**The Republic of Korea’s Response to the Invitation**

**for Peer Review of the Outcomes of the Process**

**in Response to Decision XII/24 on Synthetic Biology**

**March 5, 2016**

The Republic of Korea appreciates the efforts made by the CBD Secretariat and the Ad Hoc Technical Expert Group (AHTEG) to bring together diverse opinions and concerns raised about the potential impacts of synthetic biology. We reckon that it is crucial to consider the environmental, ethical, and socioeconomic aspects of the emerging biotechnologies at the early stage of the development in order to ensure their innovative progress and social acceptance. We generally support the Report of the meeting of the AHTEG on Synthetic Biology with the following comments and suggestions for the further discussion.

**Re: Operational Definition of Synthetic Biology**

The Republic of Korea supports the working definition of synthetic biology which was developed and proposed by AHTEG members (66a). We understand the “working definition” as a heuristic tool for further discussion rather than a rigid, finalized form of the definition, which is in reality impossible considering the ways in which synthetic biology has been expanding its disciplinary boundaries and the areas of application. Developing the operational definition of synthetic biology has been emphasized throughout the online forum and the AHTEG meeting as a prerequisite to address the potential benefits and hazards of synthetic biology under the CBD’s mandates. We do note that there are ambiguities in the proposed definition, but we consider it useful for the next round of discussion.

**Re: Uniqueness of Synthetic Biology**

The Republic of Korea notes that the unique features of synthetic biology vis-à-vis LMO were not fully explored or discussed in the AHTEG Report. According to the paragraph 29, “there is a potentially higher level of uncertainty due to the increased depth of intervention of synthetic biology in living organisms and biological systems.” Yet, the potential benefits and adverse effects, listed under the paragraph 52, do not seem to consider why and how the higher level uncertainty of synthetic biology will become an important factor in assessing beneficial and adverse effects.

Furthermore, we would like to emphasize the need to explicitly discuss “digital genetic information” as a unique feature of synthetic biology. The paragraph 31 of the AHTEG Report mentioned the “positive and negative impacts on the fair and equitable sharing of benefits arising from the utilization of genetic resources” (66i). How are genetic resources defined? How should we take into consideration the new intellectual or material values that may be derived from components and products as well as organisms created by synthetic biology? At this stage, therefore, we reckon that it will be wiser to leave the door open for the diverse opinions and possibilities. For this reason, we support calls to “set up mechanisms for clarifying the issue of digital genetic resource information as it relates to access and benefit-sharing.” (66i)

**Re: Information Clearing House**

The Republic of Korea supports the Report’s recommendation regarding the establishment of a process to monitor and assess the state of knowledge within the field of synthetic biology on a regular basis, review new information (66c). We reckon that it will be useful to expand existing platform (66.f), such as the Biosafety-Clearing House (BCH), including its domestic nodes in each Party.

**Re: Relations with Other Regulatory Issues and Regimes**

The Republic of Korea supports the recommendation for coordinating and establishing synergies with other international organizations whose mandates are relevant to synthetic biology (66e). Several international organizations listed in the paragraph 66e seem highly relevant, but we would like to stress that it should be expanded further so that our discussion encompass bioethics and biosecurity concerns on synthetic biology as well. Addressing the issues of synthetic biology under the context of the Convention is challenging not only because it raises biosafety issues, but because its progress is deeply predicated upon the social acceptance of the new technology, especially in relation to concerns about bioethics and biosecurity. This can be noticed in the recent debates over CRISPR, one of the key tools for synthetic biology and quickly popularized gene-editing technology. The ethical and security-related issues may appear beyond the scope of the CBD, but they are clearly relevant when we discuss potential benefits and adverse effects of synthetic biology.