

**IAEA NOBEL PRIZE SPECIAL EVENT FOR AFRICA:
WORKSHOP ON HUMAN RESOURCES DEVELOPMENT IN RADIATION
ONCOLOGY IN THE CONTEXT OF CANCER CONTROL PROGRAMMES**

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**OPENING REMARKS ON BEHALF OF THE INTERNATIONAL ATOMIC
ENERGY AGENCY**

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Excellencies,

Distinguished Guests, Dear Colleagues,

Ladies and Gentlemen,

You have listened to our Director General's substantive remarks on the opening of this special event organised by the Agency in cooperation with Government of South Africa within the framework of the Programme of Action for Cancer Therapy (PACT).

At the outset, I would like to express our deep appreciation to our hosts for the efforts in making this event possible and wish to extend IAEA gratitude to other organizations and partners taking part in this workshop. These include the World Health Organization (WHO) and its Regional Offices for Africa and the Eastern Mediterranean regions; the International Agency for Research on Cancer (IARC); the International Network for Cancer Treatment and Research (INCTR), the American Cancer Society, and the International Union against Cancer. My special thanks also go to the experts from several countries who will lecture this week, including Egypt, Germany, Ghana, South Africa, U.S.A., Tanzania, and Zimbabwe, and last but not least, all the distinguished representatives of African Member States who are participating and contributing to the programme.

I would like to take this opportunity to add thoughts on this PACT initiative in relation to the existing partnership between African Member States and the International Atomic Energy Agency under the Technical Cooperation (TC) Programme mechanism, which as you know is with verification and safety one of the three pillars of the IAEA.

Let me first in this regard refer to the statutory mandate of the IAEA (Article II of the Statute) to seek to "accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world". I wish to take a few minutes of your time to highlight the significance of PACT in connection with the IAEA TC Programme mechanism and share views with you on how the Agency work and the benefits derived by African Member States can be further enhanced with an increased impact through the synergies that we are developing between PACT and the TC Programme, and to stress as well the challenges ahead on our continent in the area of cancer management in the context of increased burden of this terrifying disease on Africa's societies and economies.

Ladies and Gentlemen,

Over two-thirds of all cancer deaths in the world occur in low and middle income countries. In Africa, cancer is already among the leading causes of mortality in several countries. Although we agree that cancer prevention is likely to be the most cost-effective solution in many low-resources countries, comprehensive cancer diagnosis and treatment, especially radiotherapy, remains a vital necessity. Cancer care services must be expanded and must become accessible and affordable for all. By achieving this, many lives can be saved and the quality of life improved for all patients with cancer.

It is a fact that radiotherapy is a valuable component of treatment for over 50% of cancer patients in high income countries. The need for radiotherapy is even greater in low and middle income countries, because of late stage cancers and the need for more palliative care using radiation. Of the 260 million accumulated cancer cases by 2020, there will be approximately 150 million in developing countries; 100 million of whom will need radiation treatment. An important proportion of these patients will be in Africa. However, with about 700,000 new cancer cases per year and the need for nearly 1000 radiotherapy machines, only about 200 exist in this region. Obviously, the existing infrastructure and resources are far from sufficient to respond to the steadily growing demand.

For over 25 years the IAEA has been a leading international organization providing developing Member States with radiation technology and training to diagnose, treat and palliate cancer. Through the TC programme, the IAEA has contributed nearly US \$160 million to cancer therapy in supporting efforts of its Member States around the world through procurement of radiotherapy equipment and provision of training and expertise. Currently, there are, under the TC mechanism, IAEA supported cancer related activities in the majority of Member States and over \$15 million are disbursed annually in the area of radiotherapy and nuclear medicine.

The objectives pursued in Africa by the IAEA are based on an in-depth analysis of the national and regional needs. To this effect, an effective planning tool called Country Programme Framework (CPF) is being utilised since its inception by the IAEA Board of Governors about 10 years ago, to define in Member States priority technical cooperation activities in accordance with Government development plans. The CPF mechanism has shown that over the past few years, the needs and priorities of African Member States in human health have evolved to cover new diagnostic and therapeutic methods and procedures and to accord an increasingly important place to cancer management in particular. This evolution occurred in most African countries with some variation in terms of specific health care problems, such as HIV-related cancers, malaria and TB. For example, many countries in Africa, with similar cancer incidences have provision for radiation therapy facilities, which range from good in a few countries to poor in most of the countries. Furthermore, local resources for the purchase of equipment and maintenance, quality control, training and retention of personnel are limited and frequently inappropriately applied as a result of poor management and/or administration. The evident increase in the incidences of cancers, such as cancers of the cervix, breast, head and neck, HIV-related cancers and lung, found most of the countries unprepared to tackle efficiently the problem. The realization by many countries that about 50% of patients in radiotherapy departments present with tumors of the cervix and breast, which means that the people who suffer are predominantly women in their most responsible and productive years, combined with lobbying actions by cancer and women associations, resulted in decision by many countries to expand their existing infrastructure or to establish new ones through assistance from the IAEA and other donors.

Modest as they are, achievements of the TC programme in Africa, mainly accomplished under the Agency supported AFRA regional cooperative intergovernmental arrangement, include the availability of harmonized training/education programmes in 8 African countries (medical physics, NM technologists, radiation oncology) and the establishment of networks, associations (AFROG) and partnerships (ESTRO, ISRO, OPEC Fund).

In terms of infrastructural capacity, during the period 2001-2005, 6 new radiotherapy and nuclear medicine centres have been established and operated for the first time with significant assistance from the TC programme. Furthermore, 42 already established centres in radiotherapy and nuclear medicine in 22 countries have been strengthened through modern equipment, additional training, better QA/QC programmes and maintenance schemes, hence improved care services to patients. As a result of this effort, an increase by 10-30 % in the number of treated cancer patients for curative and palliative purposes has been experienced in several countries.

Ladies and Gentlemen,

As you may be aware, following the award of the **2005 Nobel Peace Prize** to the IAEA and its Director General Dr Mohamed ElBaradei, the Agency established the Nobel Peace Prize Cancer and Nutrition Fund. This fund, which has brought us together today, will use the IAEA's share of the Nobel Prize to provide practical training in radiation oncology and cancer control in conjunction with the implementation of PACT.

My colleague, Massoud Samiei, Head, PACT Office, will have an opportunity later today to give you more details on PACT. Here I would provide a brief background summary.

PACT was established in 2004 by IAEA Member States with the desire to improve our ability to combat cancer. PACT is seeking to accelerate and expand further through synergies with the IAEA Technical Cooperation programme the vital support of the IAEA and its partners to Member State Governments' efforts in the fight against cancer.

As I mentioned earlier, the IAEA has over the last three decades provided US \$160 million of cancer-related assistance to low and middle income countries through its technical cooperation programme, an IAEA wide mechanism. Although this assistance has enabled many countries to establish safe and effective radiotherapy capabilities to provide higher quality treatment to at least a portion of their cancer patients, it is our firm belief that expanding radiotherapy access alone will not achieve maximum clinical or public health value without complementary human and institutional capacity building in cancer prevention, early detection and palliation.

To achieve maximum impact, the transfer of radiotherapy technology must therefore be a part of a broader cancer control strategy that includes prevention, early detection, earlier diagnosis of the common cancers and access to treatment and palliative care, as well as the education and training of cancer care professionals.

Ladies and Gentlemen,

PACT was created within the IAEA to advance cancer treatment capacity building in a manner which is complemented by – and integrated with -- other critical elements of cancer control in order to empower nations to deal with cancer comprehensively and

cost-effectively, and thereby to achieve maximal clinical and public health impact. PACT's primary goal is to enable low and middle income countries to introduce or expand existing infrastructure and capacity in radiotherapy, in a sustainable manner; and to improve or accelerate widespread access to effective radiotherapy services as an essential part of a multidisciplinary cancer care strategy.

It is gratifying to note that PACT has made good progress in building partnerships worldwide with leading cancer organizations, governmental and non-governmental, as well as the private sector. These partnerships are needed in order to have a realistic chance of raising the necessary funds to fight effectively the cancer epidemic. Through these partnerships, PACT is also seeking to develop the necessary strategies and the enabling conditions for cancer knowledge transfer and educational and training programmes. Development of regional strategies for the training of cancer care professionals is therefore central to PACT efforts.

Experience shows that the critical bottleneck to advancing cancer care capacity, whether in treatment or prevention, is training of staff in all areas of cancer control. Highly trained and motivated professional staff underpin all aspects of a comprehensive cancer control programme. PACT, through its partnerships with contributing IAEA Member States and some of the leading cancer control organizations worldwide, is looking to build capacity and long term support for continuous education and training of cancer care professionals, as well as for community based civil society action to combat cancer.

In order to achieve this, *Regional Cancer Training Networks* will be developed to complement IAEA's current programmes. To date, most IAEA-sponsored training of new radiotherapy professionals has taken place in foreign countries. Despite significant success, this involves huge expense and dislocation for the trainees. The *Regional Cancer Training Networks* are designed to accommodate trainees regionally, using modern information technology tools. These tools will help create a *Regional Virtual Cancer Control University* and mentorship programme, tapping into the experience and expertise of the major cancer control and care organisations worldwide.

Ladies and Gentlemen,

Let me now turn to the challenges ahead that need to be addressed through continued commitment by Governments and international organisations, including the IAEA, and active partnership among all concerned. In this regard, I would like to stress some facts and trends:

1. Radiation therapy is gaining recognition by the majority of African countries.
2. When planned and coordinated, within the context of national cancer control strategies, with investments in cancer control made by national governmental and non-governmental bodies and other international organizations, Agency-supported cancer related activities can lead to considerably increased benefits to developing Member States.
3. Cancer in general and HIV-related cancers in particular are witnessing a dramatic increase, particularly in Africa and Asia and therefore a consolidated approach should be put in place to tackle this problem more effectively in collaboration with potential partners such as WHO and UNAIDS,

4. Ensuring timely access to high-quality radiotherapy for the treatment of cancer is a world wide problem. In the developing Member States, in addition to the severe shortage of qualified professionals there is also an enormous deficit of equipment for teletherapy, brachytherapy and quality assurance.

There is general agreement among Member States that a comprehensive strategy needs to be developed and implemented in order to strengthen national programmes for cancer control and to enable health institutions in developing countries to integrate radiotherapy into national comprehensive cancer control programmes, thereby improving cancer care capability and maximizing therapeutic effectiveness and impact. The attainment of this objective by Member States will require concerted actions and effective support and commitment by partners and alliances in the field of cancer care, including provision of technological inputs and substantial resources. PACT seeks to play a crucial and central role in implementing this strategy.

In this regard, PACT has already engaged consultations with national ministries, as well as policy, regulatory and research institutes in both industrialized and developing countries. Training of trainers, promoting South-South cooperation and conducting many of the key activities at global, regional or sub-regional levels will be key features of the implementation strategy, thereby increasing cost-effectiveness and efficiency. Integrated missions of PACT (*ImPACT* missions) already visited some African countries and there are plans being developed to make of Africa the predominant beneficiary of PACT.

As I mentioned earlier, a major challenge is the severe shortage of qualified professionals in the area of cancer management. This 5-day Special Event, organised in cooperation with the Government of South Africa and a number of regional and international organizations, is the appropriate forum to brainstorm and address the issue of human resources development in radiation oncology and to lay solid grounds for an enhanced approach in the Africa region based on PACT *Regional Cancer Training Networks* which aim at promoting comprehensive and multidisciplinary training covering all relevant cancer control professionals needed for an effective and sustainable cancer control programme. This Special Event includes modules on the following topics:

- Comprehensive cancer control
- Education and training: assessment of African needs and demands
- Clinical research
- Evidence-based radiation oncology
- Emerging technologies in radiation oncology

I am confident that the Special Event will mark the beginning of a new era of regional and international cooperation for joint programme development in combating cancer in the Africa region. We have a very real opportunity to improve the lives of large numbers of the citizens in our countries. We can also save thousands of lives if we put together the tools, the knowledge and the political will to fight cancer effectively. I wish to reiterate the strong determination of the Agency to contribute to achieving our common goal. The IAEA will not spare any effort and is fully committed to this endeavour. We want to succeed together. We hope and trust that we will.

I wish you very fruitful deliberations, as well as a pleasant stay in this beautiful country.

Thank you for your attention.