

Chapter 6

Sustainable Development

ABSTRACT

Sustainable development works within the ecosystems of the planet to conserve and replenish renewable clean energy sources. The most widely used definition of sustainable development was written by Norway's Prime Minister in her 1987 Brundtland Report to the United Nations: it must meet the needs of the present without compromising the ability of future generations to meet their own needs. The United Nations has adopted 17 Sustainable Development Goals, to be achieved by 2030; they include the eradication of poverty and hunger, provision of clean water and sanitation for all, achievement of gender equality, elimination of health disparities, access to quality education, promotion of economic prosperity, use of affordable clean energy sources, and good health and well-being for all. Proper disposal of hazardous waste and effective disaster risk management help to facilitate these goals. This chapter will discuss several new technologies employed in sustainable development.

INTRODUCTION

In 1987, the Chair of the World Commission on Environment and Development, Gro Harlem Brundtland, the Prime Minister of Norway, presented the commission's report to the United Nations. This landmark report was the result of four years of work by the World Commission. In 1983, the Secretary-General of the United Nations had charged the World Commission to accomplish the following: 1) propose long-term environmental strategies for achieving sustainable development; 2) foster greater co-operation on

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environmental concerns among developing countries and between countries at different stages of economic and social development; 3) consider how the international community could deal more effectively with environment concerns; and 4) define shared perceptions of long-term environmental issues and the appropriate efforts needed to deal successfully with the problems of protecting and enhancing the environment (Brundtland, 1987).

The Brundtland report set forth the following definition of sustainable development:

- Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987, Chairman's Foreward).

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 (Brundtland, 1987, Chairman's Foreward).

In Part IV of the Brundtland Report, *A Call to Action*, the World Commission compared humans' journeying into outer space in the 20th century to the Copernican revolution, which changed human thinking about the place of our planet in the universe; people understood that the earth circled the sun, not the reverse. Viewing earth from outer space, human activity is not visible; rather, what is seen is a pattern of clouds, oceans, greenery, and soils on a small fragile ball. The Brundtland Report (1987, p. 11) warned of the dangers created by human disregard of the earth's ecosystems:

Humanity's inability to fit its activities into that pattern is changing planetary systems, fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognized - and managed.

On September 15, 2015, the United Nations countries adopted the following 17 sustainable development goals to end poverty, protect the earth, and ensure prosperity for all people, with specific targets to be achieved by 2030:

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