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PROGRAMME PLANNING

Country and intercountry programmes and projects

FOURTH COUNTRY PROGRAMME FOR MONGOLIA\*

Programme period January 1987-December	1991	Actual resources programmed 991 IPF for 1987-1991:		· ·	<b>\$</b> 5 940 000	
		Carry over from third	cycle		134	000
			Total		6 074	000
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Annex: Financial summary

\*Detailed listings of projects and other related data prepared as part of the country programming exercise are available on request. These listings include: (a) ongoing projects; (b) proposed projects; (c) distribution of resources by objective; (d) planned activities of operational funds and programmes under the authority of the Administrator; (e) distribution of new country programme by sector.

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# I. DEVELOPMENT TRENDS, STRATEGIES AND PRIORITIES

# A. Current economic trends

1. Mongolia is a developing land-locked country which relies on external co-operation, including that from UNDP, in its development efforts. These efforts aim to overcome difficulties resulting from the country's geographic isolation, its small domestic market, the shortage of skilled manpower, considerable dependence on a few agricultural products for export and severe climatic conditions. In spite of these hard economic, climatic and social conditions, the Mongolian People's Republic has achieved significant economic growth during recent years.

2. In the last four years of the Seventh Five-Year National Development Plan (1981-1985), the average annual increases in industrial and agricultural production were 9.8 per cent and 14.6 per cent respectively. These trends are expected to continue during the Eighth Five-Year Plan (1986-1990). Foreign trade turnover is gradually increasing.

3. The following specific factors hinder the country's efforts to achieve further rapid economic development:

(a) Severe winters lasting seven months per year, including three months with temperatures reaching -45°C. Such lengthy, severe winters call for considerable expenditures on construction, heating, the generation of electricity, communications and other infrastructural facilities. They complicate the task of delivering food and consumer goods to the population. Because of these unfavourable climatic conditions, the country's targets for increases in the size of livestock herds were not met during the last two years, thus restricting domestic food supply and agricultural exports. The growing season for agricultural crops is extremely short, with sharp temperature fluctuations;

(b) The country's vast territory and its very low population density (1.21 persons per square kilometre) pose serious difficulties in developing the country's economic infrastructure. Because of the lack of developed networks of railways and waterways, expensive road transport has to be relied on. The rapid population growth (about 2.6 per cent per year) results in 50 per cent of the population being under 18 years of age, with consequent high overall expenditure on education;

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(c) Mongolia's land-locked status, which considerably hinders its capacity to expand trade with other countries.

# B. National development strategies

The main goals of Mongolia's Five-Year National Development Plan 4. (1986-1990) are consistent with those of recent five-year plans. They are to: (a) increase agricultural production by increasing the size of livestock herds and fodder production; (b) further expand exploitation of the country's natural resources to provide the raw materials for accelerated industrial development; and (c) apply modern scientific and technical knowledge to increase productivity in industry and agriculture. The Plan is in the final stages of preparation and is expected to be published in 1986. Detailed targets for all of the years covered by the Plan have therefore not yet been announced. However, the targets announced for 1986 provide an indication of the Government's goals for future years. Agricultural production is expected to increase by 11.3 per cent, and industrial production by 6 per cent in Within the industrial sector, new capacity in fuel and energy 1986. production will absorb 45 per cent of planned industrial investment; the mining industry will absorb 22 per cent; light industry, including food processing, 16 per cent; and building materials, 11 per cent.

5. The main themes of the new five-year plan reflect these targets and are as follows:

#### Agriculture

(a) Accelerated animal production through the expansion of fodder production;

(b) Increased water supply for irrigation and rural domestic use by intensified prospection for, and extraction of, water resources;

(c) Expanded crop production through increased cropping intensity, improved soil conservation, increased use of fertilizers, and improved seed selection and production;

(d) Development of efficient forms of small-scale agricultural mechanization;

(e) Increased rural electrification for irrigation, radio communications and power supply;

(f) Improved product quality through the development of applied research, drawing on overseas experience, and increased capacity in the agriculture sector to adopt modern technical innovations;

(g) Improved living standards of agricultural workers through rural electrification, expansion of the rural telecommunications network, and the use of renewable sources of energy.

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## Industry

(a) Higher labour productivity through increased industrial investment and the introduction of modern technology;

(b) Expansion in the proven reserves of mineral raw materials and fuel through extended geological prospecting, to ensure an increased supply of raw materials, fuel and power for industry;

(c) Development of the metal-working industry through the use of small-scale furnaces and processing plants;

(d) Increased investment in light industry to provide an increased supply of food and consumer goods;

# Construction

(a) Development of building materials production, including concrete wall blocks, and increased quality of construction materials;

(b) Increased capacity to apply modern building techniques, and improvements in the quality of building components;

#### Science and technology

(a) Orientation of scientific research towards agriculture-related issues, such as livestock and crop production, genetic engineering to increase fodder production, plant protection, and soil fertility;

(b) Application of the experience of advanced countries in bio-technology;

(c) Use of modern technology for the collection, processing and dissemination of scientific data.

#### C. Technical co-operation priorities

6. Bilateral and multilateral economic co-operation is of crucial importance in view of Mongolia's small market, lack of skilled manpower, and the relatively low level of development in science and technology. Overall technical co-operation needs are identified by the Government in the context of its five-year planning exercises and related discussions with representatives of member countries of the Council for Mutual Economic Assistance (CMEA), which, through bilateral agreements, meet the bulk of Mongolia's needs for technical co-operation. Thus, no special technical co-operation needs assessment was carried out as part of the country programming exercise.

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7. On the basis of past experience and in the light of resources available from CMEA countries, it was decided to continue to focus the UNDP programme on supporting the development of the livestock sector and on the exploitation of the country's natural resources needed to support its industrial development effort. These were considered to be the two areas of concentration where UNDP assistance would contribute most tangibly and effectively to the country's self-reliant growth. To avoid dispersal of UNDP resources over too many activities, it has been decided to utilize UNDP resources for a limited number of high-priority activities. Because of the promising results achieved in several UNDP projects in the previous country programme, a significant portion of UNDP resources in the present country programme shall be devoted towards building on the results of these projects, so that they can be readily utilized for follow-up investment. Accordingly, four of the eight new activities foreseen in the present country programme are logical continuations of projects in the previous country programme.

8. The Government and the UNDP Resident Representative are actively pursuing possibilities for cost-sharing, in order to supplement the country's small IPF resources. In particular, cost-sharing is being sought to enable the completion of demonstration and training facilities already being established through UNDP assistance under MON/82/005, Pigment Production, and MON/82/002, Enzyme Products. Proposals for cost-sharing for the former project have been made to Japan and Czechoslovakia, and other possibilities for the latter project will also be pursued.

#### D. Aid co-ordination arrangements

9. There are only two representatives of the United Nations development system stationed in Mongolia: the World Health Organization (WHO) Programme Co-ordinator and the UNDP Resident Representative. The latter is therefore responsible for co-ordinating and monitoring the activities of United Nations Fund for Population Activities (UNFPA) and the various United Nations agency regular programmes, apart from those of WHO, such as programmes of the United Nations Industrial Development Organization (UNIDO), the Food and Agriculture Organization of the United Nations (FAO) and the International Atomic Energy Agency (IAEA). Because of his direct involvement in and responsibility for non-IPF activities, the Resident Representative has been able to promote co-ordination between them and the UNDP country programme.

10. The State Committee for External Economic Relations (SCEER) is the Government's focal point for the co-ordination of technical co-operation, not only with UNDP but also with the United Nations development system as a whole, and is responsible, on behalf of the Government, for identifying the country's needs for technical co-operation from the United Nations system. The Resident Representative and SCEER are involved in discussions with all visiting missions from United Nations agencies concerning the formulation and implementation of United Nations system technical co-operation projects, including non-IPF activities.

#### II. THE COUNTRY PROGRAMME

#### A. Assessment of current country programme

11. During the third country programme, UNDP co-operation was provided in the following main areas: renewable sources of energy; rural telecommunications; meteorological forecasting; teacher training; preservation of cultural monuments; building materials production; and management development. The largest share of IPF resources, 57.3 per cent, was to be devoted to industry, followed by transport and communications with 30.9 per cent.

12. The global reduction in 1982 of resources available to UNDP for programming necessitated cut backs in UNDP expenditures for certain projects, principally: MON/82/002, Enzyme Production; MON/82/004, BIOMED Programme; and MON/82/005, Pigment Production. The actual share of industry in UNDP expenditures during the country programme was thus reduced to approximately 28 per cent. This reduction was accomplished not by the outright cancellation of projects, but by delaying the start of new projects. During the implementation of the country programme, it became apparent that, because design problems were causing additional delays in the start of certain projects, the shortfall in expenditure in the industry sector was greater than had hitherto been expected, and two new projects were added to the sector: MON/84/001, Drug Packaging; and MON/84/002, Micro-Computer Application in Investment Projects.

13. Apart from the delays in project implementation in the industrial sector, the projects in the third country programme largely achieved the results expected of them. Examples of such successful projects, the results of which were effectively utilized by the Government, include MON/79/005, Strengthening of the State Pedagogical Institute; MON/75/006, New Sources of Energy; and MON/82/003, Rural Telecommunications. However, delays in equipment delivery adversely affected the implementation of several projects, and shortfalls in counterpart provision of the laboratory building required for MON/82/005, Pigment Production, also delayed its implementation.

14. Other implementation problems experienced during the third country programme included difficulties experienced by the agencies in identifying suitable expert and consultant candidates, which meant that alternative candidates could not be proposed for all posts; delays in recruitment; and the high cost of expert services. The Government is considering the use of United Nations volunteers and Technical Cooperation among Developing Countries (TCDC) experts to overcome the latter problem. Delays in overseas training often arose because of difficulties in identifying locations for training appropriate to the language ability of the prospective fellows. The possibility of including provision for language training in project budgets is therefore being considered.

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15. Technical co-operation projects which provide the advanced technology needed to sustain a rapid rate of economic growth necessarily involve fairly significant equipment components. However, on the basis of experience gained during the implementation of the third country programme, the Government recognizes the need to maintain an appropriate balance between the equipment and other components of UNDP projects, in conformity with UNDP's technical co-operation mandate, and it is expected that expenditures on equipment will amount to no more than 50 per cent of total UNDP expenditures during the new country programme. Steps will be taken to anticipate possible difficulties in obtaining export licenses for certain equipment, and to investigate alternative sources of supply. The weakness in project design, already mentioned, is recognized, and the Government's knowledge of the requirements for adequate UNDP project design will be improved through intensified briefing by the UNDP office. In the case of complex large-scale projects, UNDP's project development facility and the mechanism of preparatory assistance will be used to ensure satisfactory design.

#### B. New programme proposals

16. The fourth country programme for Mongolia reflects the priorities expressed in the country's Development Plan for 1986-1990. The activities envisaged for UNDP support under the country programme are intended to facilitate the Government's main planning goals of increased livestock production and the exploitation of the country's natural resources to expand its industrial base.

#### Natural resources

17. An important goal of the Government in the development of natural mineral and fuel resources is to exploit and process new sources of raw material for the building industry, thus enabling increased production of basic building materials and components, including wall-blocks. Despite considerable potential reserves of raw materials, domestic production of pigments for the building industry is very low (150 tons per year), and is based on inefficient, manually operated equipment, so that the final product does not meet the quality requirements of the building industry.

18. Under the ongoing project MON/82/005, Mineral Pigments, a laboratory to carry out tests for appropriate production processes for mineral pigments is being established, and a feasibility study, based on a survey of local reserves of pigments, for a demonstration plant of 1500 metric tons per year has been completed; the conclusions are positive. An extension of the project will assist in the establishment of the demonstration plant itself. The plant will carry out industrial-scale trials on the production of water- and oil-based pigments and on methods of incorporating pigments into certain building materials, such as building blocks. It is hoped that the UNDP allocation for this project will be supplemented by third-party cost-sharing, but, should this not materialize, the Government intends to provide, from its own resources, the funds needed to complete the project.

19. Mongolia has substantial reserves of coal, providing at present about 90 per cent of the total raw material for energy production. Coal will be the main source of energy for the next 15-20 years, since the country has no other conventional sources of energy. Continued industrial development will require increased coal production and increased efficiency in coal mining through the more efficient use, and improved maintenance, of coal-mining equipment.

20. UNDP co-operation is sought in the establishment of laboratory facilities to investigate improved methods of open-cast coal mining, and in particular to identify the nature, size and structure of the overburden and the most efficient methods of removing it prior to coal-mining. A testing facility will also be set up to measure the performance of coal mining equipment to enable the more effective use of these machines, identify the reasons for mechanical breakdowns, and prolong the life of the machines. Should additional UNDP funds become available as a result of annual country programme reviews, the project will be expanded to include laboratory facilities to investigate methods of making more effective use of different grades of coal and of avoiding waste, including, for example, studies on the manufacture of briquettes from coal dust.

#### Agriculture

21. Livestock production is the most important part of the agriculture sector, and is largely based on a nomadic way of life. An efficient energy supply is essential for the pumping and heating of water in modern livestock production, as well as for domestic lighting and heating. The traditional source of heating, still used in the rural areas, however, is cattle dung supplemented by firewood. Unfortunately, firewood is scarce in the semi-desert areas which cover much of the country, and cattle dung is not an efficient source of energy during the winter season. These factors, together with Mongolia's extreme climate, the lack of an extensive electricity supply network and the nomadic nature of livestock production, necessitate innovative approaches to providing an energy supply in the rural areas and to improving agricultural productivity.

22. Abundant sunlight and the prevalence of steady winds make Mongolia particularly suitable for the use of non-conventional energy. Under MON/75/006, New Sources of Energy in Rural Areas, the feasibility of using small-scale mobile wind-power units for water pumping and small-scale solar collectors for water heating has been demonstrated. The Government has also made independent trials of small-scale biogas units in the rural areas, making use of the country's abundant resources of animal wastes as fuel. One of the recommendations arising from MON/75/006 was that these technologies be further

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developed in Mongolia, with a view to the local production of innovative forms of energy supply. Accordingly, a successor phase of this project will enable the further development of integrated systems, using various non-conventional sources, for energy production in rural areas. Further development of appropriate wind-powered pumps and generating sets will take place, leading to the trial production locally of as many components as possible. Further trials will be made on various forms of solar collectors, with a view to developing suitable methods of testing for thermal efficiency and to producing locally efficient solar collectors. Trials of modern discrete and continuous biogas units will also be carried out.

23. Mongolia's main needs for technical co-operation in the agricultural sector are met through agreements with CMEA countries, which means that at present no other technical co-operation from UNDP is required in this sector apart from this project. However, two proposed projects to strengthen applied research capabilities are primarily intended to benefit the agriculture sector (see Science and technology, below).

## Industry

24. The Government plans continued steady expansion of industry to meet the need for consumer goods, to substitute for imported products and to provide additional sources of export revenue. Locally available agricultural and industrial by-products, at present not fully used, will be exploited to expand the range of domestic industrial production.

25. The Government wishes to establish a local pharmaceutical industry based on the abundant animal wastes presently being produced by slaughterhouses. The establishment of the industry will assist in improving health conditions in the country and in reducing drug imports. Under MON/82/002, Enzyme Production, technologies are being developed at the laboratory level for the manufacture of various enzyme products, such as Trypsin, Chymotrypsin, Pancreatin and Gonatropin; assistance is being given in improving quality control; and research is being carried out on the potential for various new enzyme products. Some of the laboratory's products have export potential, and certain countries have expressed interest in manufacturing them under license. Under a continuation of this project, UNDP will co-operate with the Government in expanding the scale of the laboratory to that of a pilot plant, capable of producing nine million vials per year of the enzyme products mentioned above . The purpose will be to elaborate and demonstrate the processes required for industrial-scale production, and to train counterpart staff in these processes.

26. Much scrap metal is available in Mongolia and is not at present efficiently utilized. A feasibility study under a UNIDO Special Industrial Services (SIS) project (SI/MON/83/190) recommended the establishment of a small-scale steel plant at Darkhan, the second most important industrial centre in Mongolia. This plant will use scrap metal as its main raw material. The Government wishes to carry out further detailed studies of this proposal in co-operation with UNDP. The project would include the establishment of an experimental laboratory to investigate the production processes envisaged at the plant, the elaboration of its technical design, and the training of its technical staff.

27. Two projects, started towards the end of the third country programme, will continue through the first year of the present programme: MON/84/001, Drug Packaging; and MON/84/001, Micro-computer Application in Investment Projects. Their objectives are indirectly related to, and support those of the fourth country programme.

## International Trade

28. The expansion of external economic relations and trade is one of Mongolia's key development objectives. Rapid changes in the international markets for various products and the continuous development of new markets necessitate the provision of accurate, reliable and up-to-date information for Mongolia's planners and exporters on market trends for the country's imports and exports, on possible new markets for existing exports and on the prospects for potential new exports from Mongolia.

29. With UNDP co-operation, Mongolia's system for the collection, dissemination and analysis of market information will be rationalized and made more coherent, and the collection and dissemination of this information will be speeded up. Using experience from other countries, and based on studies already carried out in Mongolia, a central data base will be established. There will be provision for decentralized processing and analysis, using a minicomputer and terminals at the various locations of users of trade data; software appropriate to Mongolian conditions will be developed. This project is intended as an extension of Mongolia's present computer-based system for the collection, analysis and dissemination of scientific and technical data.

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#### Science and technology

30. Mongolia's national development plans emphasize that scientific and technological research must have practical applications for the agriculture sector. Biotechnology and genetic engineering are presently at a very early stage of development, but offer considerable potential for animal breeding to improve livestock yields, the development of fodder protein for animal feed, and the preparation of vaccines against various viral diseases, such as hepatitis.

31. Work in these areas has already started in Mongolia, and UNDP will assist the Academy of Science in the further development of research programmes, the training of scientists, and the improvement of laboratory facilities.

32. Another research task of importance for Mongolia's economy concerns the further development of new energy sources for the country's rural population. Demonstrations under MON/75/006, New Sources of Energy, have proved the viability of the use of solar photovoltaic cells in Mongolia for telecommunications, domestic lighting, radio receivers, radio transmitter/receivers, and television relay stations. Research work will be continued, with UNDP co-operation, with the aim of the trial production of solar photovoltaic cells suitable for Mongolian conditions. The project will include the establishment of a laboratory for the experimental production of solar cell-grade silicon and for the trial manufacture of solar cells of various capacities.

## C. Unprogrammed reserve

33. Six per cent of the UNDP funds allocated under the present country programme are maintained as an unprogrammed reserve to meet the additional technical co-operation needs that may arise during the implementation of the present country programme because of possible changes in the Government's priorities. Since Mongolia's Five-Year National Development Plan (1986-1990) starts one year earlier than the present country programme (1987-1991), the reserve will have a particular role in allowing the possible financing of urgent technical co-operation needs that may arise towards the end of the current Five-Year Plan or at the beginning of the next. These needs will be identified jointly by the Government and UNDP through annual reviews of the country programme.

II.

# Annex

# FINANCIAL SUMMARY

# I. ACTUAL RESOURCES TAKEN INTO ACCOUNT FOR PROGRAMMING

Α.	UNDP-administered sources	\$	\$
	Third Cycle IPF balance Fourth Cycle IPF Subtotal IPF	134 000 5 940 000	6 074 000
	Special Measures Fund for Least Developed Countries	-	
	Special programme resources Government cost-sharing Third-party cost-sharing	-	
	Operational funds under the authority of the Administrator	-	
	UNDP special trust funds Subtotal UNDP non-IPF funds	-	-
В.	Other sources		
	Funds from other United Nations agencies or organizations firmly committed as a result of the country programme exercise Parallel financing from non-United Nations sources Subtotal, other sources	-	-
	TOTAL ACTUAL RESOURCES TAKEN INTO ACCOUNT FOR PROGRAMMING		6 074 000
USES	OF RESOURCES		
	Ongoing projects New project proposals Programmed reserve	2 406 233 3 291 100	
	Subtotal, programmed resources Unprogrammed reserve		5 697 333 376 667
	TOTAL USE OF RESOURCES		6 074 000