SUSTAINABILITY OF RADIOTHERAPY IN LOW- AND MIDDLE-INCOME COUNTRIES

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DEFINITION OF SUSTAINABILITY

SUSTAINABILITY (noun)
1. The ability to be maintained at a certain rate or level

SUSTAINABLE (adjective)
1. Capable of being sustained
2. [...] using a resource so that the resource is not depleted or permanently damaged

SUSTAIN (transitive verb)
1. To give support or relief to
2. To supply with sustenance
3. Keep up, prolong

https://www.merriam-webster.com
SUSTAINABILITY IN THE DEVELOPMENT AGENDA

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

It contains within it two key concepts:

• The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given.

• The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

SUSTAINABILITY IN THE DEVELOPMENT AGENDA

1980
World Commission on Environment and Development (Bruntland Commission)

1990
UN Conference on Environment and Development (Rio Declaration)

2000
World Summit on Sustainable Development
United Nations Millennium Declaration (MDGs)

2010
The 2030 Agenda for Sustainable Development (SDGs)

2020
By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
RADIOTherapy in Africa

21 countries with RT in 1995

23 countries with RT in 2017

60 Years of Megavoltage Radiotherapy in Africa

Historical mean = 0.1 MV unit per million population
60 YEARS OF MEGAVOLTAGE RADIOTHERAPY IN AFRICA

Historical mean = 0,1 MV unit per million population

0.25 MV units per million population (1 MV unit serves 4 million), in contrast with HIC with 5 MV units per million (2000% difference)
RADIOTHERAPY IN AFRICA

21 countries with RT in 1995

23 countries with RT in 2017

60 YEARS OF MEGAVOLTAGE RADIOTHERAPY IN AFRICA

Historical mean = 0,1 MV unit per million population

Projections for 2030 show a slow pace of growth for the continent
RADIOTHERAPY IN AFRICA
TIME-SERIES ANALYSIS (ARIMA)

Effect of population growth and machine breakdown

MV/million

History 2015 Forecast
RADIOTHERAPY IN AFRICA
TIME-SERIES ANALYSIS (ARIMA)

Effect of expansion of radiotherapy programmes

MV/million

History 2015 Forecast
SUSTAINABILITY FACTORS

Contextual factors
- Natural disasters
- Political factors
- Socio-cultural factors
- Economic factors
- Private sector strength
- Implementing institution
- Donor coordination
- National commitment

Programme factors
- Leadership
- Financing
- Project design
- Training
- Technical assistance
- Appropriate technology
- Community participation
- Project effectiveness
SUSTAINABILITY FRAMEWORK

ENVIRONMENTAL SUPPORT
- Having a supportive internal and external climate for your program

FUNDING STABILITY
- Establishing a consistent financial base for your program

PARTNERSHIPS
- Cultivating connections between your program and its stakeholders

ORGANIZATIONAL CAPACITY
- Having the internal support and resources needed to effectively manage your program

PROGRAM EVALUATION
- Assessing your program to inform planning and document results

PROGRAM ADAPTATION
- Taking actions that adapt your program to ensure its ongoing effectiveness

COMMUNICATIONS
- Strategic communication with stakeholders and the public about your program

STRATEGIC PLANNING
- Using processes that guide your program’s direction, goals, and strategies

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If you would like more information about the framework or our Program Sustainability Assessment Tool, visit: https://sustaintool.org  Aug 2013.
CONCLUSIONS

• Sustainability accounts for present and future needs

• Population growth has a big impact on sustainability of RT programmes

• National RT programmes require constant expansion to be sustainable

• Planning is needed to assure sustainability of national RT programmes

• Alignment of the different components (equipment, HHRR, quality)