

Australia's Foreign Assistance Programs Contributing to Rangeland Production

V.R. Squires

Editor's Note: This interesting article tells something about the Foreign Assistance programs of Australia.

Australia has developed in less than 200 years from a land without agriculture to a leading world producer of food, natural fibres, and livestock, an achievement made against severe climatic and environmental difficulties. Few of the world's greatest agricultural countries had a less promising start than Australia—in the beginning its only real assets were virtually unlimited land and a few hardy and resourceful people to work it. Today Australia is the world's largest exporter of wool, the largest exporter by quantity and the second largest by value of meat, and the third largest exporter of wheat.

Numerous countries are now building stable, productive, and profitable systems with the help of Australia's agricultural industries, which offer a wide range of expert services. Australian farming equipment, technology, and expertise are exported to many countries including many developing countries in Asia, Africa, and South America which have similar terrains and climates to those in Australia.

Australia is already contributing to agricultural technology in arid areas of developing countries such as Nigeria, Libya, Algeria, Sudan, Iran, Egypt, Ethiopia, Somalia, Yemen Arab Republic, Iraq, India, and China and to the tropical regions of south east Asia. Australian consultants are applying their expertise and experience in rangeland assessment, regeneration studies, drought strategy development, grazing systems, water catchment management, aquifer development, water drilling, animal breeding, animal behaviour, pre-investment studies, and infra-structure requirements.

Foreign Aid

Australia's development assistance program is directed towards promoting the economic and social advancement of developing countries, particularly in Asia and the Pacific. It aims to meet the expressed needs of these countries and is directed towards key activities in their economies. All of Australia's aid is given on grant terms and a significant proportion is untied. About 80 countries receive assistance but Australia's aid is principally directed at assisting its nearest neighbours—Papua New Guinea, the South Pacific Region, and southeast Asian nations (ASEAN). In 1981-82 Australia spent \$662 million on official development assistance, more than \$100 million above the 1980-81 amount.

Aid is in 3 broad categories: (a) bilateral, (b) multilateral, and (c) nongovernment.

Bilateral Aid Programs

Australia's total bilateral aid is about \$520 million and of this sum about 40% is devoted to education and training. It is difficult to separate out, in any meaningful fashion, the distinction between the aid which is primarily agricultural (as in crops) and that which is aimed at rangeland production. In some regions the aid involves transfer of technology which aims to replace existing degraded vegetation types with sown pastures. Papua-New Guinea is the biggest single recipient of Australian aid.

Most of Australia's bilateral aid to countries other than Papua New Guinea is for specific development activities undertaken by the developing countries. These range from large scale regional development programs to simple facilities in villages. As of July 1, 1982, Australia was involved in 323 projects in 35 countries. Most of the projects involve infra-structure development work, agricultural improvements through crop and livestock research, as well as practical extension work. In recent years Australia has become increasingly involved in large-scale integrated rural development programs designed to bring about balanced growth in whole regions.

Multilateral Aid

Australia contributes to several international organizations and financial institutions concerned with aid to developing countries. They include the World Bank Group, Asian Development Bank, United Nations Development Program (UNDP), and other UN agencies, International Fund for Technical co-operation, Economic and Social Commission for Asia and the South Pacific, South Pacific Bureau for Economic Co-operation, South Pacific Commission and various other international science, technology, and research centres. Support for these bodies provides Australia with an opportunity to participate in major development projects which are beyond the resources of individual donors. Contributions to multi-national aid in 1981-82 were in the order of \$140 million.

A recent initiative in Australia has been to set up the Australian Centre for International Agricultural Research (ACIAR). The centre will contract research to existing institutions in agriculture and related disciplines for the benefit of developing countries. When appropriate, research work will be carried out in developing countries and opportunities sought to involve research and extension workers from these countries.

Nongovernment Aid

Nongovernment organizations also make an important contribution. The principal ones are the long-running Aus-

The author is Dean of the Faculty of Natural Resources, Roseworthy Agricultural College, Roseworthy, South Australia 5371.

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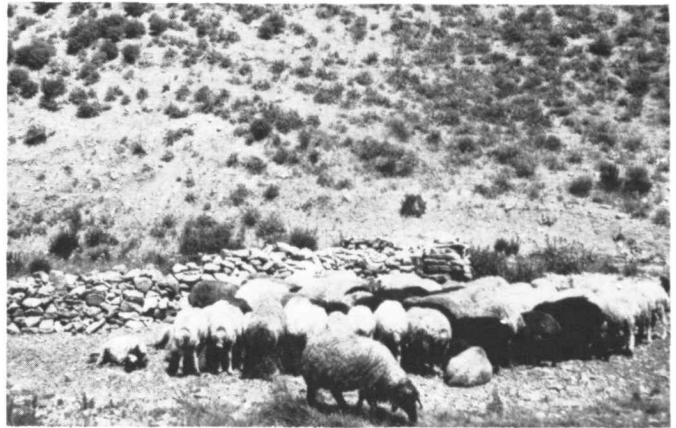
tralian Volunteers Abroad, the Australian Executive Service Overseas Program, and of course the private consultant firms.

Australian expertise has found its way into the market place on the international consulting front. This has been either through engaging individuals for work in agencies such as FAO or UNDP or more recently through successful bidding by Australian firms for development contracts.

Several important private companies operate out of Australia. They have projects in South America, South east Asia, and in North Africa and the Middle East. More recently the trend has been for Overseas Projects Divisions to be set up within the various Departments of Agriculture within Australia. The Government of Western Australia has had successful projects on dryland farming and rangeland integration in Libya, Tunisia, and Iraq. The South Australian Government has projects in Algeria, Iraq, Jordan and is about to begin work in Tunisia. The *modus operandi* is that these international Divisions within the Agriculture Departments of the various Australia States are manned by a small co-ordinating staff. They then second officers of the Department to overseas projects and/or recruit staff for fixed contracts from universities and elsewhere.

My own involvement in foreign aid projects has been limited to 2 main employers. In the first instance I worked as a consultant range ecologist in Iran with a private company which was Australian. The team was a multi-disciplinary one with engineers, ecologists, sociologists, horticulturalists, soil erosion specialists, and economists. The task was to develop a management plan for an 80,000-ha catchment in the 3,000 metre high Alborz mountains of Iran.

My second major involvement has been on a South Australian government project in the Algerian Steppe. I was short-term consultant rangeland ecologist on an 850,000-ha project which involved hydrologists, engineers, sociologists, economists, soil surveyors, irrigation agronomists, and oth-



Fat-tailed sheep in the Alborz Mountains in northern Iran. Heavy grazing pressure in these mountain rangelands (elevation about 10,000 feet) has destroyed grass and edible shrubs. Spiny and/or poisonous shrubs and sub-shrubs now dominate. Aid and technical advice offered by Australia is aimed on a broad front and includes aspects such as livestock improvement and range rehabilitation.

ers. Here, and in the Iranian example cited above, the object was to transfer technology to a specific region. We had a specific job within a specific time frame at a contract price. The source of money for the projects was from the World Bank which was assisting the countries mentioned in their development programs.

Throughout the developing world there is a major scope for increasing forage resources and livestock production, but there are also major limitations to development. Aid agencies such as the World Bank and FAO have identified the desperate need to augment as quickly as possible the national manpower pool of persons professionally trained in agriculture and related sciences, including rangeland management. The shortage of trained manpower creates deficiencies that pervade the entire spectrum of effort to



These Iranian mountains were once covered with juniper forests. Clearing of the forests and overgrazing were led to widespread erosion in these steep, mountain rangelands. There is no vegetation to prevent snow melt waters from carrying enormous amounts of soil into rivers and streams. Technical advice on re-forestation, erosion control, and range restoration is part of the total foreign assistance package.

promote national development.

Training Programs

The Australian Government Aid programs recognise these constraints and a major share of the total aid packages goes to educational programs in all its forms, for both the development of educational facilities in the recipient countries and in providing training. Before attempting to look at training in the area of rangeland management it is instructive to examine Australia's record over the whole field of training of overseas personnel. There have been some shifts, e.g., the ratio of graduate to undergraduate trainees over the decades from 3:1 to something closer to unity. This partly reflects a trend away from foreigners training in Australia at the undergraduate level and partly the fact that Australian universities now have admission on a quota system.

Over 4,300 awards were made in 1980 to foreign students but only 474 were in agriculture or related disciplines. This proportion (12%) is much lower than the 22% of foreign aid which goes to agriculture. Considering too that further aid is channelled through multi-lateral agencies it is suggested that the proportion of trainees in agriculture and animal production disciplines is low in comparison with other inputs into other forms of aid.

Notwithstanding this, Australia has played a significant role in training overseas students in the area of extensive livestock production. Similarities of climate and land use problems with many developing countries make training in Australia quite relevant. Added to this is the international reputation in tropical pasture research, tropical animal husbandry, and arid zone research.

Training is offered at a number of levels. The largest numbers of trainees are at the tertiary level. Many candidates take our one-year Graduate Diploma course which was designed very much with the foreign student in mind. Candidates for these awards have come from 26 foreign countries. The second level of training is for practical technicians. It is, I believe, a most important area but one which is often neglected. Many countries have graduates who have no idea how to transfer a project plan to a practical reality on the ground. A great need is for field operatives, stockmen, and range technicians who can build a fence, hang a gate, construct a dip, brand a beast, vaccinate, castrate cattle and so on. There are short courses which contribute to this area of training. These courses involve lectures, practical work, field tours, and periods of secondment¹ working with ranchers and others. Groups of trainees from as far afield as Uganda, Uruguay, Dominican Republic, and Brazil have been trained in separate courses.

Graduates from courses undertaken in Australia by foreign nationals have often had a major impact on livestock and range development programs on their return home. A more recent development has been the operation of training courses in foreign countries. It is recognised that such courses can have great impact. Problems of immediate relevance can be analysed and the training made more meaningful.

The Australian universities are involved in such overseas training programs which involve 4-man teams for 1 month's teaching. Each short course has a 3 year follow-up research program where course participants develop an on-going research project with the supervision and co-operation of the Australia teaching staff. This is a most important aspect providing a longer term involvement and a continuity of development from the course. Apart from short courses the universities also provide for secondment of Australian staff for short term and long term teaching assignments; for assistance in English training; and with library facilities, teaching and laboratory equipment; and so on. This scheme works on an extremely limited budget but is highly successful both in terms of return to the dollar invested and achievements in development of successful training programs. This has been made possible by the voluntary involvement of university staff members throughout Australia (and some non-university specialists in Federal or State government employ) without salary cost to the scheme.

Summary and Conclusions

The livestock cropping systems evolved in Australia have made the most of limited natural resources and have put Australia at the forefront of the world's agricultural national. Many of the systems developed in Australia are in response to poor soils, low rainfall, vast distances, low populations, and market-demand. This has called for perseverance and ingenuity.

Many of the systems are applicable to other parts of the world and this is demonstrated by the export of Australian ideas and technology all over the world.

The Asian and Pacific regions have traditionally been the major recipients of project assistance. The recognition that African countries and the Indian Ocean states contain many of the poorest on earth has prompted an increase in the amount of aid which is directed there. Apart from the normal project activities the expanded program will include staffing assistance programs, provision of development import grants, and provision of assistance to regional programs.

Call for Inventorying Papers

An international conference entitled "Inventorying Forest and Other Vegetation of the High Latitude and High Altitude Regions" will be held July 23-26, 1984, in Fairbanks, Alaska. This conference is sponsored by the Society of American Foresters and the International Union of Forestry Research organizations.

Contributed papers on the major workshop topics are solicited. Those interested in submitting papers should

submit a title, 200-word abstract (maximum), author's name, address, affiliation, and phone number to: Dr. H.W. Gabriel, Bureau of Land Management, 701 C Street, Box 13, Anchorage, Alaska 99513.

Abstracts must be received by December 1, 1983. Authors will be notified by February 1, 1984, regarding acceptance of papers.