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Scientific and Science-related Cooperation with the Consultative Parties and the Wider Antarctic Community

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Background

The Republic of Korea is conscious of the importance of cooperation with the consultative parties and the spirit of the Antarctic Treaty. This report is written to inform the consultative parties and the wider Antarctic community of the current status and some highlights of the Korean scientific activities in 2015.

Current Status and Research Highlights

The Antarctic King Sejong station being at the tip of the Antarctic Peninsula remains as the key research site for the Korean Antarctic Program and scientific collaboration. During the summer season King Sejong welcomed over 100 Korean and international scientists and have supported their research activities. Mostly life science related researches are being conducted in the nearby areas of King Sejong and in the past years we have completed a vegetation map for the Barton Peninsula; discovered four new species of ciliates while monitoring the ecosystem changes in the Barton Peninsula; and have decoded the genome of the Antarctic marine planktonic copepods (*Tigriopus kingsejongensis*), completing the whole genome map of the copepods and annotated 12,000 coding genes. In addition, a full renovation for King Sejong has been planned and will be implemented over the next few years to enhance research support, capacity and for future cooperation with neighbours and new collaborators.

The new Antarctic Jang Bogo station has become the base camp for scientific research in the Ross Sea and Northern Victoria Land area for the Korean Antarctic program. During the summer season over 100 science personnel from multiple disciplines have visited Jang Bogo and participated in land-based to ocean-going field expeditions in the nearby areas. Last year 14.9 m and 17.6 m long sediment cores were retrieved with an equipment installed on the R/V ARAON from the Southern Ocean to retrieve the paleo-environmental record; obtained ice-core samples that contained volcanic ash, by drilling up to 210.5 m at the Styx glacier; and recovered 166 meteorites including new types of meteorites such as CR chondrite, an iron meteorite, and diogenites.

International Cooperation

The Korean Antarctic program values international cooperation and has pursued both collaborative research and logistic support for the past several years. As a result, every year a number of scientists from foreign national Antarctic programs are continuously making use of our research infrastructure and are cooperating in a range of research and logistic activities.

The Korean program cooperated with the New Zealand and Chilean program as we use both Christchurch and Punta Arenas as the gateway into the Antarctic, and with the Italian program for logistical support in reaching Jang Bogo and Terra Nova Bay in the Ross Sea sector. International cooperation in scientific research also has been steadily progressing. Ice core studies that rely on coordinated helicopter support, geophysical studies and multidisciplinary studies that are implemented through ocean observations using Araon and other research vessels are some of the examples. Using the Araon, we have collaborated with Swedish and UK scientist in deploying and recovering 4 mooring devices from the Amundsen Sea (Pine Island Glacier) and Eastern and Central trough area just past February.

The Korean program will continue to collaborate with the Consultative Parties and will continue to support the relatively new members of the Antarctic community or those in temporary difficulties. During the Antarctic summer season, from January to February this year, we have supported and cooperated with the 5 Romanian scientists, 4 Portuguese scientists and 8 Malaysian program scientists who have visited King Sejong station.

Though the Korean Antarctic program is being challenged to run two stations that are separated by a wide distance, we will converge our efforts to generate significant outcomes from both stations and our research icebreaker for the good of the global community and continue to foster our good relations with the Consultative Parties.

In addition to the above collaborative efforts, the Korean program initiated the Asian Polar Science Fellowship program last year in an effort to promote research collaboration and networking opportunities among Asian scientists, in particular for the future generation of polar researchers. Six early career polar scientists from Japan, Malaysia and Nepal were awarded the fellowship in the categories of field research trip program and the institute visiting program last year.