CZECH REPUBLIC DEVELOPMENT COOPERATION	Request number: (Allocated by the Czech Development Agency)
Expert Request Form	

Title: MONGOLIAN FORESTRY IN DEVELOPMENT: ELEVATED SKILLS IN FOREST PLANNING AND MANAGEMENT

Expected field of expertise: Forest landscape and management planning, vegetation survey, soil survey with charcoal paleo (historic) research, seed/cone harvest, remote sensing with geographic information system (GIS)

Partner country: **Mongolia**	Region/town/locality: **Darkhan Uul, Selenge province**
Expected Start and End Dates: From **September 2018** Until **July 2020; Events in 09/2018, 06/2019, 06/2020**	Total amount of days in the field: **90 days**

Expected Czech ODA financial contribution (EUR): **40 000**	Estimated co-financing from the partner institution (financial contribution in EUR/ in kind in detail): **In kind co-financing: 1. Provision of a car and bus transport (without gas expenses), 2. Provision of an accommodation in the University dormitory and field stations such as e.g., Zulzaga, 3. Provision of an English/Russian/Mongolian translator, 4. Provision of necessary field gear and tools**

Applicant / Partner Institution:
School of Agroecology and Business, Mongolian University of Life Science, University St., P.O. Box 904, Darkhan, Darkhan-Uul, Mongolia, http://sab.edu.mn/en/

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CONTEXT AND RATIONALE

Context:
Problem analysis. Please explain current situation and why the expert is requested (what is his/her added value).

Recently, a Mongolian landscape faces important changes such as climate change associated with human-caused disturbances. These changes interact with deep social

changes across all economic sectors. A forested landscape is a significant part of northern Mongolia fundamentally affecting a densely populated steppe-forest buffer zone. A forest cools down high temperatures, serves e.g., as a source of water, timber, soil stability, recreation etc. On the other hand, these services are affected by interacting natural and human-caused disturbances (fires, grazing, logging, mining etc.) leaving Mongolian forests devastated, unstable in own self-sustainability for decades, even centuries. Thus, playing a historically major role for Mongolian nomadic people, forests need to be managed properly. Their systematic destruction must cease.

Due to low historic development, Mongolian forestry is a young discipline lacking skilled experts who would be able to shift a forest shape to a stable stage, i.e., towards sustainability. This is the very true for our institution, the School of Agroecology and Business, Mongolian University of Life Science (the School), where a forestry major is a novel discipline. We lack in-classroom forestry teachers and experts in the field. The latter is true especially at a level of the state administration, where skills and experience are limited. Expansion of the major along with the environmental studies (e.g., landscape ecology) in both quality and quantity is our intent. In 2015, the Czech government brought a complex and efficient forestry project 'Development of forests and the gene pool of local forest tree ecotypes' to Mongolia (further the project). Our institution was one of the key partners within the project. This three-year event introduced basics of forest management traditional in central Europe. Contrary to agriculture, where a harvest is annual, forest management is a 'long-term shot' meaning that managers, in fact their followers, need to wait years and decades for results. This principal needs to be applied in education of future Mongolian foresters.

The project in 2015-17 was a great experience for our teachers and another Mongolian forest-related audience. We feel a need to expand the most important expertise. A transfer of expert knowledge and training of a stuff in forestry is a relatively slow process. We would like to (i) get a long-term program of teachers and experts' education and training, linked up to knowledge obtained during the project in 2015-17 and (ii) develop a deeper educational platform for Mongolian forestry teachers, experts and practitioners. Following this idea, we would like to use the expertise of Czech forestry professionals, expand the expert knowledge in Mongolia in quality (more time for explanation, talking to people in detail) and quantity (expand skills to a broader forestry and ecology audience). This is an expected value added by the Czech experience via this expert assignment.

Additionally, we need to continue with cooperative efforts and synergy with major key partners such as the Domogt Shariin Gol Ltd. (Domogt), the Ministry of Environment via Forest Research Development Centre (FRDC), the state administration (forest units of the Khongor soum and Darkhan Uul aimag), and German Gesellschaft für Internationale Zusammenarbeit (GIZ), Georg-August University in Göttingen. This expert assignment proposal is an excellent way to make the realisation happen.

Expected outputs and outcomes:
Please, explain what is expected from the expert in detail (elaboration of analysis, seminar, forum, etc.) and when and how those outcomes will be used.

The expert assignment under the Czech Development Agency is designed as a relatively 'short-run', putting this event versus long-term progress in forestry into a time-dilemma-question: 'How can we figure out and see everything what was done within the project as an advanced progress?' We do need some time to make this progress happen. Therefore,

we opted for maximal length of a stay of Czech experts in Mongolia, lecturing and demonstrating the most interesting skills introduced by the project. Our teachers are interested in following themes and topics:

- **How can we properly manage a forest-steppe landscape in a sustainable way?** This issue is oriented on general acquisition of data (vegetation, environmental, historic) from a coarse landscape-level area (fieldwork). Our institute do not have any monitoring net of plots. A part of a sample plot network established in 2015-17 may be used for this activity with a further intent to expand the plot net for education and research. Synergy (services, supplies) with Domogt, and FRDC is desirable.
- **Analysis and synthesis of data towards a feasible and profitable forest management.** How to elaborate methodological rules and guidelines of coarse-scale sustainable forest management? After acquisition, data need to be processed. The data collected within the project may be used for this activity. Synergy (services, supplies) with Domogt, the state administration (soum, aimag) and FRDC is desirable.
- **What progressive techniques can we use to get this?** Processing of data requires advanced tools. The use of remote sensing, Geographical Information System (GIS) is a promising example. Synergy (services, supplies) with Domogt, the state administration (soum, aimag) and FRDC is desirable.
- **Control of a native tree gene pool reproduction.** It includes modern techniques of a reproduction material harvest such as a harmless tree climbing for cones and seeds. Our institute needs to be independent in a seed harvest for our forest nursery. We would like to get more training, gear and devices for that activity. Synergy (services, supplies) with Domogt and GIZ is desirable.
- **Forest management planning (FMP); a fine-scale way towards sustainable management.** This activity could be linked to a planned FMP elaboration and a final seminar in fall 2018. Synergy (services, supplies) with Domogt, the state administration (soum, aimag), FRDC and GIZ is desirable.

Goals of expected outcomes:
- **Improvement of the educational process and environment of science of teachers and students.**
- **Support the state administration (soum, aimag)**
- **Support and contribution to development of the Education and Training Center in Domogt Shariin Gol.**
- **Support 'Declaration of Krtiny' Conference planned for 2018.**
- **Support a potential global project suggested by GIZ toward activities within the Green Climate Fund.**

Expected outcomes:
- **Seminar/workshop in 2018.** There are two connected activities scheduled in Domogt area: (i) the FMP elaboration and (ii) 'Declaration of Krtiny' Conference organized by FAO with close cooperation with Mongolian and Czech partners: (http://www.fao.org/fileadmin/user_upload/Europe/documents/Events_2012/For_IK/Krtiny_Declaration_updated_en.pdf).
This is an excellent opportunity how to link former activities with our general intent stated above.
- **Field training in 2019.** Using the project 'infrastructure', meaning the knowledge of the environment settings, the Domogt basecamp and its facilities, the sample plot net etc., we need more practical outdoor experience in a different field area (the former training included Zulzaga steppe and Shariin Gol pine-birch forest). Next training activities

should be planned in a real dark taiga zone such as in the Khonin Nuga Research Station (managed by the University in Göttingen).

- **Final wrap-up workshop in 2020.** There are two possible places for the performance: the Domogt area or the Mongolian University of Life Science, Darkhan area. Having the project and the two-year assignment's (2018, 2019) experience, our pedagogic stuff, experts and students will take part at this event as relatively trained subjects. We expect active approach using all skills acquired before.

Role of the applicant/partner organisation and roles of other key partners:
Please describe briefly the roles and responsibilities of key project stakeholders and their relation towards the expert (towards his/her work).

School of Agroecology and Business, Mongolian University of Life Science http://sab.edu.mn/en/ as the applicant, it is a key acceptor of all assignment's outputs and achievements including reports, presentations, analytical results etc. The School will organize logistics and technical part of the expected outcome events with a close cooperation with the Czech side (responsible for an expert part of the events) and other key partners such as Domogt.
Domogt Shariin Gol Ltd. – is a 'major host' of the outcomes. The project built fundaments of the Education and Training Center and a public base. There is a space and facilities for events such as scheduled above. Close cooperation of the School with Domogt is needed and expected.
Mendel University in Brno, Faculty of Forestry and Wood Technology is a key educational and research leader within this expert assignment. It is responsible for an appropriate pedagogical and scientific level of the outcomes. Within the assignment realization, this institution will provide experts/teachers for forest planning, management and general forestry.
Ministry of Environment https://zasag.mn/en/m/megd **via Forest Research Development Centre** was a major key partner and its employees have been trained within the framework of the project. It is an important acceptor of all assignment's outputs and achievements including presentations, demonstrations, reports etc. As a key forestry institution in Mongolia, close cooperation with the School and the Czech side is desirable.
State Administration (forest units of the Khongor soum and Darkhan Uul aimag) is an important acceptor of all assignment's outputs and achievements including presentations, demonstrations, reports etc.
Gesellschaft für Internationale Zusammenarbeit https://www.giz.de/en/html/index.html is an international leader in forestry development in Mongolia for years. Efficient cooperation (tree climbing, forest management planning and charcoal burning) has been started within the project. Ongoing cooperation is desirable.

Complementarity:
Analysis of other relevant development interventions executed by the government (or) in co-operation with other donors, complementarity of the requested intervention with activities carried out so far.
Interested stakeholders / partners:
Georg-August University in Göttingen http://www.uni-goettingen.de/en/1.html. Within the project realization, the University Research Station was used. We plan to put the station to use again with help of a Station leader prof. M. Muehlenberg.
Czech University of Life Sciences Prague https://www.czu.cz/en/. Within the project realization, this institution provided an expert/teacher for dendrology, urban forestry, tree climbing, and a cone and seed harvest. Next cooperation is desirable.
Czech Forestry Academy Trutnov http://www.clatrutnov.cz/index.php/en/. A traditional partner of the School. Within the project realization, this institution provided an expert/teacher for general forestry. Next cooperation is desirable.

Date and Signature:

Place, date, name of authorised person within applicant institution and his/her signature, stamp.

Darkhan-Uul, December 12, 2017

Nergui Zunai, PhD, Director of the School Agroecology & Business.

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