

Australian Technical Assistance to Chinese Agriculture: The Case of the Wool and Wool Textile Industries

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Australia and China signed a formal agricultural cooperation agreement in 1984. Since that time, there has been a significant number of Australian-funded R&D projects, technical exchanges etc. from which both countries have gained but which have been especially beneficial to China. Australian assistance to the Chinese wool and wool textile industries has been a major part of this technical assistance program.

Australia has agreed to continue these arrangements. Indeed, a new China-Australian Agricultural Technical Assistance Program was announced earlier today by the Australian Minister for Agriculture, Forestry and Fisheries (The Hon Peter McGauran). The Minister announced that Australia would provide (AUD)\$ 5.5 million over the next four years for technical assistance to Chinese agriculture. He indicated that he had discussed the first three projects to be funded under this new program with the Chinese Minister for Agriculture. One of these proposed new projects is designed to raise the incomes of Chinese herders by improving the efficiency of the marketing chain for raw wool in China.

A. Past assistance to the Chinese wool and wool textile industries

In the past, Australian wool scientists and technicians have worked side-by-side with Chinese counterparts on a significant number of different wool R&D projects. The Australian technical assistance has been directed at four main areas:

- Sheep production and management, especially such topics as:
 - Grassland management and improvement
 - Sheep diseases, parasites and nutrition
 - Sheep breeding technology and genetics
 - Sheep husbandry and shearing

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- Wool marketing in relation to:
 - Preparation of wool for sale
 - Introduction of objective measurement of wool characteristics
 - Measurement technology and instruments
 - Linking domestic herders with textile mills

- Wool textile manufacturing with special emphasis on:
 - Wool processing technology
 - Mill management techniques
 - Management of effluent from wool scours
 - Wool technology education

- Industry-wide issues such as:
 - Sheep and wool industry economics and policy
 - Grasslands management policies
 - Restructuring of the wool textile sector

B. Australian funding sources

Funding for the technical assistance to Chinese wool and wool textile industries has been made available through the following Australian government and industry sources:

- Australian Government development assistance agencies (eg., AIDAB/AusAID)
- Australian Centre for International Agricultural Research (ACIAR)
- On-going Australian woolgrower-funded programs (Australian Wool Innovation Ltd and pre-existing Australian grower agencies such as Australian Wool Corporation, International Wool Secretariat etc)
- Special “high-level” Australian government-to-government programs
- Exchanges of technical experts under the Australian China Agricultural Cooperation Agreement (ACACA).

C. Examples of some Australian technical assistance projects

Some examples of past Australian technical assistance to the Chinese wool and wool textile industries will now be briefly discussed.

i) Gansu Grassland Agricultural Systems R&D Project

This large R&D project ran from 1985 to 1992. The total investment of Australian funds was AUD\$ 5.12 million of which about (AUD)\$ 2 million was directed especially at sheep and wool. The aims of the sheep and wool component were to:

- Increase sheep productivity and reduce degradation
- Training for officials and extension staff in modern sheep management techniques
- Strengthening R&D capacity of the Gansu Grasslands Environmental Research Institute (GGERI).

(ii) Xinjiang Sheep and Wool Research Centre Project

Building on the results and experience gained in the Gansu Grassland project, the same Australian scientific and technical team conducted another major project funded by AIDAB (now AusAID) aimed specifically at sheep and wool in Xinjiang in the first half of the 1990s. The direct budgetary amount allocated by AIDAB to this six-year project was (AUD) \$ 10.5million. This project aimed to:

- Establish a leading Sheep Research Centre
- Provide training in breeding and management technologies
- Introduce objective measurement into sheep selection and breeding program
- Strengthen R&D capacity of the Xinjiang Academy of Animal Sciences

(iii) Mineral Nutrition of Sheep in Inner Mongolia, Gansu and Xinjiang

This was one of five related Australian Centre for International Agricultural Research (ACIAR) projects concerned with Chinese sheep and wool production which were carried out in the 1980s and early 1990s.

The direct ACIAR budget for this project, which ran from 1985 to 1990, was (AUD)\$0.6 million. However there were in kind contributions from both the Australian and the Chinese side the value of which would have at least matched the ACIAR contribution. Therefore, the actual total budget for this project would have been well over (AUD)\$1.0 million.

This project involved:

- Grazing trials at Aohan (Inner Mongolia), Huang Cheng (Gansu), and Nan Shan (Xinjiang) State Farms
- Analysis of pasture, blood & tissue samples
- Identification of mineral deficiencies
- Development and demonstration of practical remedies
- Strengthen analytical capacity in Chinese laboratories

(iv) Effects of internal parasites & nutrition on sheep and wool production in Inner Mongolia, Gansu and Xinjiang

This was another of the original five ACIAR sheep and wool projects. This collaborative project ran from 1987 to 1990 and received direct funding from ACIAR of (AUD)\$0.74 million. Again, the “in kind” contributions from both the Australian “home institutions” and the Chinese collaborating organisations would have at least doubled the total amount invested in this project.

The major objectives of this project were to:

- Identify significance of Helminth infections as causes of low wool production (quantity and quality)
- Assess practical management strategies to reduce parasite infections

(v) Economics of raw wool production and marketing in China

The Australian scientists leading the four original ACIAR projects initiated in the mid-1980s identified the general lack of industry-wide information about the production and marketing of fine wool in China as a major impediment to prioritising further technical assistance. The Chinese wool-growing industry was not an industry that had traditionally received much attention in Beijing. At the same time, the widespread adoption of the Household Responsibility System (de-collectivisation), the opening up of the market for wool, and the substantial increase in wool prices, were all major changes having a significant impact on Chinese wool production and marketing in the second half of the 1980s.

Against this background, ACIAR invested (AUD) \$0.8 million in a broad industry-wide investigation of the sheep and wool industry in China. While this project, which ran from 1989 to 1992, generated a great deal of detailed information about Chinese sheep and wool production and associated matters such as rangeland degradation, the fundamental objectives were to:

- Identify and analyse major economic and policy constraints to wool production and marketing
- Broaden understanding of wool within key Beijing research and policy institutions

(vi) Treatment of wool scour effluent

Beginning in 1978, Australian wool technologists have a long history of collaboration with colleagues in the Chinese wool textile industry. For almost 30 years, therefore, there has been an on-going interactions between various Australian wool organisations and Chinese wool textile mills and wool textile organisations.

The broad objective of all these Australian technical assistance efforts has always been to enhance the efficiency and profitability of Chinese mills. As the Chinese wool textile industry has grown to dominate world wool textile production, the future of wool as fibre has become progressively more dependent on the success of Chinese wool mills. The maintenance of an efficient, modern and profitable Chinese wool textile sector is, therefore, of paramount importance to both Australian and Chinese wool growers.

As almost all Chinese domestically grown wool is used by mills for different end-uses compared with that for which mills import wool from Australia, the two wool-growing industries are strongly complementary. To compete successfully in both the Chinese domestic fibre market and in the international market, the wool processing sector needs access to a broad range of wool types so that mills can respond to market (and fashion) changes by manufacturing a wide range of wool-fibre based end-products.

There have been a significant number of technical assistance projects aimed at improving the efficiency and profitability of the Chinese wool processing sector.

One specific such project which ran from 1999 to 2003 and funded by ACIAR addressed the problems mills face in treating their effluent. In particular, scouring (but also the dying process) generates major environmental pollution problems. This ACIAR project was designed to work with a sub-set of major mills to:

- Improve wool scouring and treatment of scour effluent to reduce environmental damage
- Train mill technicians to monitor mill effluent and to introduce alternative more environmentally friendly treatment methods

D. Australian Wool Innovation Ltd (AWI)

Over the last three decades the Australian wool industry has been represented by a number of different organisations. These organisations have always been funded by a levy (or tax) on Australian woolgrowers and, therefore, the organisations were seen to be controlled by wool-growers (i.e., these organisations represented the Australian industry rather than the Australian Government).

Since the late 1990s the grower organisation has been Australian Wool Innovation Ltd (AWI), a public company owned by the woolgrowers of Australia. As in the past, the operations of AWI are being funded by a 2 percent levy on grower wool sales revenue and matching grants from the Commonwealth Government.

(i) AWI continues the tradition of Australian growers funding technical assistance to the Chinese wool textile sector

AWI is an R&D company which funds projects which will increase the efficiency of wool production and marketing in Australia. AWI also funds activities that will enhance the demand for Australian wool. As was the case with all the grower organisations in the past, AWI recognises the importance of the Chinese textile industry to the Australian wool industry. AWI budgeted to invest (AUD)\$14 million in China over the last five years.

AWI is providing technical assistance and education and training to various participants in the Chinese wool supply chain. There are AWI offices in Shanghai and Hong Kong to facilitate the building of close working relationships with the major clothing and fabric exporters/retailers, with key wool mills, and with wool research and education institutes. These offices also ensure AWI is well represented at trade shows such as SpinExpo and InterTextile.

Currently AWI is providing R&D support to a number of Chinese textile companies..

(ii) The new Business-to-business (or B2B) program

Recently, the AWI has focused considerable resources on building direct business-to-business arrangements (sometimes called “the B2B Program”). The aim is to work with businesses in China to develop new innovative consumer products that use Merino wool.

The B2B program is predicated upon the “KIM” formula.

K = Knowledge (all about Merino wool)
I = Innovation (new solutions and opportunities)
M = Marketing (marketing tools and solutions)

The basic premise is that if AWI can foster the retailing/exporting success of B2B partners, these end-users of wool products will exert their demand for the mills to use wool fibres and hence “pull wool through” the long supply chain extending from raw wool to finished consumer product.

A good example of the B2B program is the working partnership AWI has with the Youngor Group, the largest suit manufacturer in China. The AWI/Youngor partnership has developed the new wool-based product called “Merino Travel Suit” (美丽诺羊毛商务旅行套装). Business travellers need clothing that will remain crush resistant, crease resistant and free from unsightly stains at the end of the journey when they arrive at their destinations. The new product developed by AWI and Younger exhibits these qualities.

The machine washable suit developed by AWI with the Heilan Group is another specific example of how the B2B program is creating new successful consumer products based on wool.

The technical cooperation and assistance relationship between the Australian and Australian wool industries over a long period of time provides an excellent case study of technical assistance enhancing the relationship between the wool industries in both countries. It also provides a favourable element for the future development of relationships between the two industries, which would be notably facilitated by a Free Trade Agreement which liberalises wool trade for the mutual benefit of both Australia and China.