



UNITED NATIONS
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UNU-LRT

Land Restoration Training Programme



UNU Land Restoration Training Programme (UNU-LRT)

Annual Report 2011

United Nations University Land Restoration
Training Programme

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DIRECTOR'S SUMMARY FOR 2011

Dear friends of UNU-LRT.

The year 2011 was a successful year for UNU-LRT. As in previous years, the annual six-month training programme was the year's main milestone. In 2011, the number of fellows increased for the first time since the programme was launched in 2007. Eight fellows participated and graduated from the programme coming from Ethiopia (1 fellow), Ghana (2), Mongolia (2), Niger (1) and Uganda (2), three women and five men. The fellows graduated from two specialized lines; Land Degradation Assessment/Land Restoration, and Sustainable Land Management. This was the second graduation since the programme became part of the United Nations University. The programme was established in 2007 and since then 31 fellows from ten countries have graduated from the programme.

As in previous years, the 2011 six-month training programme was evaluated thoroughly by the fellows. Overall, the participants were very satisfied with the programme. The fellows strongly agreed on that they learned a lot from the individual project work and that it was very useful for them and a big learning process. In addition to the yearly evaluation of the fellows, a questionnaire was sent to all former participants of the three-year pilot phase of the Land Restoration Training Programme in 2007-2009 in order to seek answers about the impact of the six-month training on the professional career of former fellows. The questionnaire was well received by our former fellows and, as can be read in the annual report, the six-month training got very positive feedback.

The UNU-LRT Strategic Plan 2011-2016 was published on 1 June 2011. The strategic plan includes the mission and vision of UNU-LRT, as well as detailed descriptions of the goals and activities that are necessary to achieve the vision. Moreover, the strategic plan includes background information of UNU-LRT, and a chapter on prerequisites if goals of UNU-LRT are to be achieved. Annexes include e.g., a detailed description of the organization of the programme, a selection of countries and fellows, modules of the six-month training programme, a description of the evaluation of the UNU-LRT curriculum, and a logical framework matrix.

UNU-LRT was presented at several meetings in 2011. The highlight was an oral and poster presentation at the fourth world conference of the Society of Ecological Restoration, held in Merida, Mexico from 21 to 25 August. Moreover, UNU-LRT was present at the UNCCD COP 10 meeting which took place in Changwon, S Korea in October 2011. At the meeting, UNU-LRT participated in two side events. One side event explored opportunities for developing a multi-stakeholder partnership Fellowship programme for the UNCCD, and another side event addressed Landcare; sustainable land management in the drylands.

Three trips to partner countries were organized this year in order to establish and strengthen contact between UNU-LRT and local institutions, and to interview potential candidates for UNU-LRT fellowship. Namibia was visited in March and Uzbekistan and Mongolia in October.

UNU-LRT was visited by both the UNU rector and the vice-rector in 2011. The rector of UNU, Prof. Dr. Konrad Osterwalder, visited Iceland 3-4 November. The purpose of his visit was to get to know the operation of the Iceland-based UNU programmes better and to further strengthen the links between UNU and the Iceland-based programmes. On 2 May, UNU vice-rector and the director of UNU-ISP, Prof. Kazuhiko Takeuchi, visited UNU-LRT as well as the other UNU training

programmes in Iceland and the Gender Equality Studies and Training Programme (GEST). Prof. Takeuchi visited the UNU headquarters, where he met the UNU-LRT fellows, and was shown the facilities and introduced to the work of the Agricultural University of Iceland and the Soil Conservation Service of Iceland.

Hafdis Hanna Aegisdottir



ABOUT UNU-LRT

The United Nations University Land Restoration Training Programme (UNU-LRT) is an international postgraduate training programme on land restoration and sustainable management of ecosystems, based in Iceland. The programme is custom-built for professionals in developing countries with severe land degradation. The mission of UNU-LRT is to train specialists from developing countries to combat land degradation and restore degraded land, and to assist strengthening institutional capacity and gender equality in the field of land restoration and sustainable land management in developing countries.

UNU-LRT was recognized as a UNU training programme in early 2010 but was commenced in 2007 as a three-year pilot project, aiming at becoming a UNU training programme by the end of the pilot phase. The Icelandic government funds the programme and the Agricultural University of Iceland is the executing agency with financial responsibility. The programme is jointly implemented by the Agricultural University of Iceland and the Soil Conservation Service of Iceland. UNU-LRT is also supported by a wide range of other Icelandic institutions, UNU programmes, and international institutions.

UNU-LRT is governed by a board of members that are representative of the United Nations University, the Soil Conservation Service of Iceland, the Agricultural University of Iceland, the Icelandic Forest Service and an expert nominated by the Ministry of Foreign Affairs. Moreover, a studies committee academically governs the programme, chaired by the programme director. The studies committee consists of members from leading research institutes and universities working in the field of land restoration and sustainable land management.

Since the programme was launched in 2007, 31 fellows have graduated from the programme; of which 15 have been women. Most of the fellows come from Africa; Egypt (1 fellow), Ethiopia (3), Ghana (3), Namibia (4), Niger (2), Tunisia (1) and Uganda (8), while a considerable number of fellows come from Central Asia; Mongolia (7), Kyrgyzstan (1) and Uzbekistan (1).

The main activity of the UNU-LRT programme is an annual six-month training



programme in Iceland, which focuses on land restoration, sustainable land management, environmental governance and related subjects. The first 12 weeks of the training focus on course work (both introductory courses and specialized training), practical training and field trips. In the latter 12 weeks of the programme, each fellow works on an individual project which provides specialization with reference to the academic and practical background and needs of the individual fellow and their workplace.

UNU-LRT has a webpage (www.unulrt.is) where information about the programme, the latest news, a selection of fellows and the individual projects of former fellows are accessible. Furthermore, a Facebook page has been launched (see www.facebook.com/unulrt).

PROGRESS REPORT

UNU-LRT'S SIX-MONTH TRAINING FOR PROFESSIONALS WORKING ON LAND RESTORATION AND SUSTAINABLE LAND MANAGEMENT

The fifth cohort of fellows (second cohort since the programme became a UNU programme) arrived in Iceland on 6 April to participate in the annual six-month training course of UNU-LRT. The six-month training course is the core activity of UNU-LRT. Eight fellows (three women and five men) participated in the programme and they came from Mongolia (2 fellows), Ghana (2), Uganda (2), Ethiopia (1), and Niger (1). The fellows participated in various courses that covered issues like land degradation, land restoration, sustainable land management, environmental governance and land management planning to name a few. Moreover, the fellows participated in either of the two specialized lines: 1) Land degradation assessment/Land restoration, or 2) Sustainable land management. At the end of the first three months of the training, the fellows went on a weeklong excursion around Iceland. In the excursion, the fellows were exposed to the challenges that farmers, local consultants promoting landcare, and scholars are faced with. A web-based article about the excursion, published on the UNU webpage can be found in the appendices.



During the latter three months of the training, the fellows concentrated on working on an individually-based final project. The fellows' projects were diverse in this year's programme. Some were strictly scientific and included field and lab work and/or mapping, while others were closer to the field of social sciences and included surveys and examinations of participatory approaches in land management, and an evaluation of legal frameworks and policies related to grazing lands. The fellows graduated on 29 September 2011, and at the graduation ceremony the Minister for the Environment, Mrs. Svandis Svavarsdottir, addressed the fellows and handed out the certificates.

FELLOWS' PROJECT WORK IN 2011:

KWABENA ABREFA NKETIA from Ghana worked on developing georeferenced soil fertility maps that show the distribution of soil nutrients and their spatial variability. He used existing soil data from two different sampling schemes to develop the maps. He evaluated the efficiency of those two sampling schemes for estimating spatial variability of soil properties. Maintaining soil fertility is an important issue in Ghana where cultivation often deprives soils of nutrients. Mr. Nketia hopes that GIS probability maps can be beneficial in soil fertility management and assessment, and in the development of sound agricultural management recommendations.

SUVD MANIBADAR from Mongolia described and analysed the Mongolian laws and policy instruments that relate to pastureland use and management, to set forth proposal guidelines for the improvement of the legal framework relating to pasturelands in Mongolia. She also used examples from legislation in Iceland, Australia and New Zealand as well as international treaties to prepare the proposal. Ms. Manibadar believes improvement of the legal framework is essential to fight the deterioration of pasturelands in Mongolia.

ALTANTSETSEG BALT from Mongolia analysed vegetation patterns in the semi-desert and desert areas of Khanbogd soum in Mongolia and determined the relationship between these vegetation patterns and environmental factors. Her study provided reference data of the natural undisturbed vegetation before mining and information on natural fluctuations in the area. This knowledge is important for assisting the future rehabilitation and conservation efforts of desert areas in Mongolia.

JAMES OCAKA from Uganda analysed quality of compost produced in Iceland and examined simple low-cost methods to enrich the compost to produce nutrient-rich, fertiliser-grade compost that can substitute synthetic fertilizers. His main research question was to find an appropriate mixture of compost and either chicken manure or fish meal that can produce high quality compost. Mr. Ocaka hopes that low-cost high quality compost can be used in cultivation of farmlands in Uganda for the benefit of farmers as well as good management of wastes.

HADGU HISHE TEFERI from Ethiopia evaluated the spreading of birch (*Betula pubescens*) in areas with natural and assisted regeneration in southern Iceland, using aerial permanent plots. His results indicate that natural regeneration is an efficient and cost effective way of land restoration in areas where availability of safe sites is not a limiting factor, whereas assisted regeneration can be used effectively in heavily degraded areas. This information will be useful in Ethiopia where natural regeneration by area enclosures is a widely used restoration method while plantation or assisted regeneration is little studied and not considered as important for land restoration.

JONAS KPIEREKOH from Ghana developed approaches for fostering farmers and community engagement in planning, decision making and action for organising



participatory planning. This was done in order to meet the knowledge needs for sustainable management of natural resources. As part of his study, he conducted a case study on participatory planning among Icelandic and Ghanaian stakeholders involved in management, conservation and restoration of natural resources. His study shows that participatory planning and decision making projects are beneficial to the community. Mr. Kpierekoh thinks that organizations involved in environmental management in Ghana, Iceland or elsewhere can develop powerful tools for community change with the guidance of such principles.

PAULINA PETER LOKONGO from Uganda conducted a preliminary rangeland health assessment at a selected site in Iceland, using a well-known rangeland health assessment methodology. The results from the assessment made her conclude about the condition of the studied area, which was in relatively good condition. The project was intended as training in the application of rangeland health methodologies that may later be adapted to and applied in rural areas of Uganda.

ELHADJI ZAKARIA IBRAHIM OUSSEINI from Niger used new methods in his project in an attempt to gain understanding of wind erosion processes for practical use in the Sahel region. His study area was a vast unstable sandy area in southern Iceland. Mr. Ousseini found that the method used in his project to quantify wind erosion is simple and he believes that it is well-suited for application in Niger where wind erosion is one of the most important factors contributing to land degradation.

EVALUATION OF UNU-LRT

EVALUATION OF SIX-MONTH TRAINING COURSE 2011:

A comprehensive evaluation was carried out from the beginning of the 2011 six-month training course and continued until its end. During the course work, the participants evaluated the programme every week or at the end of each module. Moreover, an extensive overall evaluation of the six-month training was carried out at the end of the programme.

By doing this evaluation, it is possible to meet many of the participants' needs and suggestions during their stay in Iceland. Our experience is that such an evaluation is very important for the continuous improvement of the UNU-LRT programme.

The staff of UNU-LRT reports the outcome of the evaluations to the board and studies committee.

Overall, the participants were very satisfied with the programme. The fellows strongly agreed on that they learned a lot from the individual project work and that it was very useful for them and a big learning process. Fellows were in general satisfied with the division of time between UNU-LRT headquarters at the Agricultural University of Iceland, located in Keldnaholt, Reykjavik and the headquarters of the Soil Conservation Service in Gunnarsholt where they stayed for two months during their individual project work. Furthermore, they were satisfied with the division of time between lectures, practical training and individual project work. The participants would, however, like to get more practical training as previous evaluations have also shown. Moreover, participants wish to get more training in statistics, water management, climate change issues, GIS and EndNote.

Currently the two specialized lines offered have many joint lectures. The participants would like to see those specialized lines better separated and more specialized. Also, they would like for the separate lectures in the courses to be better linked (not the specialized lines).

FORMER FELLOWS: RESULT OF TRAINING

In early 2011, a questionnaire was sent to all 17 former participants of the three-year pilot phase of the Land Restoration Training Programme (LRT) in 2007-2009.

In the questionnaire, participants were asked questions about their current workplace and responsibilities at work, and whether they had studied for a higher degree after participating in the LRT six-month training course. Furthermore, they were asked about participation in international or local conferences and/or meetings, and if, and then how, the LRT training had changed their professional and personal skills. Altogether 15 (88%) of the 17 former participants in the LRT six-month training course in 2007-2009 answered the questionnaire.

As can be read in a comprehensive report on the result of the six-month training (see appendices), the training got very positive feedback. Sixty per cent of the former participants indicated specifically that they had been confided to more responsibilities at their workplace compared to pre-LRT participation. The training had a positive impact on their career and often resulted in increased responsibility at their workplace. Moreover, the answers indicated that the training had a positive effect on the fellows' chances to study for a higher degree. Most participants indicated that participating in the six-month training course had changed their professional and personal skills in a positive manner. It is clear from the answers received that the training influenced the participants' skills in a very positive and constructive way.

UNU-LRT STRATEGIC PLAN 2011-2016

A strategic plan for UNU-LRT for the period 2011-2016 is complete. The strategic plan includes the mission and vision of UNU-LRT, as well as detailed descriptions of the goals and activities that are necessary to achieve the vision. Moreover, the strategic plan includes background information on UNU-LRT, and a chapter on prerequisites if goals of UNU-LRT are to be achieved. Annexes include e.g., a detailed description of the organization of the programme, a selection of countries and fellows, modules of the six-month training programme, a description of the evaluation of the UNU-LRT curriculum, and a logical framework matrix. The strategic plan is listed in the appendices and can be downloaded from the UNU-LRT homepage (www.unulrt.is).



UNU-LRT SITE VISITS

The candidates for the UNU-LRT programme are carefully selected. They are proposed by institutions that have been identified as playing a significant role in land restoration and sustainable land management in UNU-LRT partner countries in sub-Saharan Africa and Central Asia. The training of the fellows is considered a contribution to capacity building of their institutions. UNU-LRT staff conducts site visits to the UNU-LRT partner countries and the selected institutions. Personal interviews are conducted with each candidate who is proposed by his/her institution. Each candidate needs to have at least one university degree, one-year experience working in the field of specialization that he/she will pursue at UNU-LRT, have good English skills and preferably be under the age of 40 years.

The UNU-LRT director and deputy director visited altogether three partner countries in 2011; Namibia, Uzbekistan and Mongolia.

NAMIBIA

The UNU-LRT director visited Namibia 12-19 March 2011. This was the second visit to Namibia by a representative of the programme. The purpose of the visit was to strengthen co-operation between UNU-LRT and local Namibian institutions that were established during earlier visits to the country, such as Gobabeb Training and Research Center and Desert Research Foundation of Namibia (DRFN). At DRFN, the UNU-LRT deputy director presented the UNU-LRT programme at an open seminar. Furthermore, UNU-LRT was introduced to new potential partners in Namibia. Ms. Emily Mutota, who participated in the LRT six-month training course in 2008, organized the visits together with the UNU-LRT director.



Nine institutions were visited and ten candidates interviewed for potential fellowships at the UNU-LRT annual six-month training course. The institutions that were visited all work in the field of pressing environmental issues, e.g. land restoration and sustainable land management. The institutions visited were: 1) Gobabeb Training and Research Centre (<http://www.gobabebtrc.org/>), 2) Walvis Bay Municipality, the Department of Water, Waste and Environmental Management (<http://www.walvisbaycc.org.na/>), 3) Desert Research Foundation of Namibia (DRFN) (<http://www.drfn.org.na/>), 4) Namibia Nature Foundation (NNF) (www.nnf.org.na), 5) Integrated Environmental Consultants Namibia

(IECN) (<http://cms.iecn-namibia.com>), 6) University of Namibia (UNAM), Faculty of Humanities and Social Sciences; Geology, History and Environmental Studies (www.unam.na), 7) Polytechnic of Namibia, School of Natural Resources and Tourism (<http://www.polytechnic.edu.na/>), 8) Ministry of Agriculture, Water and Forestry (MAWF) and Ministry of Lands and Resettlement (MFR), 9) National Botanical Research Institute of Namibia (NBRI) (<http://www.nbri.org.na/>).

UZBEKISTAN

The UNU-LRT director visited Uzbekistan from 5-7 October 2011. This was the second visit of the UNU-LRT director to Uzbekistan. The purpose of the visit was to a) strengthen existing co-operation between UNU-LRT and institutions in Uzbekistan, b) establish co-operation with new potential partners, and c) interview candidates for the six-month training course. The UNU-LRT director introduced the programme to partners and gave a presentation during the visit to the Scientific and Production Center "Botanika". The ICARDA office in Tashkent and Toshpulat Rajabov, who participated in the six-month training course in 2009, assisted with the organization of the visit.

Five institutions were visited and interviews were taken with 19 candidates for the UNU-LRT annual six-month training course. The visited institutions were: 1) ICARDA's regional office in Tashkent (<http://www.icarda.org/>), 2) Scientific and Production Center "Botanika", Academy of Sciences of the Republic of Uzbekistan, 3) Uzbek State Scientific Research Institute of Soil Science and Agricultural Chemistry, 4) Centre of Hydrometeorological Service at Cabinet of Ministers of the Republic of Uzbekistan (Uzhydromet) (<http://www.meteo.uz/eng/>), 5) National University of Uzbekistan (<http://www.nuu.uz/>).

MONGOLIA

The UNU-LRT deputy director visited Mongolia from 6-16 October 2011. This visit was the third to the country by a representative from the programme, but the first one since it became part of UNU. The purpose was to a) strengthen existing institutional links in Mongolia, b) establish new institutional links, and c) interview potential UNU-LRT candidates proposed by these institutions. A long standing collaborating partner in Mongolia, the Mongolian Society for Range Management (MSRM), assisted with institutional visits and provided a venue for interviewing the candidates located in Ulaanbaatar. MSRM also arranged a workshop at their headquarters in Ulaanbaatar for UNU-LRT partner institutions



and potential partner institutions. There, the UNU-LRT deputy director gave a presentation on the UNU-LRT programme and the degradation history and reclamation work in Iceland. Professionals from ten institutions, NGOs and universities attended the workshop.

Seven institutions were visited and 22 candidates were interviewed for the annual UNU-LRT six-month training course. Moreover, the coal mining company Energy Resources LLC (<http://www.energyresources.mn>) was visited, as well as the Boroo gold mine site (Centerra Gold; <http://www.centerragold.com/operations/boroo>) where restoration work was explored. Mining activities in Mongolia have increased sharply in recent years, resulting in great need for knowledge on restoration and environmental impact of mining. In addition, experimental fields of forage species and seed production facilities associated with MSRM were visited.

The institutions visited were: 1) Mongolian Society for Range Management (MSRM), 2) Soil Science Department at the Institute of Geography, Mongolian Academy of Sciences, 3) Land Management Section at the Agency of Land Affairs, Construction, Geodesy and Cartography (ALAGAC), 4) Carbon Project: Strengthening Carbon Financing for Regional Grassland Management in Northeast Asia, which is financed by the Asian Development Bank, 5) Mongolian State University of Agriculture (MSUA), the School of Economics & Business, the School of Agro-biology, the Biology Department under the School of Natural Sciences, and the Department of Ecology under the School of Ecology, Technology and Development, 6) Mongolian Agricultural University of Darkhan-Uul, and 7) Plant Science and Agricultural Research Institute in Darkhan (PSARI).

UNCCD COP 10

The UNU-LRT director participated in the 10th session of the UNCCD Conference of the Parties (COP 10) held in Changwon, Republic of Korea in October 2011. The main purpose of the presence and participation of the UNU-LRT director at the COP, was that UNU-LRT together with UNU-INWEH organized a side event (held on 11 October) on *United Efforts to develop a fellowship programme to combat land degradation*. The side event explored opportunities for developing a





multi-stakeholder partnership Fellowship programme for the UNCCD. The UNU-LRT director gave a presentation on UNU-LRT at the side event.

UNU-LRT also participated in another side event at the UNCCD COP 10 - namely *Landcare: for sustainable land management in the drylands*, and presented a talk (with the Soil Conservation Service of Iceland) on landcare experiences from Iceland.

PRESENTATION OF UNU-LRT

Aegisdottir, H.H. 2011. Landcare: experiences from Iceland. Presentation at the side event: Landcare: for Sustainable Land Management in the Drylands. UNCCD COP 10 meeting, South Korea, 12 October 2011.

Aegisdottir, H.H. 2011. UNU Land Restoration Training Programme. Presentation at the side event: United Efforts to develop a fellowship programme to combat land degradation. UNCCD COP 10 meeting, South Korea, 11 October 2011. The side event was jointly organised by UNU-LRT and UNU-INWEH.

Aegisdottir, H.H., and B. Orradottir. 2011. Landgræðsluskoli Haskola Sameinudu thjodanna (e. UNU-Land Restoration Training Programme). In (Aradottir, A.L. & Halldorsson, G., eds.) *Vistheimt a Islandi* (e. Ecological Restoration in Iceland). Published by the Agricultural University of Iceland and the Soil Conservation Service of Iceland, pp. 162-165.

Aegisdottir, H.H., and B. Orradottir. 2011. International Training Programme on Land Restoration: Discussions between nations. Presentation held at the RENO (Restoration in the North) conference, 20-22 October 2011.

Aegisdottir, H.H., and B. Orradottir. 2011. Education in Ecological Restoration: New International Training Programme in Iceland. Presentation held at the SER World Conference, held in Merida, Mexico, 21-25 August 2011.

Orradottir, B., A.L. Aradottir, K. Svavarsdottir, and O. Arnalds. Restoration of severely eroded areas: Progress evaluation in the early stages. Presentation held at the SER World Conference, Merida, Mexico, 21-25 August 2011.

Orradottir, B., and H.H.Aegisdottir. UNU-Land Restoration Training Programme: Aims and Opportunities. Poster presented at the CLIMMANI/INTERFACE

Workshop: Nutrient constraints on the net carbon balance, held in Keflavik, Iceland, 15-17 June 2011.

Orradottir, B., and H.H. Aegisdottir. UNU-Land Restoration Training Programme: What do we offer? Poster presented at the RENO (Restoration in the North) Conference, 20-22. October 2011.

Sigurdsson, A., and H.H. Aegisdottir. 2011. United Nations University Land Restoration Training Programme: Education towards a sustainable future. Presentation held at the NOVA early meeting, 6 May 2011.

Thorsson, J., A.L. Aradottir, B. Orradottir, H. Oskarsson, K. Svavarsdottir, and H.H. Aegisdottir. The degradation of Iceland. Poster presented at the SER World Conference, Merida, Mexico, 21-25 August 2011.

An article on the UNU-Land Restoration Training Programme published on the United Nations University webpage, October 2011. See: <http://unu.edu/articles/global-change-sustainable-development/combating-land-degradation-in-the-high-north>.

PHOTO CREDITS

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Appendix A



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Land Restoration Training Programme

United Nations University Land Restoration Training Programme Strategic Plan 2011-2016

Combating land degradation with sustainable and
ecologically sound solutions

United Nations University Land Restoration Training Programme

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1. UNITED NATIONS UNIVERSITY LAND RESTORATION TRAINING PROGRAMME (UNU-LRT)

1.1. Background of UNU Land Restoration Training Programme

UNU-LRT provides postgraduate training for specialists from the developing countries in the broad field of restoration of degraded land and sustainable land management, and aims at assisting developing countries in capacity development within this field. The programme was founded in 2007 by the Icelandic Ministry for Foreign Affairs (MFA), in partnership with the Agricultural University of Iceland (AUI) and the Soil Conservation Service of Iceland (SCSI), and with support from United Nations University (UNU), as a part of the government's development co-operation efforts. An agreement of co-operation between UNU, the Government of Iceland, SCSI and AUI was signed by all parties in February 2010.

UNU-LRT has a strong commitment to the principles of UNU: that is, to contribute to resolving urgent global problems, through generation and sharing of knowledge and capacity development in developing countries.¹ UNU-LRT builds and strengthens institutional and individual capacities to deal with issues related to land degradation and unsustainable land use in developing countries (Annex I).

The UNU-LRT programme is built on the knowledge and expertise gained within Iceland, which faced severe land degradation problems in the beginning of the 20th century. Nationally concerted efforts for over 100 years, aimed at halting soil erosion and restoring lost and degraded woodlands, has created a considerable body of knowledge and experience which is of great relevance to a number of countries in all parts of the world (Annex II).

1.2. The global perspective

Land degradation is a global challenge of major importance and has a severe impact on the environment, climate and human society. Land degradation, manifested in the deterioration of vegetation, soil erosion, biodiversity loss, and eventually in a more persistent form as desertification, has led to conflicts, grinding poverty, hunger, and abandonment of farms and villages for cities in many parts of the world. Large proportions of developing countries and countries in transition are confronted with severe land degradation and problems resulting from unsustainable land use and climate change. Land restoration and sustainable land management are a critical part of the daunting challenge to confront poverty and achieve a secure livelihood in poor, rural societies in developing countries, societies that are frequently the most vulnerable and marginalised in their respective countries.

This programme mainly focuses on solutions to problems within the realm of the United Nations Convention to Combat Desertification (UNCCD). It also takes note of other international conventions and agreements that deal with environmental preservation and the alleviation of poverty, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), the United Nations Commission on Sustainable Development (UNCSD), and the FAO Rome Declaration on World Food Security. The Millennium Ecosystem Assessment (MEA), initiated in 2001, with the objective of assessing the consequences of ecosystem change for human well-being, ranks land degradation among the world's greatest environmental challenges.

The UN Millennium Declaration, including the Millennium Development Goals (MDGs), provides the framework for the countries of the world to focus on the eradication of poverty, setting social equity goals and targets that aim at contributing to economic and social development. In September 2010, the Heads of State and Government met

at the UN General Assembly. Recalling the MDGs and commitments emanating from the Millennium Declaration they reaffirmed their resolve to work together for the promotion of the economic and social advancement of all peoples. The outcome document states that efforts to address environmental challenges to agricultural development, including soil degradation, will be accelerated. The activities of UNU-LRT are an important part of this advancement. The programme contributes directly to the 7th MDG: *Ensuring environmental sustainability*. It also contributes significantly to the 1st and 3rd MDGs: *Eradicate extreme poverty and hunger and Promote gender equality and empower women*.

2. MISSION AND VISION OF UNU-LRT

2.1. Mission

The mission of UNU-LRT is to train specialists from developing countries to combat land degradation and restore degraded land, and to assist strengthening institutional capacity and gender equality in the field of land restoration and sustainable land management in developing countries.

The main concern of UNU-LRT is land degradation, soil erosion, unsustainable land use and desertification. Efforts to combat these problems are often hampered by lack of knowledge, capacity and social motivation in the affected areas. The programme assists people from developing countries to break down these barriers to effective management of natural resources, emphasising women's empowerment in all steps of that advancement.

2.2. Vision

UNU-LRT aims to become one of the world's leading resources for restoration of degraded land. This includes development of the most advanced training programme for professionals in developing countries faced with severe land degradation problems.

3. TO ACHIEVE THE VISION

UNU-LRT will work steadily towards its vision by setting goals and planning activities to achieve the goals. The goals are classified into four core functions with two outputs in each.

- I. Offering annually a six-month post-graduate training programme for professionals from developing countries faced with severe land degradation challenges.
- II. Facilitating creation of a strong network and fruitful co-operation with leading organisations in land restoration and sustainable land management, across developing as well as developed countries.
- III. Supporting creation of new knowledge and disseminating the experience, knowledge and expertise to where it is most needed.
- IV. Ensuring good quality and efficient, results-based management of the UNU-LRT programme.

I. Offering annually a six-month postgraduate training programme for professionals from developing countries faced with severe land degradation challenges.

The aim of UNU-LRT is to build bridges between the available knowledge and research on combating land degradation and desertification and the people most threatened by these processes. There is a great need for specialists in the field of sustainable land management and restoration of degraded land, who can provide guidance and assistance to the rural poor, thereby enhancing their livelihoods in a sustainable way.

I.1. Annual six-month postgraduate training programme for professionals from developing countries faced with severe land degradation challenges

Activities:

- Finalize the six-month training curriculum before the end of 2011 to maximize the quality of the training, and involve current and potential future educators and supervisors in the curriculum development
- Develop the current specialized lines together with UNU-LRT studies committee and increase the number of specialized lines by two in 2016
- Engage high-quality educators from leading institutions in the field
- Invite an internationally renowned expert each year to contribute to the training programme with lectures and seminars

I.2. Graduate a steadily growing number of fellows, targeting 72 fellows in the period 2011-2016, reflecting gender equality and diverse geographical distribution

Activities:

- Train a gradually growing number of fellows, hosting 16 fellows by 2016
- Train equally many women and men, reflecting UNU-LRT emphases on gender equality
- Continue to strengthen institutional partnership in Ethiopia, Niger, Uganda, Ghana, Namibia, Mongolia, Uzbekistan and Kyrgyzstan
- Establish institutional partnership in at least two new countries in Africa and/or Asia before 2016

II. Facilitating creation of a strong network and fruitful co-operation with leading organisations in land restoration and sustainable land management, across developing as well as developed countries.

The two institutes, AUI and SCSl, build on a strong academic foundation, a diverse training environment and highly competent staff, and a network of institutions, agencies and non-government organisations (NGOs) in Iceland. Both institutes have strong international connections and collaborate with a number of institutions and organisations within the land management arena.

Collaboration between leading organisations, both within and outside the UNU system, strengthens capacity and builds knowledge within the field for all entities. For UNU-LRT it strengthens our capability to offer good quality training in the developing countries where short courses are held, and it is beneficial for the advancement of the curriculum.

II. 1. Strong network among leading organisations in land restoration and sustainable land management across developing as well as developed countries

Activities:

- Staff of UNU-LRT promote the programme every year, in meetings and/or conferences in Iceland and abroad
- Produce, update and distribute information about the programme
- Facilitate network activities by using the UNU-LRT homepage
- Two newsletters sent every year to former fellows and partner institutions
- Invite a visiting lecturer from a leading institution from abroad each year
- Use of social media to reach out to a multiplicity of audiences

II. 1. Fruitful co-operation with UNU programmes and institutions

Activities:

- Visit UNU-INWEH, UNU-INRA, UNU-EHS and UNU-ISP before 2016 to establish co-operation
- Share experience and knowledge with the Icelandic UNU programmes, e.g. curriculum development, networking, fellows' project reports, and practical information

III. Supporting creation of new knowledge and disseminating the experience, knowledge and expertise to where it is most needed.

In the UNU Charter, Article 1, paragraph 1, it is stated that "The United Nations University shall be an international community of scholars engaged in research, post-graduate training and dissemination of knowledge..." UNU-LRT works towards this goal through the annual six-month postgraduate training, and will extend this work by offering scholarships for MSc and PhD education at Icelandic universities and short courses for professionals in developing countries.

III. 1. MSc and PhD education for outstanding former UNU-LRT fellows at Icelandic universities

Activities:

- Enter into agreements between UNU-LRT and Icelandic universities regarding MSc and PhD education before 2013
- Explore opportunities for joint degrees between UNU and Icelandic universities

- Develop rules on the amount and type of support offered by UNU-LRT
- Offer two outstanding former fellows a scholarship for an MSc degree; the first one in 2014

III.2. Short courses on specialized issues in developing countries

Activities:

- Develop and organize short courses on special issues in UNU-LRT partner countries in co-operation with UNU-LRT partner institutions.
- Run, before 2016, at least one short course on a special issue in a UNU-LRT partner country.

IV. Ensuring quality and efficient, results-based management of the UNU-LRT programme.

Ensuring efficient and transparent management of the programme is essential. To do so, UNU-LRT will use a number of key strategic issues including, but not limited to, revision of its strategic plan every two years, writing reports about its activities, and making budget plans and reports. Strategies to evaluate the training offered by UNU-LRT will be developed to ensure the highest quality and relevance of the training. The people that work for the programme are its most valuable resource. The management of UNU-LRT will thus focus on ensuring a good working environment that encourages achievements of both individuals and teams working for the programme.

UNU-LRT implementation follows a result-based management approach, which incorporates the logical framework (Annex III) and aims to ensure that the programme achieves the results sought after. An adaptive management approach is used in which the programme can fine-tune its design and operation as new information becomes available. In other words, it constantly strives for the best quality in its operation and management. In this vein, the programme will undergo an external, expert review after five years of operation.

IV. 1. Strategies to evaluate the six-month UNU-LRT programme to ensure quality

Activities:

- Continuous evaluation of the six-month training curriculum
- Development of a questionnaire for fellows to fill out at the beginning, at the end of, and two years after the six-month training
- Development of an ideal process for fellows' institutions to evaluate the training of UNU-LRT
- Collecting information on former fellow's career development, research and outreach activities
- Collecting information from partner institutions on living conditions/livelihoods of local people
- Collecting and comparing information on land health and degradation changes from partner institutions

IV. 2. Efficient and effective management of the programme

Activities:

- Strategic plan revised every two years
- UNU-LRT board meetings at least three times a year
- Studies committee meetings at least four times a year

- Generate budget plan and finance report annually
- Write annual reports
- Publish all reports from fellows in the six-month training, which meet the standards of UNU-LRT
- Develop the website www.unulrt.is
- Develop a gender equality strategy for UNU-LRT in 2012
- Search for and apply for additional financial support
- Strengthen good contact with and between educators of the programme by holding meetings to reflect on their experiences and develop UNU-LRT educational activities

4. PREREQUISITES IF GOALS OF UNU-LRT ARE TO BE ACHIEVED

According to the agreement on UNU-LRT, the programme shall offer a six-month training course in Iceland, deliver capacity development initiatives in developing countries, including short-term courses, and create links to other UNU entities. The programme shall also offer outstanding UNU-LRT fellows the opportunity to continue their studies. To fulfil the agreement the following assumptions have to be made:

- Satisfactory housing and training facilities secured for UNU-LRT. The AUI and SCSi take the needs of UNU-LRT into account when planning future housing and facilities
- Appropriate number of UNU-LRT staff members, and supervisors with increased number of fellows
- AUI and SCSi encourage, support and make it feasible for their staff members to contribute to the activities of UNU-LRT (e.g. give lectures, supervise)
- Opportunities provided to UNU-LRT staff for continuing education in the field of land restoration, sustainable land management, as well as on issues related to developmental co-operation and programme management
- Adequate financial resources secured to fulfil the needs of UNU-LRT, including for project growth

ANNEX I

Organisation of the programme

UNU-LRT is funded by the Icelandic Ministry for Foreign Affairs but the executing agency with financial responsibility for the programme is the Agricultural University of Iceland (AUI). The programme is implemented jointly by the AUI and the Soil Conservation Service of Iceland (SCSI) (Fig. 1).

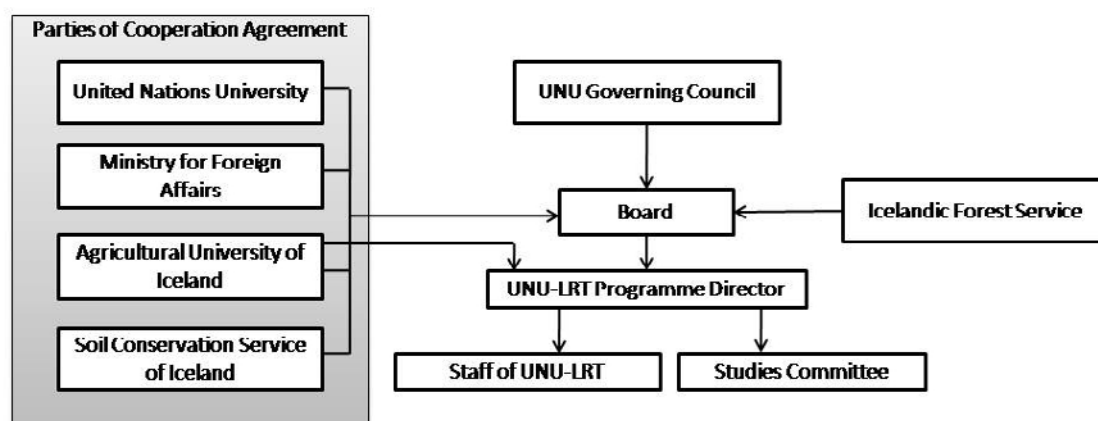


Figure 1. Organogram of the UNU-LRT programme

The AUI is founded on previous research and educational institutes with a long history of research related to assessment of land condition, grazing management, soils and soil erosion, soil conservation research and land restoration; all emphasizes that reflect national priority to combat land degradation and desertification. The university is also involved in international climate change research, focusing on both ecosystem carbon flux and carbon sequestration in relation to reclamation and land use change.

The SCSI has its headquarters at Gunnarsholt, South Iceland, but operates district offices in most parts of Iceland. The main goals are mitigation of land degradation and desertification, restoration of degraded land, ecosystem protection and sustainable land use. Tools include improved understanding of the problems and solutions, education and advice, enhanced land user responsibility and participatory approaches, and regulatory tools. Support schemes include the highly successful *Farmers Heal the Land and Land Improvement Fund* projects, which reflect an increasing focus on land user and community involvement. The SCSI also has direct involvement in reclamation work. The institute has well supported professional facilities, including remote sensing and geographic information systems (GIS) tools, and it operates processing facilities for seeds of species used in reclamation work.

The six-month training programme is run at the AUI research facilities at Keldnaholt in Reykjavík and the SCSI headquarters at Gunnarsholt. The AUI and the SCSI offer a solid learning and training environment for the fellows by, for example, providing numerous experts in the field of: soil erosion, desertification processes and assessment methods; the ecology of degradation processes; restoration ecology with focus on degraded and desertified land; land use and restoration planning; sustainable grazing management (open land, rangelands) and soil conservation.

Selection of countries and fellows

Only specialists from developing countries can be offered a UNU-LRT fellowship. Priority

is given to countries facing severe land degradation and desertification challenges and where there is need for capacity building and training, which the programme can offer. The institutional and organisational structures in partner countries are studied to facilitate careful selection of visiting fellows. A solid routine exists for selecting fellows to participate in the six-month training programme and all qualified candidates are interviewed personally. Candidates have to be proposed by institutions or organisations in their home countries and have to fit the following criteria: 1) have at least one university degree, 2) have at least one year of experience working in the field of specialisation that he/she will pursue at UNU-LRT, 3) be able to communicate in English (speak, read and write) since the UNU-LRT working language is English, and 4) be preferably under the age of 40. The training of the fellows is considered a contribution to building the capacity of the institute or organisation in partner countries.

Programme curriculum

The curriculum of the six-month training is being revised. The revision is based on feedback from the fellows, as well as evaluation of the structure and content of the programme undertaken by lectures, trainers, the studies committee, and project managers.

Currently the six-month training programme is divided into the following nine modules:

- 1) *Orientation and introduction to Icelandic society*
- 2) *Land use and degradation: setting the scene.* Fellows get a good overview of the extent, severity and drivers behind land degradation and desertification.
- 3) *Processes and principles of land degradation, restoration and sustainable land management (SLM).* The main processes, principles and interactions of land degradation, restoration and SLM are covered in detail.
- 4) *Environmental governance and land management planning.* Development and development co-operation, land tenure and gender issues, and the role of stakeholders in restoration and SLM projects are covered. Fellows learn how to engage communities in environmental planning and decision making.
- 5-6) *Specialized lines.* The specialized lines already offered are: i) Land degradation assessment/Land restoration, and ii) Sustainable land management. More specialized lines will be developed in the future.
- 7) *Practical training.* Fellows practice what they are taught in modules 2-6 such as stakeholder analysis, land health assessment, statistics and use of GPS and GIS.
- 8) *Field trip around Iceland.* Exposure to land degradation problems in Iceland as well as an introduction to different land use practices, and conservation work.
- 9) *Individual project work.* Specialization with reference to the academic and practical background and needs of the individual fellows. This 13 week specialization includes writing a comprehensive report, which is published if it meets UNU-LRT standards.

Evaluation of the six-month programme curriculum

The six-month training programme is evaluated by the fellows on a weekly basis while courses are in process and after excursions. An overall evaluation of the six-month training is carried out at the end of each training programme. During these evaluations, the fellows give feedback both orally in group discussion, and by filling out anonymous forms. The programme director reports on the outcome of these evaluations to the board and studies committee, and the evaluation results are included in annual reports.

ANNEX II

Iceland's experience

When Iceland became a sovereign state in 1918, after more than six centuries under colonial rule, it was among the poorest countries in Europe. It was also faced with severe land degradation problems caused by over-exploitation through wood cutting and overgrazing under harsh natural conditions. To halt the destructive forces, unique legislation was passed in 1907 aimed at halting soil erosion and restoring lost and degraded woodlands. Iceland's 100 years of such nationally concerted effort is one of the longest standing in the world. The numerous success stories about stabilising desertified land and making it productive serve as examples to demonstrate how current international objectives can also be achieved. Such actions are important in carbon sequestration into soils and vegetation, restoring biological diversity and in providing opportunities for productive land use.

Although all problems have not been solved, wide ranging experience and knowledge has been gained in Iceland through the last century on how to combat land degradation and desertification and on restoration and sustainable land use. At the same time Icelandic society has developed from being one of the poorest in Europe to a modern society with competent research and university sectors.

Having seen the adverse consequences of desertification, the Icelandic nation and its political and academic leaders are highly committed to fighting land degradation and restoring degraded ecosystems. The intellectuals are conscious of the need to share Iceland's cold desert experience with developing countries despite often different climatic conditions. To do this, the focus is on understanding ecosystem functioning and the principles of land degradation, restoration and management.

The need for capacity building within this field of expertise is great in the developing countries where land degradation and desertification are directly threatening food security and well being. The knowledge and experience gained in Iceland are of much relevance to these countries, and the programme is a venue for making that knowledge available.

A Logical Framework Matrix

Outcomes	Outputs	Activities	Indicators	Means of Verification	Assumptions
<p><u>Goal:</u> To train specialists from developing countries to combat land degradation and restore degraded land, and to assist strengthening institutional capacity and gender equality in the field of land restoration and sustainable land management in developing countries, emphasising women's empowerment in all steps of that advancement</p> <p><u>Purpose:</u> To reduce land degradation in developing countries and restore already degraded land.</p>					
1	Annual six-month post-graduate training programme for professionals from developing countries faced with severe land degradation	<ul style="list-style-type: none"> Finalize the six-month training curriculum before the end of 2011 Increase the number of specialized lines by two in 2016 Engage high-quality educators from leading institution Invite internationally renowned experts each year to contribute to the training programme with lectures and seminars 	Finalized curriculum Education and experience of educators	Curriculum Annual reports	AUI and SCSi will continue to improve the facilities they offer the programme AUI and SCSi will encourage, support and make it feasible for their staff members to contribute to the activities of UNU-LRT
2	72 graduate fellows, reflecting gender equality and diverse geographical distribution	<ul style="list-style-type: none"> Train a gradually growing number of fellows, hosting 16 fellows by 2016 Train as many women as men Continue to strengthen institutional partnerships in Ethiopia, Niger, Uganda, Ghana, Namibia, Mongolia, Uzbekistan and Kyrgyzstan Establish institutional partnerships in at least two new countries in Africa and/or Asia before 2016 	Number of fellows and countries Number of men and women	Annual reports	Adequate financial resources from MFA Political situation in partner countries Gender equality in partner countries

3	Stronger institutions in developing countries, and greater awareness and insight of the needs of professionals and institutions in developing countries	Strong network among leading organisations in land restoration and sustainable land management across developing as well as developed countries	<ul style="list-style-type: none"> • Staff of UNU-LRT promote the programme every year, in meetings and/or conferences in Iceland and abroad • Produce, update and distribute information on the programme • Facilitate network activities by using the UNU-LRT homepage • Two newsletters sent every year to former fellows and partner institutions • Invite a visiting lecturer from a leading institution each year • Use of social media to reach out to a multiplicity of audiences 	<ul style="list-style-type: none"> • Number of conferences and meetings attended every year • Quality of available information on the programme • Number of visits to the UNU-LRT webpage • Number of specialists attending the visiting lecturers' presentations 	<ul style="list-style-type: none"> • Technical information • Annual Report • Newsletters • Brochures/leaflets on the programme 	<ul style="list-style-type: none"> • Adequate financial resources from MFA • Goodwill from leading organisations
4	Fruitful co-operation with UNU programmes and institutions	Fruitful co-operation with UNU programmes and institutions	<ul style="list-style-type: none"> • Visit UNU-INWEH, UNU-INRA, UNU-EHS and UNU-ISP before 2016 • Share experience and knowledge with the Icelandic UNU programmes 	<ul style="list-style-type: none"> • Number of visits to UNU programmes and institutions • Number of co-operative activities 	<ul style="list-style-type: none"> • Annual Report • UNU Annual Report 	<ul style="list-style-type: none"> • Goodwill from UNU programmes and institutions • Adequate financial resources from MFA
5	Increased knowledge, new research opportunities, projects and funding sources	MSc and PhD education for outstanding former UNU-LRT fellows at Icelandic universities	<ul style="list-style-type: none"> • Enter into agreements between UNU-LRT and Icelandic universities regarding MSc and PhD education before 2013 • Explore opportunities of joint degrees between UNU and Icelandic universities • Develop rules on the amount and type of support offered by UNU-LRT • Offer two outstanding former fellows a scholarship for an MSc degree; the first one in 2014 	<ul style="list-style-type: none"> • Agreement with Icelandic universities • Number of former fellows graduated with MSc degree 	<ul style="list-style-type: none"> • Annual Report • MSc diploma 	<ul style="list-style-type: none"> • Adequate financial resources from MFA and available grants • Goodwill from Icelandic universities

6		<p>Short courses on specialized issues in developing countries</p>	<ul style="list-style-type: none"> • Develop and organise short courses on special issues in co-operation with partner institutions • Run at least one short course on special issues in a UNU-LRT partner country before 2016 	<p>Number of short courses held and developed</p>	<p>Annual report</p>	<p>Adequate financial resources from MFA and available grants</p> <p>Capability and goodwill of institutes in partner countries</p>
7	<p>Growth of UNU-LRT into a larger and well recognized programme that meets the continuously changing needs of its constituents</p>	<p>Strategies to evaluate the six-month UNU-LRT programme</p>	<ul style="list-style-type: none"> • Continuous evaluation of the six-month training curriculum • Develop questionnaire for fellows to fill out at the beginning, at the end of, and two years after the six-month training • Develop an ideal process for fellows' institutions to evaluate the training of UNU-LRT • Collect information on former fellows career development, research and outreach activities • Collect information from partner institutions on living conditions/ livelihoods of local people • Collect and compare information on land health and degradation changes from partner institutions 	<p>Number of submitted questionnaire forms from fellows and institutions</p> <p>Proportion of fellows still working in this field</p> <p>Published articles and presentations in conferences by former fellows</p>	<p>Feedback from fellows</p> <p>Evaluation report</p> <p>Reports from partner institutions or local government</p>	<p>Goodwill from former fellows and institutions</p> <p>Capability of institutes in partner countries</p>

8		Efficient and effective management of the project	<ul style="list-style-type: none"> • Strategic plan revised every two years • UNU-LRT board meetings at least three times a year • Studies committee meetings at least four times a year • Generate budget plan and finance report annually • Write annual reports • Publish reports from fellows in the six-month training that meet UNU-LRT standards • Develop the website • Develop a gender equality strategy in 2012 • Search for and apply for financial support • Strengthen good contact with and between educators of the programme by holding meetings 	<p>Number of meetings</p> <p>Quality of budget plan</p> <p>Up to date website</p> <p>Amount of external grants</p>	<p>Strategic plan</p> <p>Minutes from meetings</p> <p>Budget plan and finance report</p> <p>Annual reports</p> <p>Fellows reports</p> <p>Gender equality strategy</p> <p>Website</p> <p>Minutes from educators meetings</p> <p>External, expert review every five years</p>	
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Appendix B

UNU-LRT Participants 2011

Name and degree	Address	E-mail / Phone
Altantsetseg Balt, MSc	Center for Ecology and Sustainable Development, MUST Science & Technological Center, 2nd floor, room 203 Baga toiruu – 42, Ulaanbaatar 46520 Mongolia	baltalt@yahoo.com
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Kwabena Abrefa Nketia, BSc	CSIR-SOIL Research Institute Academy Post Kwadaso – Kumasi Ghana	nana_abrefa@live.co.uk
Paulina Peter Lokongo, BA	Napak District Local Government P.O. Box 106 Napak, Uganda	plokongo@yahoo.com
Suvd Manibadar, MSc	Otgontenger University, Ulaanbaatar, Bayanzurkh district, Jucov Street Mongolia	suvd@greengold.mn
Elhadji Zakaria Ibrahim Ousseini, BSc	Regional Direction of Environment and Desertification Control of Niamey Ministry of Water, Environment and Desertification Control General Direction of Environment and Forest P.B. 578, Niamey Niger Republic	zack_ostar@yahoo.com

UNU-LRT programme 2011

	Day	Date	Topic		Lecturer/instructor*
Orientation Week	Mon	4-Apr	Arrival		
	Tue	5-Apr	Health control	9:00-12:00	HHÆ, BO
			Practicalities & introduction to Reykjavik	afternoon	HHÆ, BO
	Wed	6-Apr	UNU-LRT welcome and introduction	9:00-11:00	HHÆ, BO
			Computers and software	11:00-12:00	HH
			Library	13:00-14:00	GTh
			Goal setting and introduction to personal coaching	14:00-16:00	BB, HHÆ, BO
	Thu	7-Apr	Icelandic nature: geology	9:00-11:00	OS
			Icelandic history	11:00-12:00	ÁH
			Icelandic nature: vegetation	13:00-14:00	HHÆ
			Coaching	14:00-16:00	BB, HHÆ, BO
	Fri	8-Apr	Restoration of degraded land: background & principles	09:00-12:00	ÁLA
			Presentation techniques	13:00-14:00	HHÆ, BO
			Introduction to project planning, plan of individual projects, use of references	14:00-16:00	HHÆ, BO
			9-Apr	Excursion to Gullfoss, Geysir, Thingvellir	all day
		10-Apr			
Week 2	Mon	11-Apr	Sustainable land management: background & principles	09:00-12:00	AA
			Introduction to Endnote & practice	13:00-15:00	JTh
			Living close to the volcano Eyjafjallajökull in the spring of 2010	15:30-16:00	GTho
	Tue	12-Apr	Introduction to plant physiology, ecophysiology and ecosystem ecology	08:30-12:00	BDS
			Visit to the Natural Sciences at the University of Iceland	13:00-16:00	HHÆ, BO
	Wed	13-Apr	Departure to SCSi headquarters	8:30	HHÆ, BO
			History of the SCSi	10:00-11:30	MHJ, SR
			The institution, offices, laboratory, staff	11:30-12:00	MHJ
			Project in Practical training module: introduction	13:00-14:00	JTh, MHJ
	Thu	14-Apr	Soil erosion processes	08:30-12:00	ÓA
			Indicators of land degradation	13:00-16:00	ÓA
	Fri	15-Apr	Land literacy	08:30-12:00	ÓA
			Excursion	13:00-15:00	ÓA
			UNU-LRT opening ceremony	15:30	

		16-Apr						
		17-Apr						
Week 3	Mon	18-Apr	General principles of hydrology	09:00-12:00			BO	
			Writing practice and presentation: feedback session	13:00-16:00			HHÆ, BO	
			Personal coaching				BB	
	Tue	19-Apr	Principles of sustainable grazing management	09:00-12:00			AGTh, JTh	
			SLM and landhealth on Earth - the quest for a sustainable future	13:00-16:00			AA	
	Wed	20-Apr	Sustainable forest management	09:00-12:00			BDS, HF	
			Easter Project	12:45-13:30			HHÆ, BO	
			Site visit	13:30-16:00			BDS, HF, HHÆ, BO	
	Thu	21-Apr	First day of summer/Holy Thursday					
	Fri	22-Apr	Good Friday					
		23-Apr						
		24-Apr	Easter					
	Mon	25-Apr	Easter					
Week 4	Tue	26-Apr	Discussion on Easter project	9:00			HHÆ, BO	
			Departure to AUI headquarters at Hvanneyri	11:15			HHÆ, BO	
			AUI: history, university programmes and more	13:00-15:00			Rector and staff at AUI fellows	
			Presentations of homeland by UNU-LRT fellows	15:00-16:30			fellows	
	Wed	27-Apr	Sustainable grazing management	09:00-12:00			AGTh	
			Sustainable grazing management	13:00-16:00			AGTh	
	Thu	28-Apr	Introduction to landcare	09:00-11:00			AA	
			Goals and individual projects	11:00-16:00			HHÆ, BO, supervisors	
	Fri	29-Apr	Workshop on individual project work	all day			ThÁ	
			30-Apr					
		1-May						
Week 5	Mon	2-May	Opening of UNU-GTP and lectures about UNU and the UNU training programmes in Iceland	09:00-12:00			HHÆ, BO	
			Development and development cooperation	13:00-16:00			SV	
			Gender mainstreaming and project cycle	16:30-20:30			SV	
	Tue	3-May	Environmental governance: governing the environment - key principles	09:00-16:00			JGP	
	Wed	4-May	Environmental governance - Land tenure / gender aspects	09:00-16:00			JGP, MJ	
	Thu	5-May	Microorganisms, fertilizers and restoration	09:00-12:00			ÚÓ	
			UNU-LRT individual project work: meeting with supervisors and/or work on proposal	13:00-16:00			HHÆ, BO, supervisors	
			Coaching					
	Fri	6-May	Impact of climate change on terrestrial ecosystems	09:00-11:00			ISJ	
			Climate change and mitigation issues	13:00-16:00			BDS	

Week 6		7-May				
		8-May				
	Mon	9-May	Restoration of Ecological function	09:00-12:00	ÁLA	
			Restoration needs: seminar	13:00-16:30	ÁLA	
	Tue	10-May	Managing Ecological Succession	09:00-12:00	ÁLA	
			Readings in Restoration Ecology	13:00-14:30	ÁLA	
			Restoration Individual Project, Part 1: introduction and individual work	14:30-16:00	ÁLA	
	Wed	11-May	"The restoration toolbox"	09:00-10:00	ÁLA	
			Species characteristics - Invasive species	10:00-12:00	KS	
			"The restoration toolbox" cont.: plant propagation	13:00-14:00	ÁLA	
			Restoration Individual Project, Part 1: presentation of results and discussions	14:00-17:00	ÁLA	
	Thu	12-May	Planning of restoration projects	09:00-11:30	ÁLA	
			Restoration Individual Project, Part 2: introduction	11:30-12:00	ÁLA	
			Restoration Individual Project, Part 2: fellow's work	13:00-16:00	ÁLA	
Fri	13-May	Restoration Individual Project, Part 2: presentation of results and discussion	09:00-12:00	ÁLA		
		Wrap up and general discussion	13:00-16:00	ÁLA		
Week 7		14-May				
		15-May				
	Mon	16-May	Vegetation sampling and analysis	09:00-12:00	JG, BO	
			Statistics: basic principles	13:00-16:00	JG	
	Tue	17-May	Statistics cont.	09:00-12:00	JG	
			Statistics: exercises	13:00-15:00	JG	
	Wed	18-May	GIS: basic principles	09:00-12:00	BDI	
			Exercises	13:00-16:00	SB	
	Thu	19-May	Practical GIS training	09:00-17:00	SB	
	Fri	20-May	UNU-LRT individual project work: meeting with supervisors and work on proposal	all day	HHÆ, BO, supervisors	

Week 8

	21-May			
	22-May	Excursion to Gullfoss, Geysir, Thingvellir	all day	BO
Mon	23-May	UNU-LRT individual project work: meeting with supervisors and work on proposal	all day	HHÆ, BO,
		Drive to Stykkishólmur in West Iceland	17:00	HHÆ, BO
Tue	24-May	ReNo International conference on restoration of damaged ecosystems in northern regions. Stykkishólmur in West Iceland	all day	
Wed	25-May	ReNo field excursion through West Iceland and over Kaldidalur highland road to Thingvellir in South-Iceland, ending in Reykjavík	all day	
Thu	26-May	ReNo conference continued in Reykjavík	all day	
		UNU-LRT individual project work: meeting with supervisors and work on proposal	all day	HHÆ, BO, supervisors
Fri	27-May	UNU-LRT individual project work: meeting with supervisors and work on proposal	all day	HHÆ, BO, supervisors
	28-May			
	29-May	Sustainable Land Management; core concepts and principles. Introduction to strategic planning. Mapping out a project's theory of change using causal maps	09:00-17:00	IG, SV
Mon	30-May	Change management. Strategic planning: situational analysis - visioning and issue analysis. Objective setting.	09:00-17:00	IG, SV
Tue	31-May	Objective setting. Situational analysis: Institutional analysis. Strategy development	09:00-17:00	IG, SV
Wed	1-Jun	Skills needed for the change manager: facilitation, leadership, communication	09:00-17:00	IG, BB
Thu	2-Jun	Management of dryland resources	all day	ZA
Fri	3-Jun	Negotiations and conflict resolution	09:00-17:00	IG, BB
	4-Jun	Introduction to Monitoring and Evaluation (M+E)	09:00-12:00	SV
		M+E	13:30-17:00	SV
	5-Jun	Field trip to Hítardalur in West Iceland. Project in Practical period: stakeholder analysis	all day	JGP, IG, SV, JTh

Week 9

Specialized line 1: Land degradation assessment / Land restoration

Combined with SLM line or practical training module

	Day	Date	Topic	Time	Lecturer/instructor*
Week 10	Mon	6-Jun	Rangeland health and degradation models	09:00-14:00	JTh
			Introduction to Hítardalur field trip	14:00-15:30	JTh
	Tue	7-Jun	Field trip to Hítardalur: project in Practical training module	all day	JTh, ÓA, SB
	Wed	8-Jun	Project in Practical training module: GIS and GPS / fieldtrip exercise	all day	ÓA, JTh, SB etc.
			Project in Practical training module: resources and toolbox		ÓA, JTh, SB etc.
	Thu	9-Jun	Project in Practical training module: planning and organizing reclamation project	all day	ÓA, JTh, SB etc.
	Fri	10-Jun	Applied and theoretical aspects of ecological restoration	09:00-14:20	ÁLA
			Project in Practical training module: feedback on the project	14:45-16:00	ÓA, JTh, SB etc.
		11-Jun			
		12-Jun			
	Mon	13-Jun	Whitmonday		
Week 11	Tue	14-Jun	Hydrology and land degradation/restoration	09:00-10:30	BO
			Restoration genetics	10:40-11:40	HHÆ
			Funding for landcare /land restoration	13:00-16:00	AA
	Wed	15-Jun	UNU-LRT individual project work / CLIMMANI-INTERFACE workshop	09:00-12:00	HHÆ, BO, supervisors
			UNU-LRT individual project work: Project proposal seminar ; 4 fellows, from SLM line	13:30-16:00	HHÆ, BO, supervisors
Thu	16-Jun	UNU-LRT individual project work / CLIMMANI-INTERFACE workshop	all day	HHÆ, BO, supervisors	
Fri	17-Jun	Independence day			

Week 12

	18-Jun			
	19-Jun			
Mon	20-Jun	Soil environmental problems	09:00-12:00	RG
		UNU-LRT individual project work: Project proposal seminar ; 4 fellows from restoration line	13:30-16:00	HHÆ, BO, supervisors
Tue	21-Jun	Grazing theory and management	all day	AGTh
Wed	22-Jun	Restoration research	09:00-10:30	ÁLA
		Environmental and socio-economic context and consequences of ecological restoration	10:30-12:00	ÁLA
		Species characteristics - Invasive species	13:00-15:00	KS
		Preparation for the seminar on Friday	15:00-16:30	ÁLA
Thu	23-Jun	Theme of the day: Applying restoration theories under different conditions		
		Wetlands	09:00-10:45	NN
		Tropical forests	10:45-12:30	JGP
		River systems	13:30 - 15:00	GIG
Fri	24-Jun	Seminar: restoration research case studies	09:00-12:00	ÁLA
		Restoration goals and strategies	13:00-14:30	ÁLA
		Discussions and wrap up	14:30-16:00	ÁLA
	25-Jun			
	26-Jun			

Specialized line 2: Sustainable land management (SLM)

Combined with Restoration line or practical training module					
Day	Date	Topic	Time	Lecturer/instructor*	
Week 10	Mon	6-Jun	Rangeland health and degradation models	09:00-14:00	JTh
			Introduction to Hítardalur field trip	14:00-15:30	JTh
	Tue	7-Jun	Field trip to Hítardalur: project in Practical training module	all day	JTh, ÓA, SB
	Wed	8-Jun	Project in Practical training module: GIS and GPS / fieldtrip exercise	all day	ÓA, JTh, SB etc.
			Project in Practical training module: resources and toolbox		ÓA, JTh, SB etc.
	Thu	9-Jun	Project in Practical training module: planning and organizing reclamation project	all day	ÓA, JTh, SB etc.
	Fri	10-Jun	Linking knowledge, awareness and action - Building the bridges	09:00-11:30	AA
			Landcare	12:30-14:30	AA
			Project in Practical training module: feedback on the project	14:45-16:00	ÓA, JTh, SB etc.
		11-Jun			
	12-Jun				
Mon	13-Jun	Whitmonday			
Week 11	Tue	14-Jun	Hydrology and land degradation/restoration	09:00-10:30	BO
			Restoration genetics	10:40-11:40	HHÆ
			Funding for landcare /land restoration	13:00-16:00	AA
	Wed	15-Jun	UNU-LRT individual project work / CLIMMANI-INTERFACE workshop	09:00-12:00	HHÆ, BO, supervisors
			UNU-LRT individual project work: Project proposal seminar ; 4 fellows, from SLM line	13:30-16:00	HHÆ, BO, supervisors
	Thu	16-Jun	UNU-LRT individual project work / CLIMMANI-INTERFACE workshop	all day	HHÆ, BO, supervisors
Fri	17-Jun	Independence day			

Week 12

	18-Jun			
	19-Jun			
Mon	20-Jun	Soil environmental problems	09:00-12:00	RG
		UNU-LRT individual project work: Project proposal seminar ; 4 fellows from restoration line	13:30-16:00	HHÆ, BO, supervisors
Tue	21-Jun	Grazing theory and management	all day	AGTh
Wed	22-Jun	Policies, strategies and landcare	08:30-12:00	AA
		Environmental / Land literacy	13:00-16:00	SJ
Thu	23-Jun	FHL trip	all day	SJ
Fri	24-Jun	Participatory property management planning (PMP)	09:00-14:10	GS
		Presentation by the participants of their exercise and discussion	14:20-15:00	GS, AA
		Discussions and wrap up	15:00-16:00	GS, AA
	25-Jun			
	26-Jun			

*Abbrev. of Lecturer/Instructor	Name of Lecturer
AA	Andrés Arnalds
AGTh	Anna Guðrún Þórhallsdóttir
ÁH	Árni Hjartarson
ÁLA	Ása L. Aradóttir
BO	Berglind Orradóttir
BDS	Bjarni Diðrik Sigurðsson
BB	Brita Berglund
BDI	Brynja Dögg Ingólfssdóttir
GIG	Guðmundur Ingi Guðbrandsson
GTho	Guðni Þorvaldsson
GS	Guðrún Schmidt
GTh	Guðrún Þórðardóttir
HHÆ	Hafdís Hanna Ægisdóttir
HF	Herdís Friðriksdóttir
HH	Hjörtur Hjartarson
ISJ	Ingibjörg Svala Jónsdóttir
IG	Ingrid Gevers
JG	Járngerður Grétarsdóttir
JTh	Jóhann Þórsson
JGP	Jón Geir Pétursson
KS	Kristín Svavarsdóttir
MJ	Magnfríður Júlíusdóttir
MHJ	Magnús H. Jóhannsson
OS	Oddur Sigurðsson
ÓA	Ólafur Arnalds
RG	Rannveig Guicharnaud
SB	Sigmundur Brink
SJ	Sigbrúður Jónsdóttir
SR	Sveinn Runólfsson
SV	Sjöfn Vilhelmsdóttir
ÚÓ	Úlfur Óskarsson
ThVK	Þorbjörg Valdís Kristjánsdóttir
ThÁ	Þór Ásgeirsson
ZA	Zafar Adeel

UNU-LRT six-month training course: Fieldtrip around Iceland

Date	Time	Topic	Guide	Location	Accommodation
27 June Monday	07:30	Gather at Eggertsgata and transporting luggage to Keldnaholt		Transporting belongings to Keldnaholt	
	09:00	Departure from Keldnaholt		Driving to Sölvabakki	
	12:30 – 13:30	Lunch	AMJ	Sölvabakki	
	13:30 – 15:00	Sheep farming & sheep grazing	AMJ	Sölvabakki farm near Blönduós	
	16:00 – 20:00	Land reclamation vs. land restoration	BM	Eyvindastaðaheiði	
	Approx. 21	Dinner		Blönduós	Hótel Húnavellir
28 June Tuesday	09:00	Departure from Húnavellir			
	10:00 - 12:30	Restoration programs	BM	Skagafjörður	
	12:30 - 13:30	Lunch		Hólar	
	13:30 - 14:30	Sightseeing around Hólar area	BM, SS	Hólar University College	
	15:00 - 16:00	Restoration programs	BM	Skagafjörður	
	16:00 - 20:00	Drive to Akureyri and Mývatn Dinner on the way		Mývatn	Mývatn

UNU-LRT six-month training course: Fieldtrip around Iceland

Date	Time	Topic	Guide	Location	Accommodation
29 June Wednes day	09:00	Departure from lodgings			
	09:00 - 19:00	Sand dunes, geology, Dettifoss waterfall etc.	OA	Mývatn area	
	Approx. 19	Dinner		Grímsstaðir	
	Evening	Drive back to lodging		Mývatn	Mývatn
30 June Thursday	9:00 - 10:00	Site visit to the Krafla geothermal power station			
	10:00 – 11:30	Driving to Sænautasel			
	11:30 - 12:30	Land restoration by NGO	GS	Jökuldalsheiði	
	12:30 – 13:30	Lunch		Sænautasel	
	13:30 – 15:00	Driving to Hróarstunga			
	15:00 – 18:30	Land degradation, restoration implementation in E Iceland	GS	Húsey	
	18:30 – 19:30	Drive to Egilsstaðir			
Approx. 20	Dinner		Egilsstaðir	Hotel Edda, Egilsstöðum	

UNU-LRT six-month training course: Fieldtrip around Iceland

Date	Time	Topic	Guide	Location	Accommodation
1 July Friday	9:00 – 11:00	Visit to Iceland Forestry Service Visit to local food producer Holt og Heiðar	BATh	Hallormsstaður	
	11:00 – 12:30	Drive to Djúpivogur			
	12:30-13:30	Lunch		Djúpivogur	
	13:30 – 15:00	Driving to Höfn			
	15:00 – 19:00	Cultural Centre Nyheimar and Glacier Exhibition Höfn	ThÁ	Höfn	
2 July Saturday	Approx. 19	Dinner		Höfn	Gistiheimilið Ásgarður, Höfn
	09:00 – 18:00	Departure from lodging Land restoration in the surroundings of Höfn		Höfn	
		Skógey: Restoration of degraded land leading to wetland formation. Hoffellsjökull and land degradation.	ThÁ, ThS	Höfn and surroundings	
	Approx. 19	Dinner		Hali/Garður	Garður, Suðursveit

UNU-LRT six-month training course: Fieldtrip around Iceland

Date	Time	Topic	Guide	Location	Accommodation
3 July Sunday	9:00 – 12:00	Driving to Kirkjubæjarklaustur with stopovers along the way			
	12:00-14:00	Lunch		Kirkjubæjarklaustur	
	14:00-17:00	Driving to Hella/Hvolsvöllur with stopover at Þorvaldseyri/Seijavellir			
	17:00	Grocery shopping		Hella	
	Approx. 18:00	Dinner		Hella	
	Approx. 19	Arrival at Gunnarsholt			“Home” at Gunnarsholt

Guides:

UNU-LRT staff:

Hafdis Hanna Aegisdottir (hafdishanna@lbhi.is), Programme Director – HHÆ
Berglind Orradottir (berglind@lbhi.is), Deputy Programme Director – BO

Soil conservation service (SCS) district consultants:

Bjarni Maronsson (bjarni.maronsson@land.is) – BM
SCS district consultant, NW Iceland

Gudrun Schmidt (gudrun.schmidt@land.is) – GS
SCS district consultant, E Iceland

Others:

Anna Margret Jonsdottir (solvabakki@simnet.is) – AMJ
Sheep farmer at Sölvabakki, Blönduós

Olafur Arnalds (oa@lbhi.is), professor - OA
Agricultural University of Iceland.

Skuli Skulason (skuli@holar.is), – SS
Rector of the Hólar University College

Bergrun Arna Thorsteinsdottir – BATH
Holt og Heiðar ehf

Thorvardur Arnason – ThÁ
Hornafjörður University Centre, Höfn

Thrudmar Sigurdsson – ThS
Farmer at Miðfell, Höfn

Appendix C

Participants of the Land Restoration Training Programme 2007-2009:

Report on result of training

In early 2011, a questionnaire was sent to all 17 former participants of the three-year pilot phase of the Land Restoration Training Programme (LRT) in 2007-2009. In the questionnaire, the participants were asked questions about their current workplace and responsibilities at work, and if they have studied for a higher degree after participations in the LRT six-month training course. Furthermore, they were asked about participation in international or local conferences and/or meetings, and if and then how the LRT participation had changed their professional and personal skills. Altogether 15 (88%) of the 17 former participants in the LRT six-months training course in 2007-2009 answered the questionnaire. They come from: Ethiopia (1 person), Mongolia (3), Uganda (5), Ghana (1), Namibia (3), Uzbekistan (1) and Tunisia (1). One person from Egypt and one person from Uganda did not answer the questionnaire.

1. Current workplace

Of the 15 individuals who answered the questionnaire, 13 (87%) individuals still worked at the same workplace as prior to LRT participation. Two persons had changed workplace but still worked within the same field (land restoration, sustainable land management, and environmental sciences). Nobody had changed his or her field of work.

2. Current responsibilities at work

Nine participants (60%) indicated specifically that they had been confided to more responsibilities at their workplace compared to pre-LRT participation. Six persons described current responsibilities at their workplace but did not report if they had been confided to more responsibilities.

As can be read in the examples of the answers provided by the participants (see below), the LRT participation had a positive impact on their career and often resulted in increased responsibility at their workplace.

- Beside to the teaching and research, currently I am also serving as a program leader in my department.
- After LRT participation I have started working as a community development division head. My team consists of 6 people.
- Designated as Secretary District Land Board. As Secretary District Land Board, I have had the opportunity to guide and advise the Board against approval of applications for land title in wetlands and other fragile ecosystems.
- Got a promotion, right after I returned from Iceland, from information officer to Outreach Coordinator. Due to the position promotion, my responsibilities increased too.
- After I participated for LRT my responsibility increased.
- Promotion at work from Environment Officer to Senior Environment Officer and now Ag. Natural Resources Officer (Head of Natural Resources Directorate).

3. Have you studied for a higher degree after LRT participation?

Of the 15 participants, who answered the questionnaire, five had started studying for a further degree after LRT participation; three for an MSc degree, one for a PhD degree, and one for an environmental management diploma. Furthermore, one participant had started a postdoctoral program. Furthermore, four additional participants had been accepted for MSc (2) or PhD (2) studies and had plans to start in the year 2011. Two participants, who both were studying for a PhD when participating in the LRT six-month course, noted that they would graduate with a PhD degree in early 2012. As a result, 11 participants had started, continued or had plans to study for a further degree when they answered the questionnaire. Only four participants had not studied for a higher degree after LRT participation.

4. Participation in local and international conferences or meetings on issues related to which are connected to land restoration, sustainable land management or related issues

The answers indicated that many participants had participated in international or local conferences and/or seminars. Six persons mentioned that they had participated in an international conference since they finished the LRT six-month course, and eight persons had participated in a local conference.

5. Has LRT participation changed your personal and professional skills? If yes, please indicate how.

Nearly all participants indicated that participating in LRT had changed their professional and personal skills in a positive manner. Nobody wrote that their skills had not been changed, and only one person did not answer the question.

As can be read in the examples below, it is clear that LRT participation had a very positive and constructive influence on the participants' skills.

Examples of answers about professional skills:

- Increased professional writing skills.
- In-depth understanding of land restoration and management issues.
- More links and network to international groups.
- Boosted professional way of doing things to a good standard.
- Improved communication skills.
- Gained knowledge and experience in land management.
- Increased skills in planning and budgeting for land management activities.
- Improved monitoring and evaluation skills.
- Improved skills in proposal writing.
- Holistic approach/perspective international or regional rather than a narrow approach as per pre-LRT.
- Highly improved project management skills.
- Improved skills in the development of the practical measures for sustainable rangeland management.
- Generated new research ideas.
- Improved skills on methodological approach to research problems.
- Changed the way I look at land related problems now I know that land problems can be

- tackled and solved, provided there is capacity of the local communities and government.
- Obtained knowledge from LRT study helped me to improve rangeland training qualities for rural herders.

Examples of answers about personal skills:

- Social skills to work with colleagues.
- Improved decision making.
- Better collaboration with others working in the same district on LRT issues (due to more inputs related to land management and restoration).
- Think in broader level, not just focusing on local perspective.
- Improved English skills.
- Personal mental approach has been highly sensitised.

