



Above: Ger District Panorama. Image courtesy of Anthony Knuppel on Flickr. Reproduced under a Creative Commons license.

The Green Ger Village Master Plan

University cooperation and achieving the SDGs

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Human activities and climate change are having negative impacts on the lives of people all over the world, and so it is essential for policies and actions to move us towards a more sustainable development. Responses in search of new global solutions include the Agenda 2030 and the 17 Sustainable Development Goals (SDGs) promoted by the United Nations. The Agenda 2030 and the SDGs were built on the previous experiences with the Millennium Development Goals and address, in a multi-dimensional way, a set of goals and targets that promote the eradication of social and economic inequality, the effects of climate change, and environmentally sustainable development. The Agenda 2030 proposes an international commitment by all countries from the South to the North, from the East to the West.

Universities play an important role as driving agents and integrators of SDGs, and their involvement in the implementation of the Agenda 2030 is crucial in coping with the problems of today's world. The University of Málaga (UMA) in Spain, and the Incheon National University (INU) in South Korea, are responding to the needs of the globalized reality through a twinning alliance, whereby both universities have representative offices at the other partner university. Collaboration is promoted in the academic and research fields, but also in the field of cultural and institutional exchange and promotion for a better understanding between Spain and Korea. The project that has been ongoing for the past 10 years was consolidated with an alliance that works as a whole despite the distance between the countries. The alliance works as a single platform, based on the bonds of trust between the networks of each party.

In Mongolia, climate change has resulted in infrequent rains, desertification of the steppes, and degradation of the forests, which is in turn creating a lack of access to food and other resources for Mongolia's nomad society. In the face of these hardships, during the 1990s, nomads started to migrate from the countryside to urban areas and to install, without any government planning, their traditional ger (yurts) in the areas surrounding the main cities. One of these cities was Darkhan, located in northern Mongolia. The lack of urban planning and social infrastructure in the ger districts has caused a slew of public health and environmental problems. In this context, an International Cooperation for Development alliance emerged between the University of Malaga (Spain), Incheon National University (South Korea) and the Mongolian University of Life Sciences (Mongolia) in order to provide solutions for the public health problems in Darkhan city. The following article aims to highlight the synergies that flourish when working through university partnerships in development cooperation projects, as an alternative to individual and traditional solutions.

UMA and INU act as cultural and institutional facilitators to support and encourage new projects (<http://uma.es/oficinapuentecorea>).

In such a favorable context, the opportunity arises to link the experiences and influences of Spain and Korea, represented by the UMA and the INU respectively, in line with the Sustainable Development Goals with the aim of providing new global and integrating solutions to economic inequality, and environmental and social problems. UMA has extensive experience in technical cooperation and institutional relations with Latin America, while INU has an established network of universities and projects around the Asian continent. In this framework both universities agreed in 2018 to launch a joint international cooperation program based on the experiences and resources of both. Specifically, two triangular university development cooperation projects were designed and implemented in Colombia and Mongolia.

The project in Colombia was developed in Bogota through the close relationship between UMA and the National University of Colombia as part of the Ibero-American Network of Korean Studies. The objectives of the project were "to give voice and space to all parts of the armed conflict in Colombia to build memory and, consequently, to build ties that help achieve peace in the country". In general, the project consisted of interviews with victims of

the conflict and the later creation of a short documentary piece. The project in Mongolia was developed through the close relationship of INU with the Mongolian University of Life Sciences. The objectives, context and work of the project are detailed in the following section.

South Korean international cooperation in Mongolia

One of the main agents of the SDGs is Official Development Assistance (ODA). ODA is defined as the allocation of resources from official organizations (both multi or bilateral) to developing countries in order to facilitate and promote sustainable economic and social progress. The members of the Development Association Committee of the Organization for Economic Co-operation and Development (OECD-DAC) sets out broad lines and objectives to ensure that aid is implemented in a transparent and efficient way to maximize the priorities of the developing countries.

An interesting case of an ODA donor country is South Korea; it is a successful example of a former recipient country that is nowadays one of the big donors of ODA. After the Korean civil war and the division into North and South Korea in 1953, the South



Ger in urban area. Photo by Antonio J. Domenech.

Korean government received a big volume of ODA resources from the United States and Japan. South Korea is in fact considered to be the country that has benefited most from international aid.¹ The government allocated the received ODA to economic and social infrastructures, transforming the agriculture-based economy into a technology-intensive production economy. Nowadays South Korea is the 13th economic power in the world and plays a crucial role in Asian politics. It enjoys a strategic geopolitical situation that, together with its diplomatic connections, allows it to have strong partners in both Asia and the United States. Korea has been part of the OECD-DAC since 2010, bringing new points of view to the cooperation arena and providing a regeneration of the traditional donors of ODA. Knowing both sides of development, South Korea created its own ODA strategy largely based on its own experience as recipient.²

One of South Korea's main tools for carrying out international cooperation is the Korea Official International Cooperation Agency (KOICA). KOICA works on strategic areas of aid defined in the Mid-Term Strategy for Development Cooperation 2016-2020: Education, Health, Governance, Agriculture and Rural Development, Water, Energy, Transportation, Science, Technology and Innovation, Climate Change and Environment, and Gender Equality. South Korea's ODA network is made up of a group of offices represented in 45 countries in Africa, Asia, and Latin America, through which projects are carried out in the fields of education, health, infrastructure or production, among others. KOICA's offices also have an important presence in their own country through offices opened in some Korean universities with the aim of integrating cooperation policies into society through education and research.

South Korea formulated a Country Partnership Strategy (CPS) agreement with the clear objective of improving the effectiveness of Official Development Assistance in Mongolia. The CPS is a direct and bilateral agreement with a country reviewed every 3-5 years that includes "volume of ODA, priority areas, medium-term allocation plans and implementation strategies based on Korea's ODA strategy and national development plans".³ The CPS between Mongolia and Korea includes the development of the following areas: improving vocational training programs and higher education environment, strengthening capacity to prevent diseases, increasing access to water and sanitation facilities, improving the system of electronic government, developing the capacity for the management of logistics, and transport infrastructure. Specifically, the CPS refers to the "need to increase access to improved sources of water and sanitation services [...] especially in the ger district".⁴

Environmental and health problems in Darkhan ger districts

The deterioration of the environment in Darkhan, as in the rest of the country, is caused by climate change and human activities. Rainfall shortages, desertification and extreme cold are causing difficulties for food crops and livestock activities.⁵ Unsustainable human activities such as mining, herding, and building around the city river basin, have provoked serious problems for the water, soil and air of Darkhan.⁶ UNICEF reported in 2017 that Mongolia is suffering an air pollution crisis. Most of that pollution is caused by the carbon monoxide and microparticles from the mining industry, home heating methods (burning of low-quality coal and other waste), and traffic. Air quality worsens when winter arrives due to increased fuel consumption. Although Darkhan's population of 105,000 is much lower than the capital's (1.5 million), the levels of outdoor air pollution are nevertheless worrying and cause a vast number of respiratory diseases. These problems are amplified in the unplanned ger districts that surround the city.

Major problems affecting the ger districts include the lack of health, social, and communication infrastructures. Ger do not have direct access to running and drinkable



Left: Herders in Mongolia cultivating fodder or animal feed that is more resilient to extreme weather changes, using plants that adapt to droughts. Image courtesy of Asian Development Bank on Flickr. Reproduced under a Creative Commons license.

water, and there are only 33 water kiosks in the whole of Darkhan city. Moreover, the increase of mining activities uncontrollably pollute their main water source, the Kharaa river. The districts also lack any form of sewage and waste management. With the absence of official landfills and scarce garbage collection, waste accumulates in the streets and leaks into the ground causing soil and water deterioration. Direct effects are disease, a meager agricultural output, and poor hygiene. Inadequate public transport, roads, power supply, schools and health centers are significant factors that have led to a marginalized population on the city's fringes.

Green Ger Village Master Plan

In view of the problems of Darkhan city, the local government together with the Mongolian University of Life Sciences (MULS) contacted the KOICA Office at Incheon National University (INU) in 2016, with the aim of finding sustainable and lasting ways to improve the quality of its citizens' lives. After two years of research, MULS and INU signed an agreement to create a 'Green Ger Village'. The University of Malaga (UMA) joined the project in 2018, thereby creating a multilateral project with the aim of creating synergies that contribute to a better design and establishment of the project. The project is led by MULS and INU and funded mainly by KOICA, but also a variety of local, regional, national, and international actors cooperate.

The objective is to create a sustainable ger district in Darkhan, with an improved public health of the local population. Specifically, the project will be carried out over 20 years through two main actions: the creation of a sustainable 'Green Ger Village Master Plan' and the creation of an 'Action for Climate Change and Environment' research center. The project pursues the following SDGs: SDG 3-Good health and well-being, SDG 6-Clean water and sanitation, SDG 7-Affordable and clean energy, SDG 11-Sustainable cities and communities, SDG-13 Climate action, and SDG 17-Partnerships for the goals. The first point of action includes the promotion of public services and facilities such as sewage, sanitation, power lines, and paving of roads as well as the use of renewable energy sources. The project counts on the close collaboration of the ger district families who participate in the construction of components of the plan. They do so through the NGO Citizens' Initiative - Development Driver. The research center for Climate Change and Environment is to be designed by the three partner universities. This center has a clear objective of training and research in environmental issues and sustainability, but will also serve as a meeting place for citizen participation.

In the first stage of the project, in 2017, delegations from INU and MULS conducted local fieldwork. They interviewed the local population to explore the perceptions of their environmental and social situation and to define their socioeconomic needs. In the next stage of the project, in 2017 and 2018, the three university partners worked together in the following ways:

- repair the district roads called 'model streets' under the Public Participation Program, which will be reproduced in the future in other areas of the district;
- continue fieldwork/interviews with regard to local perceptions of the environmental and social situation;
- provide support to the urban landscape management;
- professional training courses about the environment, provided by UMA-INU professors;
- conduct research into energy alternatives and solutions for the lack of basic public services.

Results from the collaboration

Although the Green Ger Village Master Plan is at a very early stage, we can draw some conclusions and results from the collaboration. Firstly, the joint participation of UMA, INU and MULS has established an institutional relationship through the signing of a MoU agreement for the exchange of professors and students between the parties. Volunteers and professors from UMA an INU participated in three different periods of fieldwork between 2017 and 2018.

Also, there has been joint participation at international congresses and conferences held at MULS, UMA and INU, with researchers from the participating universities and external researchers. The Erasmus+ International Credit Mobility (KA107) granted a series of scholarships within the framework of the Plan, with which three students from MULS studied at UMA during the academic year 2019-2020, and two students from UMA studied at MULS during the same period. Additionally, two professors from each university carried out teaching missions and short research stays at the partner universities. Lastly, two doctoral theses are being carried out within the framework of the project, planned for completion by the end of 2020. The first one is being written by a MULS research professor who is conducting her doctoral thesis at Incheon National University in the field of public participation and waste management of the Green Ger Village Master Plan. The second thesis is by a researcher from the University of Malaga on the decision-making process and its application to the

Green Ger Village Master Plan through system dynamics. The results of these investigations are expected to be fully incorporated into the Green Ger Village Master Plan.

In conclusion, we state that the implementation of the Green Ger Village Master Plan will be successful thanks to the synergy created by the three partner universities and the national and local parties. Guided by the SGDs, the improvement of public health in ger districts will bring enormous benefits to the local population. Finally, we conclude that the creation of such collaborative projects contributes to the construction of a critical, participatory, and caring citizenship, while promoting cultural exchange and research between students and lecturers from different regions.

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Notes

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