

## **FINAL REPORT**

# **On Implementation of PGTF Project PRK10/00048440(Int/06/K03) “Training of Experts of Standardization and Metrology of Developing Countries”**

**State Administration for Quality Management of DPR Korea**

**17 August 2006**

The 29<sup>th</sup> Ministerial Meeting of the Group of 77 held in New York on 22 September 2005 approved the PGTF project “Training of Experts of Standardization and Metrology of Developing Countries”, which had been submitted by the State Administration for Quality Management of DPR Korea (hereinafter called as SAQM).

DPRK National Coordination Committee for UNDP (the executing agency) and SAQM (the implementing agency) started implementation of the project on December 2005.

This report includes background, activities, results, a bill and annexes relating to the accomplishment of Perez-Guerrero Trust Fund’s Project PRK10/00048440(Int/06/K03).

### **1. Background**

It is of great importance at present for developing countries to develop their national economies and improve people’s living standards rapidly just through the South-South cooperation on the principle of collective self-reliance. The standardization and metrology, the basis of science, technology and economy, in the developing countries poses as a primary issue for development of economy, breakdown of technical barriers in trade and establishment of a new international economic order.

While the developing countries are activating mutual cooperation and exchanges in fields of standardization and metrology in conformity with the rapid economic development, they still are suffering of the shortage of technology, funds and talented people, which cause a great deal of loss in trade and further in overall economy.

But, the promotion of the economic and technical cooperation and exchange based on their own favorable conditions and possibilities will raise their national standardization and metrological work to the global level.

The 8<sup>th</sup> Coordinating Countries Meeting for Standardization, Metrology and Quality Control of Non-Aligned Countries, held in Pyongyang, DPR of Korea, in 1988, emphasized to strengthen the mutual cooperation and exchange in the fields of standardization, metrology and quality management.

SAQM, a governmental body in charge of standardization, metrology and quality management, has achieved lots of successes in development, implementation and dissemination of the national standards, the harmonization of the national standards with the international standards, the development and research of the metrological standard and its transfer to industry, metrological testing and technical services, legal metrology and etc. It also has rich experiences of having implemented the three projects for the international cooperation.

Abiding by the development of South-South cooperation on the principle of collective self-reliance, SAQM proposed and implemented the project of training of standardization and metrology experts for African developing countries and DPR Korea. The project has made a contribution to the training of standardization and metrology experts of Uganda, Sudan, Nigeria, Ethiopia and DPR Korea.

## **2. Activities for Implementation of Project**

The 29<sup>th</sup> Ministerial Meeting of the Group of 77 held in New York on 22 September 2005 approved the PGTF project “Training of Experts of Standardization and Metrology of Developing Countries”, which had been submitted by SAQM of DPR Korea.

After DPRK NCC for UNDP, SAQM and UNDP Pyongyang CO signed on the project documents on January 10, 2006, the Work Plan was established and the Sub-Contract signed by NCC for UNDP and SAQM.

US\$ 43,173 from the Government and US\$ 34,827 from Perez-Guerrero Trust Fund through the UNDP Pyongyang CO in DPRK were put for the project implementation.

On January 10, 2006, NCC and SAQM appointed a project coordinator and a project managers. A working group was formed with two advisors (collection and analysis of data), eleven trainers (for lectures and practices) and seven assistants, and began the activities according to the Work Plan.

SAQM conducted collection and analysis of problems in standardization and metrology of the beneficiary countries and prepared training schedule, lecture texts, reference materials, venues and facilities for lectures and practices.

Training schedule included 1-hour Introduction of Standardization and Metrology of DPR Korea, 30-minutes Korean science and education film, 15-hours lecture, 5-hours laboratory practice and 5-hours questions & answers and panel discussions. All materials were printed in Korean and

English languages and visualized on PowerPoint based presentations, which were distributed to all participants in papers and CDs.

Deep attention was paid to exchange of experiences and information of actual situation in every participating country and participants were provided floor to present their reports.

Mr. Kim In Ryong (coordinator) was authorized by NCC to supervise project activities and Mr. Kim Kyong Ho (manager) was authorized by SAQM to execute training workshop.

Trainers and assistants responsible for lectures were Mr. Hyon Kyong Ho (Dept. Head of NIS), Mrs. Hong Sok Chae (Dept. Head of NIS), Mr. Kim Song Tae (Dept. Head of NIS), Mr. Kim Tae Ryong (Expert of NIS), Mr. Kim Ryong Taek (Expert of NIS), Mr. Jon Chol Yong (Expert of NIS), Mr. Ju Ik Hyon (Expert of NIS), Mr. Choe Yong Chol (Dept. Head of CIM), Mr. Pak Jin (Dept. Head of CIM), Mr. Ko Hak Chol, (Dept. Head of CIM), Mr. Jin Kyong Man (Dept. Head of CIM)

The workshop took place on June 19~24, 2006 at the National Institute for Standardization (NIS) of SAQM and Central Institute of Metrology (CIM) of SAQM with participation of 15 trainees (1 from Uganda, 1 from Sudan, 1 from Nigeria, 1 from Ethiopia and 11 from DPR Korea). All the participants were provided with training stuffs.

All the participants visited the Kumsusan Memorial Palace to express their respect to President **Kim Il Sung**.

At the opening ceremony, Mr. Jo Chun Hui, Director-General of NIS, addressed opening speech and Mr. Kim Kyong Ho, manager, outlined workshop program. There was introduction of lecturers and participants.

Training course started with an outline on standardization and metrology activities of DPR Korea, and a telecast of Korean science and education film titled "Let's carry out standardization".

Lectures were given on "Standardization in general", "Method of Developing National Standard", "Method of Developing Company and Branch Standard", "Quality and Environmental Management", "Method of Adopting International Standard as National Standard", "Standardization based on ICT", "Article Numbering & Bar-coding System", "General Concept of Mass Measurement", "Weights and their Verification", "General Concept of Pressure Measurement", "Pressure Standard", "Basic Concept of Flow meter", "Verification Hierarchy of Flow Standard", "Measurement Unit and Verification Hierarchy".

There were laboratory practices on "Weighing Method of the Balance and the Process of its Result", "Industrial Manometer", "Verification Method of Liquid Flow by Standard Flow meter", "Structure and Verification Method of Fuel Dispenser" and "Verification Method of Deadweight Gauge".

The participants visited some laboratories of CIM such as "Mechanics Laboratory",

“Heat-temperature Laboratory”, “Length & Angle Laboratory”, “Electro-magnetism Laboratory”, “Flow Laboratory” and “Pressure Laboratory”.

At the closing ceremony, Mr. Kim Kyong Ho made the training wrap-up speech and granted certificates of participation to the “Training of Experts of Standardization and Metrology of Developing Countries” to all participants on behalf of SAQM.

A letter of thanks to H. E. Mr. **Kim Jong Il** initiated by African trainees was adopted unanimously by the participants.

Closing speech was delivered by Mr. Kim Kwang Ho, Director-General of CIM.

All the participants expressed their warm appreciation to H. E. Mr. **Kim Jong Il** and DPRK government for the great support and affirmed their will to disseminate and apply new techniques learned in the training course and their hope for consecutive South-South technical cooperation projects in the fields of standardization and metrology, which benefits developing countries, especially African countries.

### **3. Results of Project Implementation**

- 1) Affirmed is the need and means to improve standardization and metrology activities in developing countries.
- 2) Provided is the general basic technical data of standardization and metrology necessary for the beneficiary countries.
- 3) Provided is the methodological guidelines for drafting national standards and the metrological calibration guidelines of several sectors to be used in the beneficiary countries.
- 4) Provided is the methodology on the information system and its management in the fields of the standardization and metrology.
- 5) Provided is the method of developing metrological standards and for establishing measuring traceability system and the calibration process in several branches.
- 6) Established is a system of information and exchange on a regular basis of research results and experiences gained in the beneficiary countries
- 7) Four experts from beneficiary countries are trained and they have become able to manage standardization and metrology activities in their countries.

### **4. Conclusion**

The South-South cooperation based on the collective self-reliance is the most rational way for developing countries to improve their standardization and metrology activities by themselves to the international levels in these fields. The developing countries should try to enlarge the

numbers of their own experts and develop these activities in line with their specific conditions through the cooperation.

SAQM would like to extend its warm gratitude to Perez-Guerrero Trust Fund, the Group of 77 Developing Countries, NCC for UNDP (DPRK Government), Governments of participating countries, UNDP Pyongyang CO and all the participants for their support and contribution to the successful implementation of the project.

## 5. Bill

The fund of US\$ 34,827 from PGTF was spent for project implementation accountably as follows:

No	SPECIFICATION	COST (US\$)
1	PERSONNEL	
	Project Coordinator (1)	US\$500
	Project Manager (1)	US\$700
	Advisors (2)	US\$1,200
	Trainers (7)	US\$1,650
	Assistants (4)	US\$700
	Trainees (15)	US\$8,500
2	TRAVEL	US\$10,000
3	PLACES OF LECTURE/PRACTICE,	US\$2,800
4	MATERIALS, STATIONARY	US\$6,329
5	DATA PROCESSING	US\$1,000
6	DOCUMENTATION	US\$1,100
	TOTAL COST:	US\$ 34,479

On 22 March 2006 SAQM received US\$ 31,023 from UNDP Pyongyang CO, 90% of US\$ 34,479 along with its deduction of US\$ 348, 1% as a UNDP service fare from US\$ 34,827 which is the allocation from PGTF for project implementation. US\$ 3,482, the remaining 10% of US\$ 34,827 to be sent by UNDP Resident Representatives in DPRK right after receiving project final report, will be used by SAQM to pay for the services it has received for project implementation.

## ANNEX I.

### List of Participants at the” Training of Experts of Standardization and Metrology of Developing Countries”

#### 1. Trainees

Uganda (1 person)

- **Dr. Benezeeeri Musana Manyindo**, 51 yrs, Deputy Executive Director, Technical Operations, Uganda National Bureau of Standards

Sudan (1 person)

- **Mr. Yousif Ali Ahmed**, 57 yrs, Manager, Metrology & Calibration Administration, Sudanese Standards & Metrology Organization

Nigeria (1 person)

- **Mr. James Udobang**, 50 yrs, Head, Abuja Corporate Headquarters, Standards Organization of Nigeria

Ethiopia (1 person)

- **Mrs. Almaz Gobezie Metkia**, 54 yrs, Associate Standards Expert, Quality and Standard Authority of Ethiopia

DPR Korea (11 persons)

- **Mr. Pak Kwang Chol**, 35 yrs, Researcher of Metal Dept. of NIS, SAQM
- **Mr. Jong Song Nam**, 37 yrs, Researcher of Electricity & Automation Dept. of NIS, SAQM
- **Mrs. Han Kum Son**, 39 yrs, Researcher, Pyongan Prov. BO, NIS, SAQM
- **Mrs. Kim Won Hui**, 33yrs, Officer of Article Numbering & Bar-coding , North-Pyongan Pronv.BO, NIS, SAQM
- **Mr. Kang Yong Gil**, 35 yrs, Researcher of Methodology ,North-Hamgyong Prov.BO, NIS, SAQM
- **Mr. O Jong Hwan**, 45 yrs, Officer of International Standards ,South-Hamgyong Prov.BO, NIS, SAQM
- **Mrs. Jo Jong Hwa**, 27 yrs, Officer of International Standards ,Kangwon Prov. BO, NIS, SAQM
- **Mr. Kim Song Rim**, 28 yrs, Researcher of Information Dept. of CIM, SAQM
- **Mr. Pyon Kuk On**, 56 yrs, Researcher of Temperature, North-Hwanghae Prov.BO,

CIM, SAQM

- **Mr. Lee Yong Kun**, 49 yrs, Researcher of Length Measurement , South-Hwanghae Prov.BO. CIM, SAQM
- **Mr. Jong Un Kyo**, 49 yrs, Researcher of Physical & Chemical Measurement Ryangang Prov.BO, CIM, SAQM

## 2. List of Coordinator, Manager, Consultants and Trainers

Coordinator (1 person)

- **Mr. Kim In Ryong**, Senior Official of NCC for UNDP

Manager (1 person)

- **Mr. Kim Kyong Ho**, Chief-Executive of International Relations Dept., SAQM

Consultants (2 persons)

- **Mr. Kim Kwang Ho**, Director General of CIM, SAQM
- **Mr. Jo Chun Hui**, Director-General of NIS, SAQM

Trainers and assistants (11 persons)

- **Mr. Hyon Kyong Ho**, Head of Electricity & Automation Dept. of NIS, SAQM
- **Mrs. Hong Sok Chae**, Head of Article Numbering & Bar-coding Dept. of NIS, SAQM
- **Mr. Kim Song Tae**, Head of Database & Network Management Dept. of NIS, SAQM
- **Mr. Kim Tae Ryong**, Officer of International Standards Dept. of NIS, SAQM
- **Mr. Kim Ryong Taek**, Researcher of Metal Dept. of NIS, SAQM
- **Mr. Jon Chol Yong**, Officer of International Standards Dept. of NIS, SAQM
- **Mr. Ju Ik Hyon**, Researcher of Mechanical Dept. of NIS, SAQM
- **Mr. Choe Yong Chol**, Head of Flow meter Verification Dept. of CIM, SAQM
- **Mr. Pak Jin**, Head of Mechanical Measurement Dept. of CIM, SAQM
- **Mr. Ko Hak Chol**, Head of Flow Research Dept. of CIM, SAQM
- **Mr. Jin Kyong Man**, Head of Information Dept. of CIM, SAQM

## **ANNEX II.**

### **Titles of Lecture and Practice**

#### **1. Titles of Lectures**

- Standardization in general
- Method of Developing National Standard
- Method of Developing Company and Branch Standard
- Quality and Environmental Management
- Method of Adopting International Standard as National Standard
- Standardization based on ICT
- Article Numbering & Bar-coding System
- General Concept of Mass Measurement
- Weights and their Verification
- General Concept of Pressure Measurement
- Pressure Standard
- Basic Concept of Flow meter
- Verification Hierarchy of Flow Standard
- Measurement Unit and Verification Hierarchy

#### **2. Titles of Practices**

- Weighing Method and Result
- Industrial Manometer
- Verification Method of Liquid Flow by Standard Flow meter
- Structure and Verification Method of Fuel Dispenser
- Verification Method of Deadweight Gauge



