

Speech at the Opening Ceremony of the International Symposium

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Distinguished President of ICOLD, **Mr. Schleiss**,

Your Excellency **Ms. Mokonyane**, Minister of
Ministry of Water and Sanitation of South Africa,

Your Excellency **Ms. Afailal**, Minister of Water of
Morocco,

Dear guests, ladies and gentlemen,

Good morning!

Taking this opportunity, on behalf of the Ministry of
Water Resources of the People's Republic of China,
I would like to extend warm congratulations to the
opening of the International Symposium.

The construction of dams and reservoirs for
regulation and storage of water in the nature is an
important measure to prevent water disasters and

develop water resources. Reservoirs and dams have played an important role in flood control, power generation, water supply, irrigation and other aspects, providing an important guarantee for global sustainable economic and social development.

Affected by special geographical location, water resource distribution and population growth, China currently encounters three major water problems, namely: shortage of water resources, threat of water disasters and degradation of water ecology. Water resource management task in China is arduous.

The Chinese government has put forward a new development concept, to promote the improvement of water ecologic system and the building of water-saving society, to accelerate the establishment of water security system, and to facilitate improvement in people's livelihood. **Important progresses have been achieved.** China has built the world's largest river regulation and water resource development system. China has managed to feed 20% of global population with 6% of fresh water resource and 9% of arable land resource. China has provided safe drinking water to more than 500 million rural residents, achieving the UN MDGs for Water and Sanitation 6 years ahead of schedule.

In the past five years, with the continued government investment in water facilities, China has reached an apex of water project construction in its history, greatly promoting the water resources development. Today's water project construction in China has in general **five features**:

- First, a great number of flood control projects have been constructed to ensure safety of socio-economic development
- Second, people-oriented water conservancy projects are widely built to improve people's living standard;
- Third, much more attention has been paid on the development of water-saving society;
- Fourth, large-scale hydropower projects have been constructed in succession;
- Fifth, construction of inter-basin water diversion projects and pumped storage power stations attracts wide attention in recent years.

Evolving through many decades of extensive dam practices, the technologies of hydropower development and dam construction have obtained breakthroughs in many aspects. However, great challenges are faced in the world for further

development.

Challenge 1: The safety of high dams around 300m

There are 18 dams over 200m built or under construction in China, plus 20 more to be built. More dams around 300m in the world will be built than before. Joint efforts worldwide need to be done to investigate the key technology for safe construction of dams around 300m, especially for dams located in complex geological conditions, or extremely low temperature and extremely high altitude. In addition, equal emphasis should be laid on economic, social and ecological benefits during the development to achieve harmony between human and water.

Challenge 2: The safety management of old dams

Many countries are facing similar problems. China has about 98,000 dams, one third of which have run for more than 50 years. Many projects are faced with potential safety threats due to low flood control standards, insufficient flood discharge capacity, aging and sedimentation problems, etc. In recent 10 years, Chinese government invested more than 30 billion US Dollars to reinforce 56,000 reservoir projects, which improved the overall safety. As the

time of project operation grows, the future tasks for safety management remain strenuous.

Challenge 3: Much more attention has to be paid on new way to build numerous small and medium-sized dams for developing countries

In order to solve the problem of water shortage, most developing countries including China will continue increasing investment in water facilities in the coming period and build a large number of small and medium-sized water projects. Affected by global climate change, extreme weather events have increased the flood risks of dams. The requirements for technologies of economic, convenient in construction, environmental-friendly and safe against overtopping, increase greatly. In 2012, Chinese experts proposed the new dam type of CMD: Cemented Material Dam, which gained the support of ICOLD, and a technical committee was established thereafter. This is of great significance for developing countries. The Ministry of Water Resources gives its full support and issued the technical guidelines. Special funds have been provided by the Ministry of Water Resources and the Ministry of Science and Technology of China to support the studies and applications of CMDs in China.

In 2012, ICOLD issued the World Declaration: Water Storage for Sustainable Development in Tokyo, Japan, pointing out that “Humanity is facing a more severe water situation than it has ever faced in the past...We, therefore, call for joint efforts to develop water storage infrastructure in a sustainable way.” The theme of this symposium is “Appropriate Technology to Ensure Proper Development, Operation and Maintenance of Dams in Developing Countries”, which actively echoes this declaration, and is therefore of great significance.

Availing the platform of this International Symposium, Ministry of Water Resources of China is willing to discuss with all other countries in the world about the new technologies related to the sustainable development of water projects. As the world's largest developing country, China will be as committed as always to participate in and promote the technical exchanges and cooperation among countries in the world, to promote sustainable development of dams and hydropower.

Last but not least, I wish this International Symposium a great success!

Thank you very much!