

Global Attention on Pollinator Diversity and Ecosystem Service: IPBES and Honeybee

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Abstract

Insect pollinators including honey provide the vital ecosystem services such as crop and wild plant pollination as well as regulation of the ecosystem primary producers through the contribution of energy and nutrient cycling. However, there is a public concern on the declining of the honeybee and wild pollinator populations partly evidenced by the phenomenon of CCD (Colony Collapse Disorder) initiated from US, and the report of decline of pollinator diversity in Europe even in Korea, the native honeybee, *Apis cerana* has experienced a huge decline because of the sacbrood virus epidemics while the introduced honeybee, *Apis mellifera* proliferates. Increased awareness and appreciation of the importance of the diversity of pollinators and the ecosystem, international authority (IPBES) has been established to assess the global status of pollinator health and trends as the first thematic assessment topic. Here I introduce the IPBES and its first activity on pollinator and pollination assessment, and its possible impact on honeybee health. Incorporating this knowledge into the political process so it feeds back into management decisions would be a next step challenge.

IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Service)

Biodiversity provides the basis for ecosystems and the services that underpin human well-being. However, biodiversity and ecosystem services are declining at an unprecedented rate, and in order to address this challenge, adequate local, national and international policies need to be adopted and implemented. This is in part related to the CBD (Convention on Biological Diversity). However, to review and implement, decision makers need scientifically credible and independent information comprehending the complex relationships between biodiversity, ecosystem services, and people. There need effective methods to interpret scientific information in order to make informed decisions for decision makers, and scientific community

also needs to understand the needs of decision makers better in order to provide them with the relevant information. In essence, the dialogue between the scientific community, governments, and other stakeholders on biodiversity and ecosystem services needs to be strengthened (www.ipbes.net). For this end, IPBES was established to review, assess and evaluate available information about the global biodiversity and ecosystem service provided to human well-being. This is kind of a follow-up of the success story of IPCC (Intergovernmental Panel on Climate Change); international collaboration to study the scientific, technical and socioeconomic aspects of human-induced climate change provoked the public attention as well as the global changes of policy and even to the science. The beginning of the discussion for the intergove-

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environmental platform was from 2007, after which it quickly expanded to include both governmental and stakeholder participants, and elements of the Millennium Ecosystem Assessment (Inouye, 2014). Subsequent intergovernmental and stakeholder meetings in Malaysia 2008, Kenya 2009, and South Korea 2010 resulted in the decision to establish the IPBES (Busan outcome). Busan Outcome was welcomed in CBD conference in Nagoya 2010. In 2010, the General Assembly of the United Nations (UN) passed a resolution that required the UN Environment Programme to create IPBES as an independent intergovernmental body, and meetings during the next 2 years in Nairobi and Panama accomplished this task. Formally chartered in April 2012, IPBES is open to all member countries of the UN, and now has 118 members (Inouye, 2014). Korea played important role during the establishment of IPBES and National Focal Point (NFP) is located in Global environment division of Ministry of Environment. Korea tried to hold the IPBES secretariat into Incheon but failed and now the secretariat is near Bonn, Germany.

Pollinators, pollination and food production

Surprising but not so much in other sense is that the topic of IPBES's first fast-track thematic assessment is on pollinators, pollination and food production. This is in part by the socioeconomic concerns on the declining pollinator diversity and abundance and resultant risk of food production system. The objective of the proposed fast track assessment on pollination is to assess changes in pollination as a regulating ecosystem service of importance for food production in the context of its role in supporting a good quality of life and biodiversity maintenance. I was invited as a lead author in the pollination assessment group of chapter 3 assessing the state of and trends in pollinators, pollination networks and pollination services as keystone ecological process and service in both human managed and natural terrestrial ecosystems. The meeting was held in Seigburg (Bonn), Germany this summer. Sixty-three experts from academy and government agencies including Asian Apicultural Association (AAA) member countries were met to begin work on the six chapters; covering the basic introduction of pollination for food production,

drivers of change of pollinators, pollination and pollination networks and services, global status and trends, economic valuation of pollinators gain and losses, and responses to risks and opportunities associated with pollinators and pollination services. There was one more Korean scientist (Dr Ahn, SJ from KEI) participating for the valuation of the service team. This is the first of several efforts that have the objective of strengthening the science-policy interface of biodiversity and ecosystem services with regard to both thematic and methodological issues. Future assessments will consider land degradation and restoration, invasive alien species and their control, and sustainable use and conservation of biodiversity. Policy support tools, methodologies for scenario analysis, and modeling of biodiversity and ecosystem services will also be addressed, as will conceptualization of the value of biodiversity and nature's benefits to people. I believe this kind of effort eventually influence our beekeeping community and the apicultural science as well.

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