

# POLICY BRIEF

## SCIENCE-POLICY DIALOGUE

### LAND USE AND CLIMATE CHANGE IN TEMPERATE EAST ASIA



## BACKGROUND

This brief provides information on the findings and recommendations from APN's third Science-Policy Dialogue on Global Climate Change: Land Use and Climate Change in Temperate East Asia that was held in Ulaanbaatar, Mongolia from 2-5 November 2015. The dialogue was organised by APN in collaboration with the Ministry of Environment, Green Development and Tourism of Mongolia, and Mongolian Academy of Sciences and Institute for Sustainable Development, National University of Mongolia. The three-day dialogue and field visit was attended by 68 scientists (including early-career scientists), policy makers and civil society representatives from China, Mongolia, Japan, Russia Federation, Republic of Korea (ROK) and USA.



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## EXECUTIVE SUMMARY

Although climate change affects all countries, the diverse geographic and social-economic status have created different scales in terms of effects on land use at national levels in Temperate East Asia (TEA). Mongolia is facing prominent problems in desertification and increasing surface temperature. Semi-arid regions of China face aridity trends and, while Japan and ROK face forest land management issues due to decreasing populations and increasing aging rates. In order to address these issues, the sub-regional Science-Policy Dialogue (SPD) provided an opportunity for scientists, policy makers and civil society to share their knowledge, experience and best practices.

The dialogue identified that TEA countries have different regulations and action plans to address land change and climate change issues. Mongolia has laws and regulations to address climate change but needs a stronger implementation and policy evaluation mechanism. A stronger government structure as identified in China has policies and implementation plans, although there is less public awareness on climate impacts. All five countries are facing land use management issues due to rural urban migration and decreasing population in rural areas. Therefore, land use studies should be designed with transdisciplinary and interdisciplinary approaches to cover all socio-economic areas related to land use and land change.

Communication gaps between scientists and policy makers slow down the transfer of knowledge and establishment of science-based policies. To enhance communication, the dialogue stressed that regular communication among all stakeholders, including the media, should continue. Scientific research should take into consideration codesign and co-production together with policy makers and other stakeholders to respond to land issues at local and national levels. This will not only enhance communication and understanding of the diversity and requirements of each stakeholder but will also draw increased attention from the media.

Participants shared successful stories of science-based policy formulation to address biodiversity and ecosystem services. To increase the quality of scientific research and future projections, more ground-level data collection and data sharing are needed. Integrating local data and traditional/indigenous knowledge with global knowledge will lead to sustainable development while reducing environmental impacts.

One final point that is pertinent to note in this science-policy dialogue was the clear overlap of problems and issues that were consistently raised and were more often than not interrelated. This includes concerns related to the transfer of information and who is responsible for this among the various stakeholders, communication and how/what to communicate, knowledge management both vertically and horizontally, and the need for better understanding of all stakeholders' requirements to achieve sustainable development.

## TAKE HOME MESSAGES



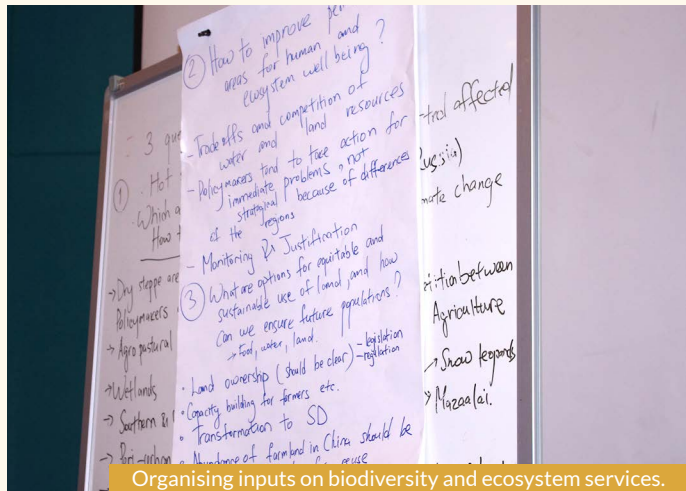
Participants of the Dialogue.

### Science-Policy Engagement

- ❖ Short-term solutions for immediate problems are observed more frequently in the policy sector than long-term strategic solutions.
- ❖ There is a need for continuous monitoring of policy implementation.
- ❖ A mechanism to control migration and increase opportunities in rural areas needs consideration.
- ❖ Most factors that affect sustainable land use are complex and transdisciplinary in nature, and frequently change.
- ❖ Policy planning needs to reflect various social and natural factors/drivers that affect land use. In addition, frequency of change in socioeconomic data varies in each country and policy makers need to consider and adapt to these changes accordingly.
- ❖ Decision-making and policy formulation related to livestock production needs to be undertaken carefully considering underlying drivers such as land abandonment.
- ❖ Decision makers need to consider the uncertainty of scientific data and adapt policy plans to minimise impacts.
- ❖ In situations requiring immediate action, individual decisions provide more effective solutions than group decisions due to time limitations for coordination.
- ❖ International collaboration can persuade and support national policy formulation.
- ❖ Political will and commitment are very important in addressing land use issues.

## Knowledge Management

- ❖ Ethical aspects are an important factor in knowledge management.
- ❖ Involvement of religious leaders in climate and global change problems may help to enhance awareness among policy makers and the public on climate issues.
- ❖ Considering different governmental structures and regulations, involvement of a country’s foreign relations ministry is essential to avoid contradiction of regulations and to facilitate smooth communication between foreign entities and national governments.
- ❖ To properly implement a local environmental programme, general public awareness and understanding is vital for its success.
- ❖ Journalist engagement is crucial to transfer knowledge.
- ❖ In some countries, engagement of Non-Governmental Organisations (NGOs) and community-level organisations is vital to enhance public participation in land use management.
- ❖ Similar to scientific knowledge, traditional knowledge plays a crucial role in knowledge management.



## Communication

- ❖ Co-designing scientific research and, from the results, co-production of policy-relevant information for decision-making bodies may aid the decision-making process.
- ❖ Media can be a bridge between science and policy-making and scientists should involve the media to disseminate their outcomes.
- ❖ Methods for effective communication are on a case-by-case basis. Scientists need to be able to adopt effective and flexible strategies based on circumstances and level (local, sub-national and national) of policy makers involved.
- ❖ High level politician involvement and regional or international engagement in research activities may increase research credibility, which may in turn attract media and policy attention.
- ❖ Scientists and policy makers need to consider web-based/social media as an alternative tool to convey messages to the public.



- ❖ Using non-technical language and translating research outcomes to local language(s) will attract more readers.
- ❖ Establishing a media database in Temperate East Asia will enhance media outreach through easy access to journalists' contact information.
- ❖ Public awareness of climate change and environmental issues vary from individual to individual. Factors that may affect the level of public awareness are residential location (rural or urban), internet accessibility, financial status, language skills, education level and age, and awareness-raising programmes need to consider these factors.

## Research Needs

- ❖ Problems faced during transformation of unsustainable development to sustainable development processes are required to examine and identify effective transformation strategies.
- ❖ Comparative studies on cost/benefit between urban-based and rural-based standards of living need to be taken into consideration and shared with the public.
- ❖ Analysis is needed to identify drivers that cause dry landscapes in Mongolia.
- ❖ Ground-level studies need to be undertaken to understand the relationship between climate change and climate variability, and local phenomena.
- ❖ Long-term, cross-scale research that covers different types of spatial scales and considers internal and external drivers and constraints.
- ❖ Studies on environmental cost analysis and sharing results with decision makers to reduce potential environmental costs that may arise through import and export of agricultural products.



Prof. W. Dong (China) sharing his thoughts in a rapid talk session.



Panel discussion on land degradation and rural land management.

- ❖ New models to investigate empirical relationships between species composition and remote sensing data will help to enhance sustainability assessments.
- ❖ Detailed analysis to understand the relationship between local level population changes and subsequent impacts on land use are important and should be investigated.

## Capacity Development Needs

- ❖ Capacity development activities for farmers and the public to identify and resolve land issues are needed.
- ❖ Training of scientists in communicating scientific results in non-technical language that can be understood by the general public.
- ❖ Capacity development of journalists to use information from advanced data collection methods and to develop international language skills is needed to improve the accuracy and quality of information that is delivered to the public.
- ❖ Capacity development of the general public on how to use climate information (for example, early warning system information) should be enhanced.

## RECOMMENDATIONS

### National

- ❖ Stronger monitoring and evaluation systems will improve the effectiveness of policies. Countries such as Mongolia, who have stronger policies, need more initiatives to strengthen monitoring and evaluation processes. Increasing public awareness might help to reduce future impacts.

- ❖ New initiatives and incentives are needed to control rural-urban migration such as offering free consultation as well as financial and technological support for business development in rural areas.
- ❖ There is a need to evaluate (and identify specific evaluators) the outcomes of decision-making and resource utilisation.
- ❖ In the knowledge management process, coordinating institutions/organisations between ministries and scientific institutions can be beneficial.
- ❖ Effect of human population change on land use change is a socio-economic problem that needs policy makers' attention.
- ❖ Decision makers should consider potentially available cropland in abandoned land area and promote re-cultivation to respond effectively to problems of food security.



Media interview with Mr. B. Dashzeveg (Mongolia).



Dr. A. V. Adrianov (Russia) sharing thoughts in a kiosk session.

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## Regional

- ❖ Integration of local knowledge, data and practices with sub regional studies.

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## International

- ❖ To achieve green development it is essential to have close cooperation with international organisations and partner countries.

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## Recommendations for Future Dialogues

- ❖ Identifying media spokesperson before the event will help to convey the message clearly to media.
- ❖ Organisers should consider preparing a press release and event agenda in local language in advance of the event. This may enhance local media attention.
- ❖ Increase policy makers' participation for such dialogues to enhance their voices; this will also promote a neutral dialogue among scientists and policy makers.

# Speakers and Kiosk Coordinators at the Temperate East Asia Science-Policy Dialogue on Global Climate Change: Land Use and Climate Change in Temperate East Asia



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