to the practical and social needs of the fellows in a way that fellows have described as welcoming, caring and generally very efficient.*

*Second, the programmes are appropriately intense, making the most of the fellows' time in Iceland. The training is long enough for fellows to immerse themselves over many weeks, but short enough so that many employers feel they can cope with the staff shortage that ensues.*

*In addition to the content, design, and overall quality of the programmes, many other important factors contribute to their success.”*

And on the financial side it says:

*“The cost comparison with other capacity development efforts in developed countries shows that the cost per fellow and day of the UNU Iceland programmes is at a reasonable and generally competitive level.”*

I think we who are running the UNU programmes in Iceland can generally be quite pleased and proud of the outcome of the evaluation.

For the UNU Geothermal Training Programme, the year 2017 has been a good year. In capacity building terms not quite as hectic as the 4-5 years before but in all our main sectors, *the 6-Month Training, the Academic Studies, the Annual Short Course Series and the Customer-Designed Courses and Training*, we have experienced strong activity.

As you heard earlier, this year 23 UNU Fellows were invited to Iceland for the 6-month training, and all are graduating here today. Five of eight study lines were operated. The UNU Fellows come from 10 countries on 3 continents, and as in recent years, the highest number from a single country was from Kenya, **seven** in total. Geothermal development in Kenya continues in a fast-tracking mode, and Kenya has now passed Iceland in electricity production from geothermal, with almost 700 MWe on-line. The majority of the Kenyan UNU Fellowships were mainly financed by KenGen in Kenya, or agencies supporting it. On the other hand, we had no participation from Europe this year. In the last three years, the EEA-funds have financed several UNU fellowships, for Hungary, Portugal and Romania in the last 3 years. I hope to see this possibility open up again in a year or two with EEAs' new financial period.

With this, 670 scientists and engineers from 60 developing countries have completed the 6-month training at UNU-GTP, with the highest number coming from Kenya, 124. I think it is safe to say that Iceland has found a large number of good ambassadors in this group.

Gender equality is important to the Geothermal Training Programme and for Icelandic foreign policy. However, in many developing countries energy business and research is not an attractive working place for women, or they are just not given fair opportunities. I am fairly pleased with the year 2017, which saw 8 women or 35% of the group. Not quite as good as last year, but still one of the best years in this regard. Ingvi, you can bring the message to your minister that we will certainly continue trying to improve on this.

During 2017, 16 UNU Fellows were doing MSc studies in Iceland, 10 of them under our longstanding cooperation agreement with University of Iceland, and six under our more recent agreement with Reykjavik University. Two of these graduated from RU early in the year, and four have been graduating from University of Iceland. They come from Bolivia (1), Kenya (3), Malawi (1) and Yemen (1). Two of these are women. With this, 57 UNU Fellows will have graduated with an MSc degree in Iceland on a UNU-GTP fellowship.

Three additional UNU Fellows are carrying out their PhD studies in Iceland on a UNU-GTP Fellowship, 2 from Kenya and 1 from China. Two Kenyan women have, in recent years completed a PhD degree on a UNU-GTP Fellowship in Iceland.

Our annual Short Course Series in Kenya for East Africa and in El Salvador for Latin America and the Caribbean were reorganized last year in order to support better the ideas set forward with the new UN SDGs. The new SDGs series are expected to be offered on an annual basis. Last month saw the 2<sup>nd</sup> event in our LAC-series given in El Salvador, with 68 participants, while we are expecting around 64 for our second event in Kenya in November.

The customer-designed courses and training is also important in our operations. This year saw the continuation of our close cooperation with ICEIDA – or the ICEIDA department of MfA, through the East-African *Geothermal Exploration Project*, with a Short Course on Introduction to Geothermal Project Management given in Kenya in June. In February-March, we gave a short course on Geothermal Drilling Operations in the Azores of Portugal, aimed at Drilling Crews, and in Romania in March, a Short Course on Geothermal Resource Assessment and Management was given. Finally, we will give a Short Course here in Reykjavik in November on the benefits of Geothermal Energy, aimed at indigenous people from the arctic parts of the world. This short course is given under the umbrella of ARENA, which stands for the Arctic Remote Energy Networks Academy.

Our annual UNU Visiting Lecturer for 2017 was Dr Juliet Newson from New Zealand, former president of IGA, who gave a series of good lectures on geothermal in New Zealand which were well attended and received, Her angle on the geothermal influence of the indigenous population of New Zealand was unusual and very interesting.

The year 2017 saw also the second year of our cooperation with LaGeo of El Salvador on the development and running of the Diploma Course given at the University of El Salvador intended for Spanish speaking geothermal experts, with 30 geothermalists from Latin America attending the course. Our new SDG Short Course Series are now an integral part of the Diploma Course and Icelandic lecturers are participating in the teaching. The Nordic Development Fund agreed to support the course for these first 2 years, through the ICEIDA department of the MfA, with UNU-Geothermal Training Programme responsible for the implementation together with LaGeo of El Salvador. Discussions are now ongoing on the continuation of this financial support, and we are optimistic on positive results in that.

During the 39 years of the operations of the Geothermal Training Programme, we have had good support from the Government of Iceland, which has ensured the strength of the programme despite difficult economic climate in some not so distant years. We have though suffered some cuts in our budget since 2014, as have all the UNU Programmes. We believe we are now due to see improvements from this temporary set-back, with the enormous need there is for this kind of capacity building in the developing part of the world, and the positive results of the “evaluation”. The budget from the government is the basis of our activities.

For the Geothermal Training Programme this increased need has though had a positive side, through the requests for international geothermal capacity building associated with available external funds to finance it. This has helped us to keep our flag flying high. In the last 4-5 years, the external funding has covered up to 40% of the total budget of our operations. I want though to re-emphasize that the contribution from the Government is our basis and we need to have a solid basis, to plan ahead.

On a personal note, I would like to mention that yesterday I received a notification from El Salvador that I had been selected to receive the prestigious Victor de Sola 2017 award for important contributions for geothermal development in El Salvador. I am proud of this but without the support of all of you, this would of course not have been possible. I can also mention, that some years back, UNU Geothermal Training Programme also received this award.

I would like to thank the many teachers, trainers and supervisors who we have been able to call upon during the year. You are the key to the success of the Geothermal Training Programme. Here, the experts of ÍSOR – Iceland GeoSurvey have as before carried the biggest load with about 60% share, while about 15% have come from the Universities, and 25% are specialists from other institutions and companies, energy utilities and consulting engineering offices. In all, 80-100 teachers have contributed to the teaching, training and supervision this year. Despite only five permanent employees, these numbers show clearly, that the Geothermal Training Programme is a large working place.

And let me not forget to bring the attention to the permanent staff of UNU-GTP. Ingimar, Markús, Málfríður and Þórhildur, I would like to give my deepest thanks for your good work. Your drive and will in work is so important for the success of the programme, in academic terms and even more so in human terms.

After this review of our activities in 2017, it is time to turn the attention to the current UNU Fellows. Our class of 2017 has been a good class – I can state that. I am also sure that through the training you – the UNU Fellows – are clear on the importance of geothermal development for your home country. You were selected to come to Iceland because of your potential to contribute to a green geothermal future impressed us, based on your education, in your interviews and with your general background, making us believe that you can play an important role in the geothermal development of your home country. Now it is your task to prove this – to put your load on the weight for the lighting of the homes in your country with geothermal energy.

Dear UNU Fellows, you will now be returning to your home. You have been a long time away and made sacrifices in being far away from your families and friends. During this period, you learned about and experienced some of the benefits of geothermal energy. I hope that this will be a driving factor in your work in the near future.

You also experienced other things. In many ways, the summer of 2017 was a good one in Iceland – fairly warm – Icelandic standards - even though it took some of you quite a while to get used to our temperatures, hardly taking of the thick coats during the first month. And in another aspect your stay in Iceland can be an inspiration to you. Those of you with interest in sports, have witnessed the beginning of the second chapter of our *Icelandic Football Adventure*. With our national team having reached the quarterfinals of the Euro Championships last year, this week has seen us become by far the smallest nation ever to reach the World Cup Finals in football, this biggest sport on our planet. This was not a coincidence nor a miracle. As with most good things in life, behind it was a lot of hard work, difficult decisions and strong determination - really a lesson on how a small nation can succeed in things, if everybody puts their weight together on the task – and that is what you should learn from this.

Going back only 4-5 years, to see Iceland qualify for the World Cup finals was something that I did not think would materialize in my lifetime – now I have started planning to live it – in Russia next summer. For a guy, who has been as much involved in football as I have been – this is the unbelievable childhood dream coming true.

Now your thoughts are probably already half way back home. When you return home, please remember to keep in touch with us and your fellow students. In our age of information none of us has the excuse of not being able to connect. And you must also remember your new families, which will be a part of your future live. The UNU Geothermal Family keeps on growing every year, now with 670 members, and the same applies also to the Big Geothermal Family, where development of geothermal resources all over the world is the burning ambition. As with other family ties, this means both duties and pleasures. We will be following you from distance and support you in work as possible. And a goal to aim at is to come to Iceland in 2020 for the next World Geothermal Congress. I look forward to see many good papers from you to accomplish that.

I wish all of you a very good and safe journey home, and I look forward to see you soon again, wherever that may be.

THANK YOU