Range Management in International Development: Past, Present, and Future

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Foreign Assistance Past

Foreign assistance, in its current form, began in January 1949 with the proposal in President Harry Truman's inaugural address for the U.S. to initiate a program to fight the timeless enemies of man—hunger, ignorance, and disease (Wennergren et al. 1989). Thus began the concept of bilateral cooperation for development instead of profit.

The concept was popular, becoming part of the programs of the United Nations, the Organization of American States and the World Bank. These programs have evolved into the UN Development Program, Interamerican Development Bank, African Development Bank, Asian Development Bank, and AID. Because of the importance of rangeland resources to many developing countries, the range management profession was involved from the beginning.

During the 1950's, the U.S. engaged in foreign assistance programs primarily through Land-Grant Universities. This was an era of technology transfer, focusing on agriculture, human health, and education. It was a period of great optimism and enthusiasm as we brought our range principles and practices to the developing world. Unfortunately, this unbridled idealism clouded the reality that our Western technology had little relevance to most developing nations, and we floundered trying to introduce concepts that worked so well in the U.S. However, these development efforts found some eager young minds, trained them in the Western image, and began to develop the local institutions needed for coping with the problems at hand.

The decade of the 60's saw the economists turn their energies to the developing world. Development moved from programs that concentrated on people and technology transfer to capital intensive infrastructural programs, including dam construction, irrigation projects, transportation systems, and universities. Range professionals were seen around the world strengthening training and research organizations.

This was a time when macro-economic theory was king. Nobody stopped to think that these theories had found success in rebuilding Europe and Japan primarily because of the cultural mindset, experience, and industrial heritage of these countries rather than the cleverness of the concept. Capital was the primary element lacking in Europe and Japan for reconstruction, and the massive capital transfer of the Marshall Plan met with great success. The problems were more complex in the developing world.

There were successes in development during the 60's if one measures it in bricks and mortar, but poverty and hunger simply would not go away. Large capital intensive projects did not solve the problems associated with being poor. Capital played a role, but it became increasingly clear that the way people went about the business of feeding themselves, using and conserving the natural resources base, and marketing their products was also important. There was a renewed interest in technology transfer and extension, practices of the 1950's. Special programs were begun to slow the growth of human population; and with the "New Directions" mandate of the U.S. Congress, increased attention was given to benefit flow and the small farmer in the production system.

The fourth decade of bilateral assistance saw the ascension of special emphasis. One such emphasis was privatization. Wherever and whenever possible, institutions that had been developed during the 1960's and 70's were pushed toward privatization to put them on a profitable basis and cut the drain on local budgets. This decade also saw women's issues and environmental concerns gain importance in development commensurate with increased interest in these issues in industrial countries.

There were also some important changes in the "science of development." We began to see that concepts, principles, and practices developed and tested in one context could not simply be injected into another. New journals devoted to the literature of rural and international development were established. A cadre of specialists combining long foreign assistance experience and professional training emerged, whose publications resulted in a better conceptual understanding of the development process.

Foreign Assistance Present

Today we employ the techniques and theories developed during the 80's. To inventory and monitor resources and production systems, there are now tools such as the "rapid rural appraisal" systems of Chambers (1981) and Honadle (1982). The nature of local institutions and their role in development is much better understood (i.e., Moris 1976, 1981). Methodologies conceived and tested for planning and implementing development strategies are common (Gay and Bartel 1986, Kettinering 1984).

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Approaches such as "farming systems research" for making agricultural information relevant and appropriate to the producers are widely used and studied (CIMMYT 1980). Many range professionals working in developing nations read sociology/anthropology literature, such as Fisher (1988), concerning the role of culture and perception on successful intervention and technology transfer.

Despite these and other newly developed tools and techniques, desertification and rangeland degradation, whether from livestock or human pressure, continue to be major international rangeland issues. Many range management professionals are alarmed by the conversion of marginal lands to cropping and have recommended that these lands be returned to range. Rapid increases in human population within the past 30 years have been a major contributing factor to this problem. More than 20% of the earth (inhabited by 80 million people) is at risk of being degraded to a point where desertification will occur (Granger 1982). One major concern is whether or not a return to productive range is feasible in developing societies faced with poverty, severe population pressure, and an increasing threat of starvation.

Range scientists are combining their skills with sociologists' in search of tractable answers to problems facing pastoral societies and the world's rangelands. Unfortunately, past range livestock projects have suffered four decades of disappointing performance. We have been scrambling to explain ourselves to the donor agencies and to ourselves. This has forced us to take a hard look at the way we have been doing business.

For example, in 1986, a group, including a large number of SRM members with considerable overseas development experience, spent two days brainstorming the reasons for range livestock project failure. Of the 32 reasons listed and prioritized, none mentioned inadequate technology as a possibility. Only four years later, we are questioning the appropriateness of Western range management technology in developing contexts. As Walt Kelly's Pogo said, "We have seen the enemy and he is us."

Foreign Assistance Future

This critical self-examination has led to a realization that we have been trapped by our own paradigms. We assumed the paradigms on which range management has been based could be applied anywhere, anytime. We now know that this is not true. The range profession must discern between "range science", with principles of universal application, and "range management", which uses these principles to develop tools and techniques to manage range resources within a local context.

Range management was developed and has been successfully applied in just a few similar environments: the Western U.S., Canada, Australia, and New Zealand, and on commercial ranches in Southern Africa and Latin America. These systems have similar objectives (commercial meat and fiber production) and similar livestock (cattle and sheep). They all have single user land tenure systems and use fenced pastures. They all operate in environments with well developed support infrastructures for transportation, communication, marketing, research, and education. Furthermore, the producers in these systems generally share a Northern European cultural heritage. Because they are so similar, when viewed on a global scale, these systems present a single normative context for range management.

Rangeland production systems in developing countries tend to differ radically from this normative context. The main objectives are human survival, milk production, and livestock accumulation. Other livestock, such as goats and camels, are important components of the system. Grazing resources are communal and livestock are herded. The support infrastructure is poorly developed, isolating these production systems and reducing the effectiveness of government development efforts.

The standard paradigms and models of range management are appropriate for the normative context, but decades of failure indicate that they can not be simply transferred to non-normative contexts. Range management, like any management, is context dependent and must be highly adapted to local conditions. In the past, range management has been imposed on developing nations with little understanding or appreciation of the local environment. This is due in part to project cycles that limit an acquisition of knowledge of local conditions and in part to a disciplinary mindset within range management that saw our paradigms as universally applicable. We must develop an understanding of local contexts and work with producers to identify appropriate management systems.

One of the constraints to developing appropriate range management innovations for production systems in developing nations is the lack of a theoretical understanding of how to best manage rangeland resources in nonnormative situations, such as herded livestock or communal land. When livestock are herded, the producer's ability to control grazing factors, such as intensity, frequency, distribution, selectivity, etc., is greatly enhanced. When land is communal, a household has more land available than it can use and has greater mobility. Studies are needed to develop both a theoretical and empirical understanding of management of range resources under such conditions.

The work in Africa by Ellis and Swift (1988) illustrate these changes in our approach to range development. Range development professionals have assumed that African pastoral ecosystems were in equilibrium and stable, and that disruption and degradation occurs from overstocking and overgrazing. Development projects were concerned with restoration of the equilibrium condition, which was considered the most productive state. Their research indicates that some systems are, in fact, nonequilibrium but persistent, mostly affected by abiotic factors rather than biotic. They found that development practices that enhanced the traditional pastoral practices were more appropriate for such ecosystems than those practices based on standard range management paradigms.

This type of "holistic" or "systems" approach to range management appears to be the methodology of choice for the near future. We cannot simply begin implementation of programs and practices based on inadequate information concerning how the production system works. We might see the major donor agencies shift to preproject studies of one or two years to develop this information. This data will provide the basis for identifying producer needs; technical, social, and political constraints and opportunities; and areas for development focus.

Recent attention given sustainable agriculture by international organizations provides hope for the world's besieged rangelands and the marginal cropland associated with them. Recently, the Administrator for the Agency for International Development (AID) sent a cable worldwide on sustainable agriculture with suggested guidelines for addressing the sustainability issue. Sustainable agriculture was defined as a "management system for renewable natural resources that provides food, income and livelihood for present and future generations and that maintains or improves the economic productivity and ecosystem services of these resources."

AID expects that consideration of sustainable agriculture will require changes in operational procedures. These may include the previously described requirement to gather information on socio-economic and biophysical environments as key inputs to project design. Time horizons for development programs might be expanded from the standard five years to ten to twenty years. AID will emphasize renewable natural resources, productivity, economic growth, participation of local farmers, and understanding of the resource base, diversity in species, and the importance of the disciplines of agroecology and systems analysis. Practices that cycle nutrients, fix nitrogen, maintain soil organic content, and structure and control pests biologically will be encouraged.

AID missions are shifting emphasis from agricultural production projects to the development of agricultural policy at the national level. Under these policy programs, AID seeks to gather sufficient biological and economic information to advise national governments on the creation of policies that encourage growth in the agricultural sector. The importance of rangeland for providing increased agricultural returns on a sustained basis needs to be well understood by the policy makers.

While this new thinking in our approach to range development has been evolving, foreign assistance programs and projects have been quietly training hundreds of high quality range professionals who have returned to their respective countries to pick up the torch. There is a need to make this training more relevant and to assist these professionals to keep abreast of developments in the discipline. However, the placement of these professionals in positions of research, teaching, extension and program administration will advance the development of range management practices appropriate for local contexts.

The numerous foreign range professionals are demanding a more collaborative approach. The AID sponsored Small Ruminant Collaborative Research Support Project provides a model for fostering such collaboration and the experience of the institutions involved has been generally rewarding. The Society's "Country Contact" program speaks to the desire of range professionals worldwide to communicate with other professionals.

The days of the "U.S. expert" are over. It is now estimated that 92 percent of the world's agricultural expertise is a native of some country other than the U.S. residing and working in his/her homeland (presentation by Jim Henson, 1990). We can take pride in the fact that we trained most of them and helped create many of the institutions where they work, and enjoy the opportunity to work with them as full partners.

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