

Range Management in the Context of Agenda 21

Samira A.S. Omar

The 1992 Earth Summit held at Rio de Janeiro was an unprecedented event. It focussed the world's attention on global issues that are critical and adopted a global plan of action, Agenda 21, to address those issues. Thousands of people from governmental, non-governmental organizations, businesses, education, women's groups, indigenous groups and others contributed to the Rio process. Agenda 21 is developed as a blueprint on how to make development socially, economically, and environmentally sustainable. It is a guide for business and government policies and for personal choices into the next century.

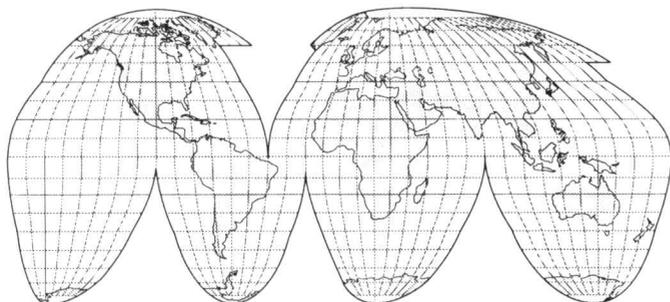
tions and others). Range scientists and managers alike need to become more aware of the global concerns towards the status of the earth, participate in global decision making, and orient the range discipline towards achieving Agenda 21 objectives.

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There are four main sections in Agenda 21. The four sections are related to the following: (1) Social and Economic Dimensions, (2) Conservation and Management of Resources, (3) Strengthening the Role of Major Groups, (4) Means of Implementations. Each section is divided into chapters, the first section has eight chapters that deal with international cooperation, combating poverty, changing consumption patterns, population and sustainability, protecting and promoting human health, sustainable human settlements, and making decisions for sustainable developments. The second section consists of 14 chapters: protecting the atmosphere, managing land sustainability, combating deforestation, combating desertification and drought, sustainable mountain development, sustainable agriculture and rural development, conservation of biological diversity, management of biotechnology, protecting and managing the oceans, protecting and managing fresh water, safer use of toxic chemicals, and managing hazardous wastes, managing solid wastes and sewage, managing radioactive wastes. The fourth section consists of 10 chapters: preamble to strengthening the role of major groups, women in sustainable development, children and youth in sustainable development, strengthening the role of indigenous people,

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In this article, issues and concepts established in Agenda 21 are compared and related to Range Management as art and science, considering the fact that both emphasize sustainable development of resources for the benefit of nature and humankind. The objective of this undertaking is to focus on certain issues that Agenda 21 call upon, issues that maybe already integrated in range management discipline but their achievements may have been hindered and their impacts were less tangible.

The world's concerns are about the status of the earth and the need of action plan to improve and sustain resources towards the 21st century. The UN is advocating issues such as poverty, conservation of resources, participation of sectors in decision making, and building up nations capacity (infrastructure, human resources, institu-

partnership with NGOs, local authorities, workers and trade unions, business and industry, scientists and technologists, and strengthening the role of farmers. The last section includes the following

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chapters: financing sustainable development, technology transfer, science for sustainable development, education; training and public awareness, creating capacity for sustainable development, international law and information for decision making.

Sustainable Development

The issue of sustainability has been given considerable and increasing attention in all spheres of life and in most countries of this planet. The meaning of sustainability has been defined in many shades and from very diverse vantage points. In the agricultural system, sustainability is defined as the capacity of production systems to ensure adequate standards of living, and acceptable quality of life for their participants and reasonable returns to capital investment, always keeping pace with the able to adjust to changing circumstances and realistic production demands; without irreversible loss or serious reduction of the natural productive resources or their inherent or developed long-term productivity; and without serious damage to natural resources and environment and/or agricultural produce or by-products. In other words, sustainable agriculture is a system that improves in a sustainable and enduring way that underlying productivity of natural resources and cropping patterns so that farmers can meet increasing levels of demand in concert with population and economic growth as well as pressing environmental necessities. It is important to remember that behind the above definitions stands the urgency to maintain and improve the earth's biological resources base allowing long-term survival of the human race with more hope for equity and physical well-being.

What can range management specialists do?

Range management is described as "the science and art of optimizing the returns from rangelands in those combinations most desired by and suitable to society through the manipulation of range ecosystems" (Stodart et al. 1975). Hence, the essence of range management is to protect, improve, and continue the welfare of range resources (soil, vegetation, and animals) and to optimize production of goods and services needed by people. Range management addressed the issues of sustainability decades ago, environmental aspect, social aspects and technology and development aspects are within the theme of range management and also within the context of Agenda 21.

Much has been accomplished in the past by range management specialist, rangelands in the USA, Australia, Europe, Canada, and most of the developed countries

enjoyed relatively better management practices than those in developing or the least developed countries. The world's driven attention to improve the welfare and physical being of humanities

especially in the poor and less developed countries brings more concerns about what should be done to improve the status of rangelands in these countries. Poverty, climatic changes, urbanization, desertification, are all affecting the rangelands in the world alike. The role and expertise of the range management specialist should be emphasized and integrated into a more collaborative and global oriented program. Community participation (e.g., women, youth, indigenous people, institutions, NGOs, etc.) should be encouraged at the global level. While it is true that women range scientists do exist in the Society of Range Management, however, they are scarce and their contribution is limited. Moreover, women in developing countries play an important role in herding livestock and controlling production (e.g., milk, meat, and wool) and, hence, their role should be more emphasized and supported by the international range community. Likewise, the role of NGOs is not emphasized as important to sustainable rangeland development. To my knowledge, there are few range management societies in the world so why not encourage the establishment of more NGOs that can participate in making decisions about the use of resources that may directly affect their lives.

Environmental issues (climatic changes, ozone layer, green house effect, etc.) should be assessed and evaluated in support to Agenda 21. Furthermore, the problem of desertification is another aspect that should be dealt with more seriously by the range management society. Desertification is the process of land degradation caused by variations in climate and by human impact. It particularly affects dry rangelands that are already ecologically fragile. The most obvious impacts of desertification are the degradation of grazing lands, and a decline in goods and values production. The results of drought and desertification include poverty and starvation that was most significant in the sub-Saharan Africa (due to droughts in the 1980s). The problem was described by the UN as large, 70% of all the world's rangelands (3.6 billion hectares) are already affected by degradation. The international Range Management Congress convened a conference in 1995. The desertification problem was addressed and within the theme of the program. It is hoped that specific recommendation will be issued to improve conditions of deteriorated ecosystems especially in the least developed countries. The Society of Range Management should broaden its participation in the global issues and should play an important role in achieving the objectives in Agenda 21.