

Country Report of Indonesia

by

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Minister for Research and Technology

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

First of all, as the Minister for Research and Technology of the Republic of Indonesia, I would like to express my deep appreciation to the Ministry of Science and Technology (MOST) of Viet Nam as a host of the meeting, and Chairman of the Atomic Energy Commission of Japan as co sponsor of the meeting. I thank you for the invitation as well as the warm welcomes extended to me and my delegation. I am delighted to see that the strong spirit of friendship and cooperation between the member countries of this prestigious forum still prevails, which indeed demonstrates our sincere desire to further strengthen our relationship. Allow me to express my views and hopes of how cooperation under this forum will be fruitful, as it is certainly have been for Indonesia.

Ladies and Gentlemen,

As I learn from my predecessor, Forum for Nuclear Co-operation in Asia (FNCA) has contributed significantly on the development and utilization of nuclear technology to the participating countries as well as to the region. Through several projects belong to this forum in which Indonesia has actively participated and contributed, we have received a great benefit from the technical achievement as well as networking of the scientists and personnel among participating countries. Therefore, I extend my sincere appreciation to the Atomic Energy Commission of Japan as a main sponsor of the forum, as well as to other participating countries for their contributions in all activities having been done so far. We are willing to continue further participation in this forum, in line with the nuclear technology development program in Indonesia.

Excellencies, distinguished delegates,

Application of the nuclear technology in the daily activities still somehow has a problem of public acceptance, due to the lack of information or disinformation being disseminated to the public. Therefore, socialization of the nuclear technology in term

of public information and education in this region should be put as a priority of the long term activity of this forum.

Since the nuclear technology is not as popular as any other technologies to the public, then it is not so attractive to the young generation to learn about this technology. In the long term, it might become a threat for the continuation of the nuclear technology knowledge and know-how in the country. Therefore, preservation of nuclear knowledge and human resource development program in the region should be also put as a priority of the FNCA.

Excellencies, distinguished delegates,

Allow me to inform you briefly our activities in Indonesia. In line with the Indonesian long-term policy on R&D, Nuclear Technology programs shall contribute in various sectors, i.e. energy, food/ agriculture, health, industries, environment protection, and others.

In the field of energy, with contribution of stakeholders, the Ministry of Energy and Mineral Resources has issued National Energy Policy (KEN) 2004 – 2020. On this policy, nuclear energy has been recognized as a part of the energy sources in the national long term energy mix. Detail information concerning this topic has been reported during the Panel on “Role of Nuclear Energy for Sustainable Development in Asia” that was held in Tokyo last October 2004.

Since the role of renewable energy in the long term energy mix is to be extensively improved, utilization of nuclear techniques has also been carried out in the activities relating to the development of renewable energy in Indonesia. The use of natural isotopes and artificial ones for geothermal have been carried out continuously in cooperation with other institutes, among others is “the enhancement of the *Lahendong* geothermal power plan in *Sulawesi*”. Utilization of mutation breeding techniques for “bio-oil” plants, i.e. *Yatropha curcas* L., and *Ricinus communis* L. to innovate new varieties for non-edible plant and crop producing more bio-diesel rather than utilization of crude palm oil, continues to be investigated.

Engineering design of the Electron Beam Machine for flue gas treatment of the Suralaya Coal Power Plant at Banten, has been initiated under cooperation with the end user industry as a pilot project for the other plant, in order to cope with limit of the environment requirement.

In the field of agriculture, the National Nuclear Energy Agency (BATAN), in cooperation with the Ministry of Agriculture, continues to carry out research and development in agriculture joining the FNCA activities in this field, namely mutation breeding and bio-fertilizer. The activity related to the banana improvement, and sweet potato projects has been started. While continuing the R&D on the topics relating to drought tolerance sorghum and soybean mutants as well as insect

resistance orchids, BATAN also continues to develop new varieties of rice. It is also attempted to establish supply security of the seeds located at some provinces to enhance the supply system of the crops.

Ladies and Gentlemen,

In the field of Health, Indonesian participation on the Radiation Oncology Project, i.e. clinical test on chemo-radiotherapy for advanced uterine cervix cancer, is still continued in order to get better statistical data. The clinical study on chemo-radiotherapy for nasopharyngeal cancer also has been commenced this year. Improvement on production method of the ^{99m}Tc generator using PzC methods based upon facility that has been delivered to Indonesia by the end of last year has been done. This improvement has made the ^{99m}Tc generator production become more reliable and give better result.

In the filed of environment protection, monitoring of air particulate matter in rural and urban area, mainly on the concentrating of elements contained in the fine and coarse particles using Neutron Activation Analysis (NAA) technique are still being continued. The joint activity relating to "Marine Environmental Pollution Research and Monitoring using NAA methods" will be commenced soon. Indonesia will actively participate on this project and preparation has been initiated through the exchange of information to set-up inter-laboratory measurement.

The other on going FNCA activities have been progressing as expected, i.e. Public Information of Nuclear Energy; Radioactive Waste Management; Nuclear Safety Culture; and Application of Electron Accelerator.

Ladies and Gentlemen,

In order to support the utilization of nuclear technology in Indonesia, the nuclear regulatory authority, BAPETEN (Indonesia Nuclear Energy Regulatory Board), is always been strengthened in the form of their manpower as well as their infrastructure. The strengthening of BAPETEN is important to make sure that all nuclear activities in Indonesia is following safety procedure as well as other International regulation.

The important of availability of human resource with adequate number and qualification to support all nuclear activities mentioned previously has been taken into serious consideration. BATAN using its center for education and training continues holding the train the trainers on various courses, as well as training for personnel requiring certification on various fields of nuclear science and technology. The polytechnique of nuclear science and technology is also improving the curricula to satisfy the industries. Cooperation with universities as well as polytechnique has

been intensified. It is still expected however that the cooperation on human resource development through FNCA will play an important role since there is still a lack of expertise needed to suffice the requirement on the future nuclear industry demands.

Excellencies, Distinguished Delegates,

Please allow me to conclude by expressing our strong endorsement for the FNCA and our readiness to participate fully in all of its activities. Lastly, I wish all of us the best of luck and success in this Fifth Meeting of the FNCA, as well as in the implementation of all future activities. Thank you.