

Perspectives on the new National Ecological Institute in South Korea

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The Ministry of Environment of South Korea has launched its plan to establish the National Ecological Institute. An International Symposium and Workshop was held at Ewha Womans University in Seoul on Thursday, 30 September 2010, to strengthen international cooperation, networking and partnerships for the conservation of biodiversity. This symposium was attended by experts of many major institutions for biodiversity conservation from South Korea and overseas. At the symposium and workshop preceded by a keynote speech by the renowned primatologist and conservation biologist Jane Goodall the participants discussed a wide range of topics including “biodiversity conservation: *in situ* and *ex situ* approaches”, “conservation of species diversity and ecosystem management”, and “international cooperation for biodiversity conservation and research”. As a basis for future discussions, this article summarizes how the National Ecological Institute might contribute most effectively to public life and environmental management in South Korea and worldwide. It addresses the following issues: governance and funding, synergies within Korea, participation in international networks, external advice, a broad view of ecological issues, research agenda, building on identity, public outreach, and training the next generation of scientists.

Key words: biodiversity, conservation, international cooperation, international network, National Ecological Institute (NEI)

It is highly appropriate that the Government of South Korea is embarking on the development of the new National Ecological Institute (NEI) at a time when public interest in the management of the environment has never been higher. The development of such an Institute is also of great importance for the central role that it can play in helping guide public policy on a great range of environmental issues. The new NEI, which is now well along in its construction, is therefore an important and far-sighted investment in the national infrastructure for both environmental science and environmental policy.

It is also appropriate that the development of the NEI comes in 2010, the International Year of Biodiversity, and when the Government of South Korea is also showing leadership on environmental issues on the international stage through introducing the proposal to establish the

Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services at the 10th Conference of the Parties to the Convention on Biological Diversity, held in Nagoya, Japan. This will also be followed by the continuing discussion of the International Convention on Climate Change in Cancun, Mexico, in early December, in which South Korea will also play an important role. These international activities underline the importance and wisdom of developing a strong science and research base at the national level that can focus on key issues of environmental management.

To inform the development of the NEI an International Symposium and Workshop was held at Ewha Womans University in Seoul on Thursday, 30th September 2010. This symposium was attended by experts from South Korea and overseas. The symposium and workshop were

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preceded by a visit to the site of the NEI in Seocheon, Choongnam Province, which was accompanied by a detailed briefing on the construction plans.

An important objective of the International Symposium and Workshop was to strengthen international cooperation, networking and partnerships for the conservation of biodiversity. Following a formal welcome by Jeong-Ho Mun, Vice Minister of Environment, and a keynote speech by the renowned primatologist and conservation biologist Jane Goodall, Chang Seok Lee, head of the office of the NEI presented his introductory comments. This opening session was chaired by Jae Chun Choe of Ewha Womans University.

The first session, "biodiversity conservation: *in situ* and *ex situ* approaches" was chaired by Peter Crane (Yale University) and included presentations and discussion from Eldredge Bermingham (Smithsonian Tropical Research Institute, Panama), Paul Smith (Millennium Seed Bank Project, Royal Botanic Gardens, Kew), Chong-Chun Kim (National Institute of Biological Resources), Dedy Darnaedi (Indonesian Institute of Sciences, Bogor) and Hang Lee (Seoul National University).

The second session, "conservation of species diversity and ecosystem management" was chaired by Chong-Wook Park (Seoul National University) and included presentations and discussion from Albert-Dieter Stevens (Botanic Garden and Botanical Museum, Berlin-Dahlem), Maurizio Rossetto (Royal Botanic Gardens, Sydney), Yeonsook Choung (Kangwon National University), Mary Gibby (Royal Botanic Garden, Edinburgh) and Jae Geun Kim (Seoul National University).

The third session, "international cooperation for biodiversity conservation and research" was chaired by Eun-Shik Kim (Kookmin University) and included presentations and discussion from Natasha de Vere (National Botanic Garden of Wales), Roger Graf (Zurich Zoo), Yong Ha Kim (Korea National Arboretum), Mark McDonnell (Royal Botanic Gardens, Melbourne) and Yong-Jin Won (Ewha Womans University). Concluding remarks on the symposium and workshop were provided by Peter Crane (Yale University).

The presentations made during this symposium by both the Korean and international participants identified nine general themes that deserve particular consideration as the NEI develops. We summarize them here as a basis for future discussions about how the NEI can contribute most effectively to public life and environmental management in South Korea and worldwide.

GOVERNANCE AND FUNDING

A central question for the future development of the NEI concerns the two closely related matters of governance and funding. Based on the assumption that the underpinning funding for the ongoing operations of the NEI will be provided by the Ministry of Environment, there would be great value in establishing a formal Governing Board to provide strategic advice, direction and support to the director. Careful consideration should be given to the composition of the Governing Board. Based on experience at comparable international organizations a balanced composition of about 10-12 board members that included representatives from government, academia and business would probably be the most helpful to help guide and support the continuing development of the NEI.

SYNERGIES WITHIN KOREA

In order to fully realize its potential in raising public awareness of environmental issues and contributing to sound environmental management, it will be important that the NEI establish strong and relevant programs of research that contribute to the development of policy. To do this most effectively it will be crucial that excellent collaboration, cooperation and communication are established with other relevant organizations within South Korea. The National Institute of Biological Resources will be an especially important partner for the future, as will the nearby marine and coastal institutes. Also important are the National Arboretum, any future developments of a National Museum of Natural History, and relevant government departments. It will also be important for the NEI to reach out to the universities in South Korea who have significant research capacity in ecology and related disciplines. The exchange of faculty and students between the NEI and universities will be of great benefit in both directions and will help ensure the maintenance of strong, effective and internationally competitive programs of research. Where appropriate, there will also be much to be gained from establishing good links to those non-governmental organizations (NGOs) that have strong science infrastructure. Connections with NGOs may also be a way in which strong public outreach can be facilitated.

PARTICIPATION IN INTERNATIONAL NETWORKS

There are considerable opportunities for the NEI to engage itself in a range of international networks. Through such engagement the NEI will gain access to new kinds of expertise and ideas, and will be able to participate fully in the international science community. NEI scientists will also be able to play a role in strengthening the international infrastructure for environmental science. Engagement in international efforts, such as the Millennium Seed Bank or the network of forest plots coordinated by the Smithsonian Tropical Research Institution, will bring great benefits to the future development of the NEI. It will also draw international scientists to South Korea and allow Korean scientists to expand their international experience.

EXTERNAL ADVICE

In order to provide an effective conduit for external input into the NEI it may be worth considering the establishment of an International Advisory Committee, composed of distinguished scientists from outside Korea. Such a group could provide regular advice to the Governing Board and director on the development of the research and other programs at the NEI. Such input might be sought at an early stage by the NEI Establishment Committee. Later, convening an International Advisory Committee might be one function of the proposed Governing Board. Meetings of an International Advisory Committee might also be coordinated with a regular International Symposium to be held every two years that would be devoted to different ecological or policy issues of importance to the future development of the NEI. Consideration might also be given to the establishment of a visiting scientist program that would attract international visitors to the NEI and encourage them to participate in its intellectual development.

A BROAD VIEW OF ECOLOGICAL ISSUES

It will be important that the NEI adopt a broad view of the ecological issues with which it will engage. In the context of the “low carbon green growth economy,” which is a national priority for the Government of South Korea, it will be necessary for the NEI to adopt the most inclusive

view possible of environmental matters. In practice, this means that the research agenda of the NEI will extend well beyond a traditional focus on “natural” systems to also include considerations of biodiversity conservation in human dominated and also urban landscapes. Such efforts will require an integrated approach that includes, for example, *in situ* and *ex situ* conservation, as well as restoration activities. It will also be of great importance to reach beyond science into the social sciences, and also the humanities. In order to be effective the NEI will need to position itself as an integrative and outward-looking organization. Resolution of the environmental issues that will need to be faced in Korea and in the world in the future will require open and collaborative efforts from many disciplines and diverse sectors of contemporary society.

DEFINING THE RESEARCH AGENDA

With the development of the physical facilities for the new NEI moving forward rapidly it will be important in the near future to define more precisely the nature of the research to be undertaken, and what the appropriate balance might be between different kinds of activities. A particularly important issue concerns the balance of domestic and international research programs, but at the same time the relative effort devoted to different kinds of research questions, or different kinds of ecological systems, will need to be determined. The potential research portfolio of the NEI is very broad; it will be important to identify those areas that will be emphasized and de-emphasized going forward. The primary responsibility for determining the research agenda should fall to the Governing Board in collaboration with the director and appropriate NEI staff. The International Advisory Committee can certainly play a significant role in helping determine the agendas.

BUILDING AN IDENTITY

Closely related to defining the research agenda for the NEI is the question of establishing its identity. It will be important to determine what the main areas of research will be, the extent to which the “whole” research program will be greater than the sum of the parts, and what the NEI will be known for. Establishing an identity for the re-

search efforts of NEI will be crucial to ensure that it has a strong international profile and becomes widely regarded as an international center of excellence.

PUBLIC OUTREACH

An important dimension of the new NEI is its role as a major vehicle to enhance public understanding of environmental research and decision making. There may be opportunities to increase the number of visitors per year beyond the 300,000 currently envisaged, and it will be important to provide the facilities necessary to attract and accommodate large numbers of visitors. It will also be important to determine how the public will be engaged on their visits to the NEI and the issues to which they will be introduced. There also needs to be careful consideration of whether the public can themselves be engaged in ecological research, for example, through making observations on climate sensitive species, animal migrations, and other phenomena where many observations from “citizen scientists” can be pooled to make a coherent whole.

TRAINING THE NEXT GENERATION OF SCIENTISTS

There is a clear and growing demand for new kinds of environmental professionals that are capable of undertaking policy relevant research. The NEI has the opportunity to play an important role in training this next generation of environmental leaders in Korea. In this regard, establishing strong connections with the main

research universities in Korea will be important, and it will also be necessary to find ways to introduce young scientists to the policy arenas in which their research results will be used. In this area establishing strong government agencies will be important. Scientists training at the NEI should be encouraged to make connections to policy specialists, the media, and other key stakeholders with interests in environmental issues. One option to be considered is whether to make the NEI a formal degree-granting organization. This may be a benefit in terms of attracting students, and attracting and retaining high quality researchers. However, to avoid insularity, mechanisms need to be established that ensure strong ongoing links are maintained to major research universities.

CONCLUSION

These nine themes are not an exhaustive list of the many issues that will need to be taken into account in the future development of the NEI. They do, however, encapsulate some of the opportunities that were highlighted during the International Symposium and Workshop and to which attention now needs to be directed if the NEI is to realize its full potential.

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