AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

AUSTRALIAN ASSISTANCE TO CHINESE AGRICULTURE: PREFEASIBILITY STUDY OF THE NEI MONGOL FARM SUPPORT PROJECT

Dr S. Chandra
Australian International Development Assistance Bureau
GPO Box 887, Canberra, ACT, Australia, 2601

Paper presented at the 38th Annual Conference of the Australian Agricultural Economics Society,
Victoria University, Wellington, New Zealand
February 7-11, 1994

ABSTRACT

This Pre-feasibility Study recommends that AIDAB, in co-operation with the Government of the People's Republic of China, proceeds to the Feasibility/Design stage of the Nei Mongol Farm Support Project. The project would provide development assistance and foster commercial linkages between China and Australia.

The goal of the project is to improve the income and standard of living for livestock farmers in Xinggan League in north-east Nei Mongol. The project would consist of five components. Component one aims to increase sustainable production of improved quality forage. Component two has the objective of increasing animal production through improved breeding, nutrition, management, processing and marketing. The third component would provide improved extension services and technical packages for farm families. Component four would upgrade the skills and knowledge of male and female Chinese project personnel. Component five has the objective of managing the project efficiently for the achievement of defined implementation targets and project objectives. The implementing agency for the project would be the Animal Husbandry Bureau of Xinggan League, under the Ministry of Agriculture in the Nei Mongol Autonomous Region.

The project is feasible, sustainable and has a high probability of success. The project addresses critical needs in Nei Mongol's agricultural sector, and has been accorded high priority in China's development plans. By project completion, simple and easily adaptable forage production and livestock improvement technologies would have been demonstrated to and adopted by thousands of poor herders and farmers in an impoverished area of China's agricultural sector. The project would have trained a critical mass of innovative herders and farmers, agro-technicians, extension workers and project personnel to enable longer-term sustainability of project benefits.

In addition, the project would have identified techniques for Nei Mongol farmers and herdsmen to increase forage and livestock production in a harsh environment. Environmental benefits would accrue to the grasslands of Xinggan League through adjusted stocking rates, increased vegetative cover and reduced soil erosion.

The replicability of project technologies would be high. The project could impact on much of Nei Mongol's grasslands and similar agro-ecological zones in other parts of northern and western China. By completion, the project would have demonstrated proven Australian technologies to a large number of people in a rapidly growing economy in Asia.

Australian costs for the project have been estimated at A$7.3 million. The Government of the People's Republic of China would contribute about Y12 million. Project duration would be five years. In the longer term the project is expected to create significant and sustainable improvement in the income and standard of living for livestock farmers in Xinggan League, Nei Mongol, through a strategically targeted development assistance program.

1. PROJECT RATIONALE

1.1 OVERGRAZING OF THE GRASSLANDS

Cattle and sheep production in Nei Mongol is constrained by overgrazing - [illegible]ers increased from 8 million in 1947 to about 58 million in 1992. This means that traditional livestock management practices are no longer appropriate in many areas. Increased pressure from more sedentary herds and flocks threatens the long-term productivity of the grassland areas. This problem is exacerbated by increased cropping activities as farmers move out of collective villages onto their own farms under the responsibility system.

The Government of Nei Mongol (GONM) and the Government of Xinggan League (GOXL) recognise the risks associated with uncontrolled growth in livestock numbers and realise that action must be taken to demonstrate alternative production methods which support the associated objective of environmental protection. Large areas of grassland have been severely depleted through years of overgrazing. There is an urgent need to protect the remaining productive areas in Xinggan League which still have the capacity to produce surplus animal products. In addition, closer integration of livestock raising with food and cash cropping will be essential as populations continue to grow. Failure to implement such a policy will result in severe damage to a natural resource which is crucial for the livelihood of the herdsmen and their families which inhabit Xinggan League's grasslands.

Preventing degradation of Xinggan League's grasslands before they suffer the same fate of grasslands in other areas of Nei Mongol, and to increase productivity from areas in good condition, is a sound policy, both on economic and environmental grounds. Suitable technologies are available which could be utilised to rehabilitate the grasslands.

In July 1992 the People's Republic of China (PRC) requested Australian assistance to help preserve Xinggan League's grassland. In November 1992 AIDAB carried-out a Prefeasibility Study of the Nei Mongol Farm Support Project. This paper is a summary of that Study.

1.2 DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS

1.2.1 The Importance of Grasslands and Livestock in Nei Mongol and Xinggan League

Nei Mongol's economic base is heavily dependent on agricultural and livestock production. Rapid economic growth in the past 10 years has been generated by increased numbers of animals and larger areas allocated to food and cash crops. In 1992, the Province's Gross Value of Production (GVP) was Y50 billion. The total value of outputs from industry, agriculture and animal husbandry was Y25 billion - agriculture and animal husbandry accounted for 33% of the total valued at Y8 billion. Exports were valued at Y1.5 billion and barter trade was worth about Y310 million.

Nei Mongol has 69 million ha of useable grassland which constitutes the most important resource for animal production, and more recently, food and cash crop production. Xinggan League has 400,000 ha of cultivated land and 3.4 million ha of grassland. The League has 1.7 million sheep and goats and 450,000 cattle. Ruminant numbers have increased by a factor of six since 1950, and although livestock populations have now probably stabilised, grassland productivity is low and subject to increased grazing pressure as cropping area increases.

1.2.2 Development Constraints

The main constraints which currently limit the impact of the Government's development efforts and livestock production include:

- insufficient and inadequately trained agro-technicians with limited transport facilities;
- a government sector which is still partially linked to a central planning system, whereas farmers and herdsmen are responding rapidly to free market forces;

. lack of specific technical expertise - particularly for the establishment of large areas of legume-based pastures, and grassland management and monitoring;
. increasing pressure for farmers to grow food and cash crops on grasslands which are not suitable for such land use in the longer-term;
. limited frost-free periods (less than five months) and even shorter periods when soil moisture is adequate for plant growth;
. shallow and infertile soils, increasing wind and water erosion, and limited knowledge on responses to nutrients; and
. continued degradation of areas of grassland due to prolonged spatial and seasonal overgrazing, and failure to balance animal numbers with forage supplies.

1.2.3 Development Opportunities

Australian technology can be used to overcome many of the constraints listed above. Specifically, there are opportunities in the following areas:

.Grasslands Management
.Improved Pastures
.Forage Crops
.Forage Conservation
.Improved Cattle Breeding
.Improved Livestock Feeding
.Improved Livestock Management, and
.Improved Animal Processing.

1.2.4 Sources of Opportunity for Australian Development Assistance

Selected grasslands improvement and management technology; and livestock breeding, production and processing technology, could be successfully introduced to Nei Mongol to:

. increase the supply of improved forage seeds and tree seedlings;
. increase forage production on areas of grassland through the introduction of improved and adapted species;
. stabilise large areas of native grassland which are threatened by prolonged overgrazing due to an increase in livestock numbers;
. improve winter forage conservation and feeding practices;
. stabilise and improve food and cash crop yields and incomes;
. improve animal breeding, feeding and management; and
. improve animal processing and marketing.

Current opportunities for the introduction of Australian technology are enhanced by the following factors:

. the size and importance of the livestock sector in Nei Mongol's and Xinggan League's rural economy;
. the irreversible move towards more sedentary livestock and agricultural production systems, as populations increase and farmers and herdsmen respond to the open market system;
. acknowledgment by the Animal Husbandry Bureau of Xinggan League (AHBXL) that it has the key role of assisting with the changes which are taking place in herdsmens' livestock production systems;

. the initial success of programs supported by the GOXL - use of improved species for rangeland protection, and assistance with the development of permanent farms as farmers and herdsmen move out of villages established during the period of collective agriculture;
. the pre-project allocation of local funds to existing programs - a start has been made;
. the PRC's strong policy of supporting ruminant livestock production based on grass and crop residues;
. increasing opportunities for Nei Mongol to barter trade with Commonwealth of Independent States (CIS) - in meat (mutton and beef), wool and cashmere;
. a strong desire by farmers, herdsmen and their families to learn and apply improved range and livestock production techniques; and
. the strength of Australia's grasslands management and livestock production sectors.

1.3 SITUATION EXPECTED AT THE END OF THE PROJECT

At the end of the project, the following improvements are expected in Xinggan League's grasslands and livestock production sector:

. The project would deliver significantly improved abilities to impart to agro-technicians, farmers and herdsmen, skills which are necessary to protect and stabilise native grasslands, to increase livestock and crop production, and to increase incomes. Although only a small percentage of the agro-technicians in the League would have received direct training during the project, there would be a pool of experts (trained in both China and Australia) who will be able to extend this knowledge beyond the project boundaries.

. The success of farmer-centred/bottom-up planning and program implementation would have been demonstrated. This will improve the rate of technology acceptance by the target population, and ensure equal participation by all sectors of the farming community.

. The use of special equipment for forage establishment, processing and feeding would have been demonstrated to herders and their families. These practices would be expected to spread quickly, as the use of legumes in livestock and crop production systems increases and herdsmen become aware of the benefits of improved nutrition. Commercial trade opportunities are expected to be reasonable.

2. PROJECT OBJECTIVES AND COMPONENTS

2.1 PROJECT OBJECTIVES

The objectives of the project are to assist the GOXL to improve the standard of living and incomes for livestock farmers in Xinggan League (the project's goal) to:

. increase sustainable production of improved quality forages (purpose 1);
. increase animal production through improved breeding, nutrition, mar gement, processing and marketing (purpose 2);
. provide improved services and technology for farm families (purpose 3);

. upgrade the skills and knowledge of male and female Chinese project personnel (purpose 4); and
. manage the project efficiently for achievement of defined implementation targets and project objectives (purpose 5).

The overall approach for achieving these objectives is to design and implement the project, with components for each of the five purposes, and utilise the following specific strategies:

. technical assistance to ensure that maximum benefits are obtained from the technologies and equipment supplied by Australia;
. a high degree of participation by Chinese agro-technicians in on-farm technology demonstrations, and in widely-focused training programs to be funded by Australia and China;
. a sustained effort to ensure that the existing farming and livestock production systems are not irreversibly changed;
. close and ongoing involvement by all sectors of the rural community - men, women (perhaps through the All China Women's Federation) and children;
. institutional strengthening of the agencies responsible for project implementation and long-term sustainability after the completion of Australian assistance; and
. a focus on the critical technical constraints, rather than a "scatter-gun" approach, to the resolution of constraints which are impacting across all production activities.

2.2 COMPONENT DESCRIPTION

2.2.1 Component 1 : Forage Production

This component aims to:

. increase the production of good quality forage seed and tree seedlings;
. increase the understanding of forage production systems;
. improve the efficient and sustained use of forages and crop residues;
. produce higher and sustained grassland biomass; and
. improve the quality and quantity of winter feed supplies.

2.2.2 Component 2 : Animal Nutrition and Management

The aims of this component are to:

. increase production per animal, rather than increase animal numbers as forage supplies increase;
. change the breed composition of the cattle herds;
. improve the timing and control of animal production practices;
. improve animal production indices; and
. increase incomes from livestock raising.

2.2.3 Component 3 : Extension

The objectives of this component are to:

. increase farmer participation in the design and use of project technology;
. produce extension materials based on technology modules;

. establish on-farm demonstrations of the technology modules;
. prepare revised modules following assessment of the outcomes of farm demonstrations;
. increase the reliability and frequency of extension services to farmers; and
. increase the level and effectiveness of farmer training.

2.2.4 Component 4 : Training

This component would be based on:

. study tours to Australia for project management personnel and senior agro-technicians;
. training courses in Australia for technical staff; and
. training courses in China conducted by Australian advisers and Chinese experts.

2.2.5 Component 5 : Project Management

The project would have a management component, consisting of an Australian/New Zealand contractor, AIDAB (Beijing), and counterparts from the Chinese agencies with responsibilities for project implementation. The aim of this component is to implement the project according to the final design, budget and time-frame.

3. PARTICIPATION OF THE AFFECTED POPULATION

The participation of the affected population would be through the recipient and counterpart organisation in the Ministry of Agriculture (MOA), ie the AHBXL. Insofar as the project would influence the services provided by the AHBXL to the League's livestock farmers, and in the longer-term, the performance of the League's livestock and agricultural sectors, the project has the potential to reach and influence a large part of the rural population in the project area.

The extension approach recommended - use of participatory planning and implementation - would ensure close and ongoing involvement of the target population. Once farmers and their families develop a sense of "project ownership", technology acceptance rates would increase with consequent widespread benefits. The "bottom-up/top-down" approach of matching peoples' needs with the resources available to address the major constraints which are limiting the effectiveness of their endeavours, is well-proven in many development projects and should work well in Xinggan League.

As over 72% of the people in the Front Banner and 85% in the Middle Banner are ethnic Mongols, the project would assist a disadvantaged minority group in a poor region of a poor province.

The project would also have a positive effect on the agro-technicians based in the livestock stations, as these staff would be the main focus of the training programs. Staff numbers would not be reduced and technicians, who have been trained, would have a better understanding of their work, improved skills (including communication with farmers), and increased self-esteem as professionals.

4. PROJECT LOCATION, DURATION AND COSTS

The project would be located in four Sumus (Townships) in two Banners (Counties) in Xinggan League (Prefecture) in the Nei Mongol Autonomous Region (Province). The League's capital is Ulanhot - latitude 46 N, and longitude 122 E. The two Banners are located north and south of Ulanhot, and are accessible by road.

The project would be implemented over a period of five years - a one-year inception and testing phase, followed by two, two-year implementation periods. The Pre-feasibility Team did not prepare an implementation schedule for each component. This task should be completed by the Feasibility Team. However, all five components would run throughout the five-year implementation period, as would most of the individual activities.

Australian costs for the project have been estimated at A$7.3 million. The Government of the People's Republic of China would contribute about Y12 million.

5. EXPECTED BENEFITS

The project would generate a number of primary and secondary benefits. Herders' families would receive increased incomes and improve their standard of living from incremental livestock production following the introduction of improved forages and animal management systems, and from increased crop yields due to the use of legumes in crop rotations. Increased supplies of manure (from additional forage) would also contribute to improved crop production.

It is expected that gross annual farm incomes (from livestock and crops) would increase by an average of about 40% over a five year period - from a "without project" average of about Y10,400 per family, to a "with project" average of approximately Y14,700 per family. Net annual farm incomes would increase by about Y3,400.

Improved breeds of cattle would contribute increased supplies of meat and dairy products, and additional draft power for cultivation. Increased supplies of dairy products would improve nutrition levels, particularly for children. Increased draft power would be important for small and poor herders and farmers who cannot afford tractors. Higher incomes would allow families to purchase better quality clothing for the harsh winters and to substitute brown coal for cattle manure as a fuel. This would allow greater use of manure on crops.

Women would benefit from higher status levels in communities due to their involvement in the project through seed and seedling production activities. Their incomes would rise from the sale of increased quantities of dairy products and seed and seedlings. This in turn would benefit children.

The project would train a cadre of agro-technicians in a range of farm management skills, who in turn, would train herders and farmers. This improved level of knowledge on forage, animal and crop production, and grassland management, would be retained by villagers and benefit future generations.

Finally, the project would have a major impact on the environment through the activities focused on grasslands restoration and protection. This would reduce wind and water erosion,

and improve living conditions in villages which suffer from sand storms arising from inadequate grassland vegetative cover.

6. FINANCIAL AND ECONOMIC ANALYSIS

The financial and economic rates of return were estimated to be 20% and 12% respectively. Returns of this magnitude are acceptable for livestock and agricultural projects, given the lags between on-farm expenditure and increased incomes attributable to improved levels of livestock production. These lags would also apply to the application of legume technology to food and cash cropping lands, because it takes time for soil nitrogen levels to increase and for crops to respond.

The opportunity cost of farm labour in Xinggan League is not high (estimated to be about Y3 per day) because there are few opportunities for off-farm employment for large numbers of labourers and factory workers. This means that the project's economic rate of return would not be particularly sensitive to the shadow price of labour. Furthermore the standard conversion factor (SCF) for China is high, about 0.9, because there is little difference between the official and the unofficial exchange rates.

The Pre-feasibility Study Team concluded that the proposed project would generate satisfactory financial and economic rates of return, before consideration of secondary benefits such as environmental protection and increased supplies of manure for use as fuel or fertiliser. Projects such as this are characterised by numerous and unquantifiable secondary and even tertiary benefits, e.g. decreased soil erosion and improved quality of life following the establishment of trees for shelter belts. It is anticipated that the Nei Mongol Farm Support Project (NMFSP) would also generate a similar range of benefits, in addition to the primary benefits of increased livestock and crop production.

7. PROJECT RISKS

7.1 TECHNICAL

The project would be based on simple and proven technology, suitably tested and adapted for the unique agricultural production systems and agro-ecological zones in Xinggan League. The most important technical package would be the introduction and use of improved legumes in the grasslands and the cropping systems. The key legume would be alfalfa, with possible associated inputs of inoculum, lime, and micro nutrients (copper, cobalt, etc.), depending on soil deficiencies.

The major technical risk faced by the project would be the low probability that it proves impossible to grow and utilise alfalfa in Xinggan League. However, the Pre-feasibility Team is convinced that suitable alfalfa technology would have an enormous impact on grassland and livestock production. As stated previously, the techniques are well-proven in many parts of the world, and there is sufficient evidence from the project area that the suggested technology is soundly based and would generate the predicted benefits.

The other technical risk is the possible outbreak of a major alfalfa pest or disease, such as blue aphid. This pest devastated lucerne stands in Australia in the 1970s and was only overcome through the release of resistant cultivars. These cultivars would be available for Xinggan League, but may not be sufficiently cold tolerant. Reliance on one main legume is risky, but

there are no other leguminous species which have anywhere near the potential of alfalfa. This conclusion is supported by Canadian research in similar agro-ecological zones and the western parts of Nei Mongol, and investigations by the Pre-feasibility Team following their return to Australia.

The project would aim to introduce the practice of forage legume/food-cash crop rotations, with the objectives of increasing fodder supplies and improving soil fertility. A similar system is common throughout China, and involves relay and strip cropping with soybean and cereals. However, the use of a forage rather than a cash or food crop legume would be a new practice. Given the limited area of land which is suitable for cropping in Xinggan League, there is some risk that a land constraint might limit the success of this strategy, because farmers may be reluctant to take some land out of production in order to introduce another crop (forage legumes) into the system. This aspect of the project's technology packages should be investigated thoroughly by the Feasibility Team.

7.2 FINANCIAL AND ECONOMIC

Now that the free market system is established and working well in Xinggan League, the project faces few financial and economic risks. There are established and growing markets for all agricultural products which would be produced by herdsmen and farmers under the project. However, lack of transport infrastructure could inhibit the export of large quantities of produce from the project Banners to Ulanhot, and other large cities in China's north east.

Most of the incremental production attributable to the project would be consumed either on-farm (as populations continue to grow at a rate faster than the China average) or in local villages, with the exception of meat products which might be processed in the abattoir in Ulanhot and exported, hence the suggested Component 2, which includes improved animal processing and marketing systems.

The proposed project area is isolated. It could take some time for market channels to develop for project inputs and outputs. However, there are already good examples of services provided by both private traders and Government Corporations, e.g. individual businessmen and the GOXL compete openly for livestock which are either shipped live to southern provinces, or killed and processed in the Government-operated abattoir. The Pre-feasibility Team is satisfied that the project would not be constrained by inadequate market services.

In the macro sense, Xinggan League is well-placed to trade with the CIS countries and the growing economies along the Pacific Rim. Meat products and fibre, particularly cashmere, find a ready market in these areas and the Pre-feasibility Team concluded that incremental production would be competitive in these markets.

Farmers in Nei Mongol receive preferential treatment with respect to grain quotas. This means that most of their surplus food production, after allowing for subsistence requirements, can be sold on the open market.

7.3 INSTITUTIONAL, ORGANISATION AND MANAGEMENT

An earlier issue of which Chinese agency would implement the project was resolved and the Team gained agreement that project implementation would be managed by the AHBXL. There are no other important institutional risks.

The major organisational risk is the possible lack of enough extension personnel (agro-technicians), and support facilities, in the League, Banner and Sumu offices. The Pre-feasibility Team was assured that adequate support will be provided to the Project.

The project is the first of its type for Xinggan League. This means that there would be inevitable management problems during the first few years, hence the suggestion that there be an inception phase during year 1. All projects in China have similar problems, as Australian and Chinese managers familiarise themselves with different management styles and systems. However, experience indicates that provided there is a strong commitment to the project by the local and regional governments, project management eventually becomes established satisfactorily. The Pre-feasibility Team discussed the matter of project management with the Governor of Xinggan League and Vice Governor in-charge of agriculture, and was satisfied that there is sufficient support for the project to guarantee management stability.

7.4 SOCIAL, CULTURAL AND POVERTY

The project would have a positive impact on poverty levels, and would not face any major social or cultural risks. Mongol people are fiercely protective of their long and unique culture, and have managed to retain their traditions - such as extensive summer grazing using yurts for temporary housing. Changes in their lifestyles are occurring voluntarily as families move back to small farms and grazing areas following the shift away from collectives and communal villages. The project would not encourage or interfere with this process, but once farmers and herdsmen have made the decision to move, the project would be able to assist with the establishment of permanent farms.

The foregoing does not mean that the project would not assist those herdsmen and farmers who elect to remain in villages. The suite of technical packages suggested for inclusion in the project was designed to ensure that a wide range of people could be targeted, e.g. the strategy of improving the quality and quantity of hay for winter and spring feeding is equally applicable to sedentary or semi-transhumant herdsmen.

7.5 WOMEN IN DEVELOPMENT AND GENDER

There is very little risk of the project adversely impacting on women. Any potential risk could be reduced substantially by the close involvement of the All China Women's Federation in project design and implementation. The Federation is an excellent channel for technology transfer at the village level and for ensuring that women have an equal say in matters of health, education and food production. The project would not need to establish a separate organisation to achieve its objectives of reaching women at the household level and it is far simpler to use an existing institution. Women have a vital and integral role in Xinggan League's agricultural systems as noted by the Pre-feasibility Team in a large number of interviews with farmer's wives, female agro-technicians and Federation members. The Pre-feasibility Team considered this during preliminary design and is convinced that Women in Development (WID) and gender issues would not have a negative impact on the success of the project.

7.6 ENVIRONMENT

The project is expected to have a positive environmental impact - soil and water erosion would be reduced, soil organic matter and nitrogen contents would be increased, and the quantities of manure recycled and the biomass on the grasslands would increase. All these positive aspects reduce the project's environmental risk.

In the without project situation, environmental degradation is likely to continue, particularly soil erosion and fertility decline. Therefore the with project situation may be, at best, maintenance of the status quo, so the visual impact of the project may not be impressive, unless a comparison is made between the ongoing degradation outside the project area, and the targeted herdsmen and farmers within the project area.

7.7 COMMERCE AND TRADE

The main commercial and trade risk (from an Australian point of view) is that Nei Mongol might eventually compete with Australian markets for wool, cashmere, beef and mutton. However, the Pre-feasibility Team is convinced that this threat is minor, and at worst, very much in the long-term. The demand for red meat in China is increasing rapidly as disposable incomes rise. It is likely that almost all incremental red meat production from the project will be consumed in either Nei Mongol or other provinces.

The same applies to the fibre products. Although China imports wool from Australia, incremental wool production is not likely to have any effect on the volume of wool traded between the two countries. The quality of wool grown in Xinggan League is lower than that produced in Australia, and therefore the products are pitched at different end-user markets. Australia is a very small producer of cashmere, and therefore incremental cashmere production in Xinggan League would have no impact on the prices received for the Australian product.

7.8 AUSTRALIAN CAPABILITY

There is no risk that Australia cannot provide the technical and managerial expertise required for project success. The legume technology on which the project is based is well-proven in Australia and in a wide range of climatic zones throughout the world. Furthermore, Australia has a pool of project managers and technical specialists with extensive experience in China's agricultural sector, and there is no reason why this resource would not be available for project implementation.

Training would be a major activity in the project. The Pre-feasibility Team checked on the availability of trainers and institutions in Australia with the desired technical and training skills, and is convinced that this resource is adequate for the project.

8. CONCLUSIONS

The Pre-feasibility Team concluded that the proposed project is viable for the following reasons:

- the risks are manageable;
- a management system and an organisational structure have been agreed to;

- staffing issues have been discussed and agreement reached;
- it has the full support of all agencies with a role;
- funds have already been allocated by the GOXL and the AHBXL;
- farmers and their families are receptive to new forage production technology and livestock management techniques; and
- there is sufficient evidence that the proposed technologies would be successful.

The Pre-feasibility Team recommended that the project proceed to the next stage in the project cycle - Feasibility Study, incorporating a detailed Design. Terms of Reference for this Feasibility Study have been prepared. The Feasibility Study should take place in about April-May, 1994, so the Team can inspect the project area during the period when cropping activities are at maximum, and the grasslands are at peak production.

In the longer term the proposed Project is expected to create significant and sustainable improvements in the standard of living and incomes for livestock farmers in Xinggan League, Nei Mongol, through a strategically targeted development assistance program.

9. REFERENCES

AIDAB (1993): China: Nei Mongol Farm Support Project: Pre-Feasibility Report; 171p.