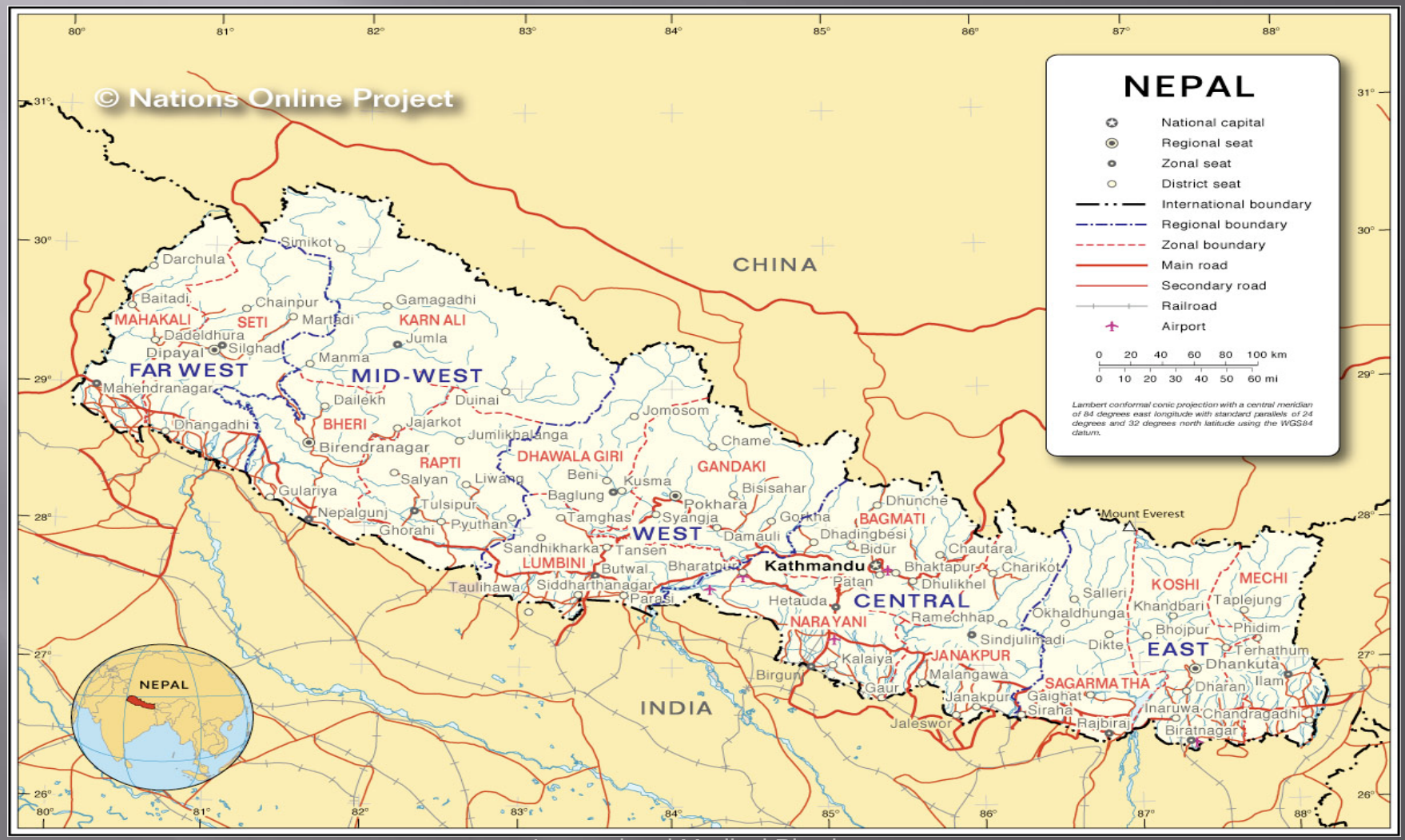
INTERNATIONAL MEDICAL PHYSICIST SYMPOSIUM : STATUS OF MEDICAL PHYSICISTS IN NEPAL

Presented by
Kanchan P. Adhikari
Medical Physicist & Radiation Safety Officer
National Academy of Medical Sciences, Bir Hospital
General Secretary
Nepalese Association of Medical Physicist (NAMP)
Kathmandu, Nepal.

Nepal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NEPAL
National capital
Regional seat
Zonal seat
District seat
International boundary
Regional boundary
Zonal boundary
Main road
Secondary road
Railroad
Airport
0 20 40 60 80 100 km
0 10 20 30 40 50 60 mi
Lambert conformal conic projection with a central meridian of 84 degrees east longitude with standard parallels of 24 degrees and 32 degrees north latitude using the WGS84 datum.
CHINA
INDIA
FAR WEST
MID-WEST
WEST
CENTRAL
EAST
MAHAKALI
SETI
KARN ALI
BHERI
RAPTI
DHAWALA GIRI
GANDAKI
LUMBINI
BAGMATI
NARAYANI
JANAKPUR
SAGARMATHA
KOSHI
MECHI
Kathmandu
Mount Everest
Simikot
Darchula
Baitadi
Chainpur
Gamagadhi
Martadi
Dadeldhura
Jumla
Dipayal
Silghadi
Manma
Mahendranagar
Dailekh
Duinai
Jomosom
Dhangadhi
Jajarkot
Jumlikhalanga
Chame
Birendranagar
Beni
Kusma
Bisisahar
Salyan
Liwang
Baglung
Pokhara
Gulariya
Tulsipur
Tamghas
Syangja
Gorkha
Dhunche
Nepalgunj
Pyuthan
Damauli
Dhadingbesi
Ghorahi
Sandhikharka
Tansen
Bidur
Chautara
Butwal
Bharatpur
Bhaktapur
Charikot
Taulihawa
Siddharthanagar
Parasi
Patan
Dhulikhel
Hetauda
Salleri
Ramechhap
Okhaldhunga
Khandbari
Taplejung
Bhojpur
Phidim
Sindjulimadi
Dikte
Terhathum
Kalaiya
Dhankuta
Birgunj
Malangawa
Gaur
Dharan
Ilam
Janakpur
Gaighat
Siraha
Inaruwa
Chandragadhi
Jaleswor
Rajbiraj
Biratnagar
NEPAL

Background

X-Ray machine was installed at Military hospital in 1923.

Bir Hospital started the first CT scan in Nepal in 1988. Nuclear Medicine was also established in the same year at Bir Hospital.

Radiotherapy unit with Tele Cobalt machine was established in 1991 at Bir Hospital.

Introduction

Newer modalities are being introduced in major hospitals. Small X-ray set-ups are also being established on a day-by-day basis. This quantitative increment may have a positive impact on the health service system of the country. However, the quality of service being delivered cannot be overlooked, especially when the subject is related to radiation.

Present Situation

Although the history of radiation practice is long, we still do not have a legislative body or any sort of radiation act to set standards of radiation protection and radiological activities.

There are no official records of the exact number of the operating radiological facilities, number and types of X-ray units, number of radiation workers and their qualification, the radiation safety measures and the working conditions of workplace are still unknown. No governmental organizations or private organizations have been keeping these statistics.

Radiological facilities In Nepal

Radiology:

- More than 30 CT Scanners
- 10 MRI Units
- 12 Mammography Units
- 11CR System
- More than 900 X/F Installations (Approximately)
- 1 Gamma Camera (SPECT). One under installation .

Radiotherapy:

- 4 Tele-Cobalt machines
- 3 Linear Accelerators
- 3 Simulators
- 3 High Dose Rate (HDR) Brachytherapy
- and 1 Orthovoltage

Professionals Organizations

Radiologists	105
Medical Physicists	7 (8)
Radiation Oncologists	10
Radiographer/Technologists	250
Nuclear medicine Physicians	1 (3)

Nepalese Association of Medical Physicists
Nepal Radiological Society
Nepal Radiologist's Association
Nuclear Society of Nepal
Nepal Radiological Technology Student's Society

The number of Medical Physicist working per million inhabitants:

	Total number	No. per million
Medical Physicist	**8**	**0.28**

As per the report of "Reviewing country and Regional Programmes RAS/0/057" from the IAEA fact-finding and programming mission to Nepal, Nepal should have at least 25 qualified Medical Physicist.

At present, there are only seven Medical Physicists working in radiotherapy and radiology in different hospitals.

Medical Physicists of Nepal

Medical Physics program is not available in Nepal. Almost all Medical Physicists working in Nepal have completed master of science in physics and are trained in different institution.

There are no established criteria to become a Medical Physicist in Nepal. Physics students from Tribhuvan University (TU) are doing their thesis in Medical Physics to obtain such position.

In 2009, Nepalese Association of Medical Physicist (NAMP) was established with all Medical Physicists working in Nepal.

The formation of International Board is essential for Physicists who are working in this underdeveloped country with limited resources.

How to proceed?

- Strengthening academic programs for Medical Physicist.
- Training and increasing opportunities.
- Providing better facilities to stop brain drain.
- Establishing Medical Physicist certification board.
- Recognition of role and responsibilities.
- Establishing guidelines to meet standards of all countries.

How can Nepal benefit?

Becoming a charter member of the International Medical Physics Certification Board will benefit underdeveloped country like Nepal in many ways.

Establishing standard medical physics programs will promote quality and enthusiasm to get involved into such under represented field to increase the number of Medical Physicists to help the region.

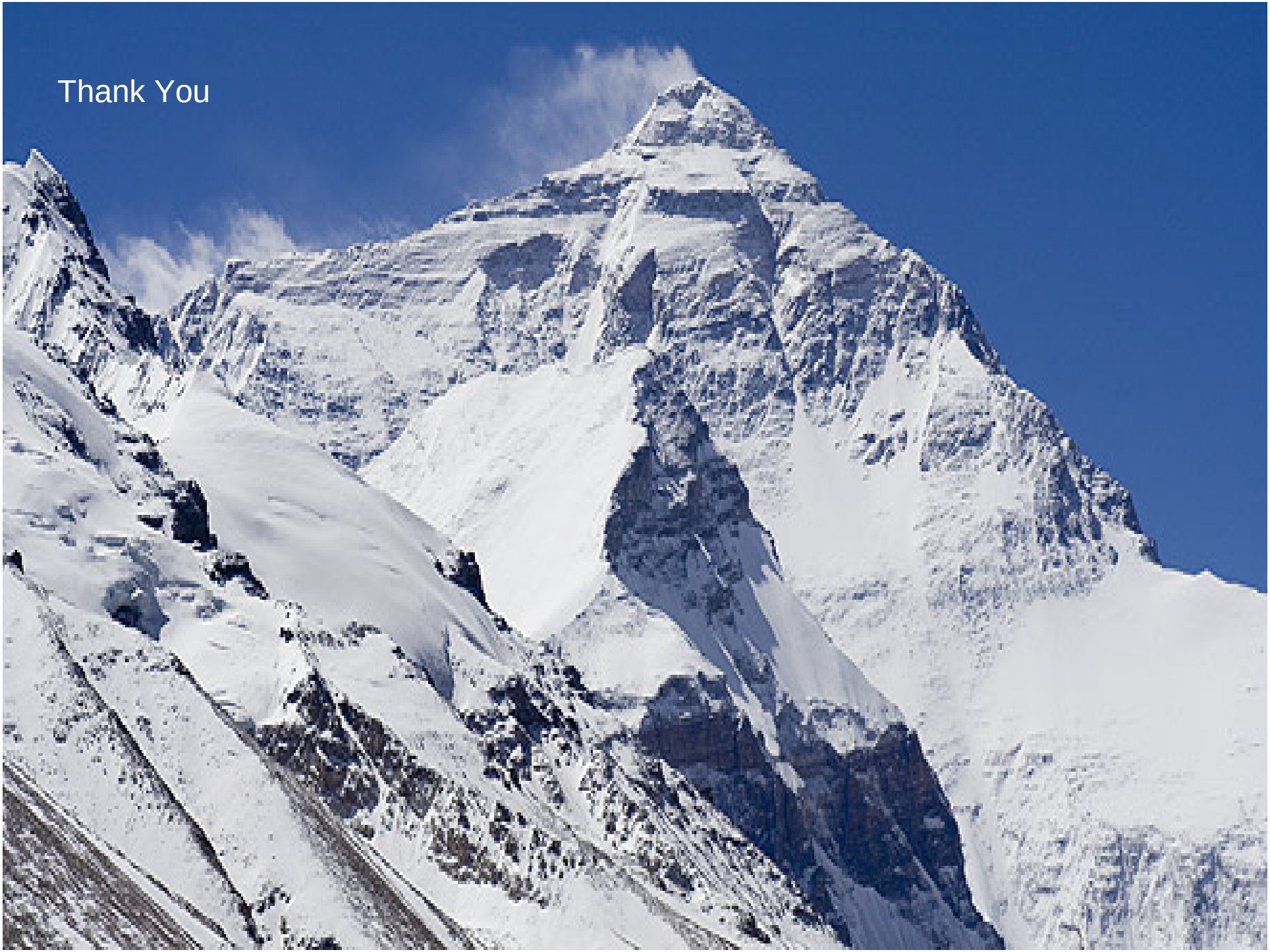
Conclusion

The need for Medical Physicist education system and certification board is must for Nepal to further strengthen the field. So are the rules, guidelines and standard that need to be succinctly formulated.

Recommendation

The NAMP is hereby recommended to take up the formulation of Radiation Safety Measures as a pilot project in Nepal so as to project the same as a model for other developing countries as well.

In view of the latest radiation damage caused by negligent waste disposal of Cobalt-60 (gamma irradiator) in New Delhi and the ongoing campaign of the US government to safeguard such materials for possible misuse, it should not at all be difficult to raise the required fund for a project to be modestly initiated as a professional contribution of its kind.


Thank You