UNITED
NATIONS

DP

Governing Council
of the
United Nations
Development Programme

Distr.
GENERAL

DP/CP/BUL/4
24 March 1986

ORIGINAL: ENGLISH

Thirty-third session
2-27 June 1986, Geneva
Item 5 (b) of the provisional agenda

PROGRAMME PLANNING

Country and intercountry programmes and projects

FOURTH COUNTRY PROGRAMME FOR BULGARIA*

Programme period	Actual resources programmed	$
1987-1991	IPF for 1987-1991	2 640 000
	Carry over from 1982-1986	75 000
	Total	2 715 000

CONTENTS

*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) distribution of new country programme by sector.

/...

I. DEVELOPMENT TRENDS, STRATEGIES AND PRIORITIES

A. Current economic trends

1. Bulgaria is a small country with limited natural and labour resources and an open economy. In 1985, the trade volume was equal to that of the volume of the gross national income. Thus, the economy of the country is largely dependent upon foreign markets. The limited natural and labour resources, the existing structure of the national economy and the general slow-down in the world economy were not conducive to maintaining the relatively high growth-rates the country had set for itself for the period 1981-1985. The growth rate of the national income fell to 3.7 per cent, according to preliminary data, as compared to 6.1 per cent during the period 1976-1980. The growth rate of capital investment for 1981-1985 was at 3.5 per cent, while 6.1 per cent was reached during the previous five-year plan. Especially unfavourable for the national economy was the year 1985, during which the growth rate of the gross national income dropped to 1.8 per cent. A major reason was the unprecedented drought, as a result of which agricultural output was diminished by approximately 9.0 per cent as compared with 1984. The same natural disaster caused the electrical energy output in 1985 to be 6.8 per cent lower than in 1984. The economic sectors were considerably affected by these events.

B. National development strategies

2. Given the available materials, energy and labour resources, as well as the open nature of the country's economy, the Government has elaborated a development strategy designed to guarantee the country's further socio-economic development on a stable basis. Plans until 1990 and beyond, are based on the assumption that the acceleration of scientific and technological development is a turning point which will facilitate the achievement of the objectives facing the national economy. This is the only way to compensate for the limited labour and material resources.

3. Consequently, the major priority trends of development have been identified as follows: (a) introduction of intensive electronic technology in the productive processes of the national economy designed to result in greater efficiency; (b) new materials and technologies for their production; (c) development of biotechnologies.

4. In promoting these development priorities, the government seeks to increase labour productivity and to allow for a more efficient use of the country's limited resources, including raw materials, energy, and labour. Emphasis will be laid upon the development and broad application of systems for computer-aided design, computer-aided production planning, and computer-aided manufacturing, as well as on robots, manipulators, etc. It is envisaged that the development and use of new technologies and the means for their production and application will promote new areas of production of high priority for the country.

5. While the Ninth Five-Year National Development Plan for the period 1986-1991 is being elaborated, special attention is being paid to the branches

and activities relevant to the promotion of the new trends in biotechnologies and genetic engineering, with the purpose of increasing food resources; developing non-waste technologies; decreasing the harmful impacts on environment; and developing new and appropriate medication for people and animals. In agriculture, great care is devoted to the prevention of plant and animal diseases, along with the introduction of new high-yield species, highly productive breeds, and advanced irrigation techniques. In education, the achievement of the development objectives is geared toward further upgrading of programmes for the young generation and the qualifications of the managerial and executive personnel, so as to better master the new and more complex technologies.

6. The development of these priority areas will allow the government to overcome current difficulties related to the deficiency of raw materials, human and energy resources, and will provide for the future development of the country's economy and lead to specialization in areas of the economy where the nation has a comparative advantage over other countries.

C. Technical co-operation priorities

7. In support of the above strategies, eight projects in five major fields have been identified: industry; communications; science and technology; education; and agro-industry. They coincide with the most important priorities on the basis of which the national development plan is being elaborated.

II. THE COUNTRY PROGRAMME

A. Assessment of current country programme

8. UNDP assistance during the current programme cycle is relatively small compared to the national tasks for social and economic development; it concentrates on the following priority areas: power generation; industry; agro-industry; communications; science and technology.

9. The range of co-operation had to be further limited owing to the 45 per cent decrease of the allocated IPF for Bulgaria. Nevertheless, co-operation with UNDP is largely beneficial with respect to resolving various sectoral problems in the country. By the end of the current cycle (1986), UNDP assistance, which amounts to $3.3 million in total, will be efficiently implemented in the execution of projects in the priority areas.

Energy

10. Bulgaria is deficient in energy resources, and currently imports about 65-70 per cent of the energy consumed. Therefore, of particular importance are (a) processes for utilization of low-grade coals available in the country; and (b) energy-saving production technologies.

11. Technologies for burning 1000-1400 kcal/kg coal have been developed and are successfully implemented on an industrial scale. Such coals produce enormous amounts of soot and ash that destroy equipment and pollute the environment. Waste treatment is a serious engineering problem, and a national programme is now being implemented to solve it. Bulgaria seeks to actively co-operate with international organizations and other countries in this field. Within a UNDP-sponsored project, technologies for the utilization of 700 kcal/kg caloricity coals are being developed and the efficiency of the existing technologies is being improved. Furthermore, the country takes an active part in the UNDP/Economic Commission for Europe (ECE) Regional Project RER/80/004, on international co-operative research on low-calorie, solid-fuel technology.

Science and technology

12. The open nature of the Bulgarian economy requires that Bulgarian products meet international quality standards. In this connection, a UNDP-sponsored project in the field of advanced manufacturing technologies is being implemented.

13. Bulgaria is a maritime country, carrying out a great deal of its trade by sea. Thus, efficient fuel consumption in water and maritime transport is essential to the country's economy. The Bulgarian Ship Hydrodynamics Centre, built and organized in co-operation with UNDP, is making a significant contribution to this end. In addition, this project deals with methods for protection against the mechanical erosion of sea-shores. It should be noted that this is a government-executed UNDP project, the successful completion of which is close at hand.

14. Considerable attention was paid to biotechnology: UNDP assistance, which started a few months ago, is providing for the establishment and support of a laboratory for engineering methods in biotechnology.

Industry

15. Bulgaria experiences shortages in labour resources; the 1985 population census has confirmed a steady decline in the active population. Therefore, particular attention is being paid to industrial automation and robotics in national programmes. In this respect, the national economy has been benefiting from the activities of UNDP-assisted projects, executed at the Numerical Control (NC) Machine Tool Centre, the Institute of Industrial Cybernetics and Robotics, and the Institute for Instrument Design.

Agro-Industry

16. The production of agricultural goods is traditional in Bulgaria. The activities of the Institute for Introduction and Plant Genetic Resources Conservation are aimed at (a) achieving a greater variety; and (b) introducing

high-yield plants. The strengthening of the Institute has been assisted by UNDP. The Institute participates in project RER/81/008, Crop Genetic Resources of the European Regional Programme for Co-operation.

17. Bulgaria provides a natural barrier against foot and mouth disease (FMD) and a number of other acute contagious forms of animal diseases, infiltrating from Asia and the Near East. In this respect, the FMD Center is making a considerable contribution. The achievement of the project objectives, with the assistance of UNDP, will be conducive to the restriction of the spread of FMD, both in Europe and elsewhere in the world. However, some other exotic infections penetrate the region, and action against them is currently set as a top priority on the agenda.

B. New programme proposal

18. On the basis of the approved national development strategy for the period of 1986-1990 and the results of the projects implemented during the country programme, the following priority areas requiring UNDP assistance during the fourth programming cycle have been identified: science and technology; education; agro-industry; and the completion of some ongoing projects.

19. One of the major objectives of all the projects for which UNDP technical assistance is requested during the fourth programming cycle is the establishment of training facilities for specialists both from Bulgaria and the developing countries. Bulgaria pays particular attention to co-operation with developing countries. The project facilities completed with UNDP assistance are utilized for the training of specialists from Africa, Asia, Latin America, and Europe. Particular interest has been expressed by many developing countries in the achievements of the Institute for Instrument Design; the Ship Hydrodynamics Centre; the Computer Management Centre; the Telecommunications Centre; and the Institute for Soil Science. Experience is shared with developing countries that have an interest in technical assistance in this field.

Improvement of the technological level of production

20. In view of the open nature of the national economy and the limited material resources, the National Development Plan is based upon improvements in the technological level of production and on research and the development of technologies for the manufacturing of materials with new or improved properties. Considerable importance is attached to the dissemination of results attained in various sectors of the national economy and the training of specialists in the new techniques. One of the areas in which technological upgrading will be sought is in the production of vaccines against contagious farm animal diseases infiltrating Bulgaria; another such area is the national telecommunications network.

Projects

21. National production capacities are being developed under conditions of limited energy and raw material resources while at the same time trying to meet the higher requirements concerning technical levels, quality, efficiency, ecology and ergonomy.

22. New materials and materials with improved properties will be produced through research and development in the field of vacuum and plasma applied processes. To this end, high efficiency equipment will be designed and put to industrial use. This project provides for the training of research and development specialists. The UNDP contribution to the project in the new cycle is estimated at $200,000.

23. At the end of 1985, implementation of the project BUL/84/003, Development and Implementation of New Engineering Methods in Bio-Engineering had started. The objectives of this project are the development and application of biotechnologies in different sectors of industry and agriculture. Because of its late start and limited UNDP funds, the project will be carried over to the fourth programming cycle. The UNDP contribution to the project in the new cycle is estimated at $300,000.

24. The development of fine chemical product technology is a major trend in the national strategy for chemical industry development. Research and development of such technology requires intensive training of personnel and the establishment of an information unit. To this end, setting up a central research and development laboratory in the field of fine chemical products is underway. In this respect, UNDP assistance is needed to provide international experience in this field. The UNDP contribution to the project in the new cycle is estimated at $200,000.

25. With the assistance of UNDP, the Institute for FMD and Dangerous Acute Infections was established in the city of Sliven. One of the major achievements of this Institute has been the creation of a large veterinary network with modern facilities and methods against FMD. On the basis of the experience accumulated by the Institute, it is proposed that during the fourth programming cycle its capacities be enlarged so as to include research and development for the elimination of exotic viral infections. Furthermore, the Institute will carry out the training of experts in the relevant fields. The UNDP contribution to the project in the new cycle is estimated at $100,000.

26. In order to enhance the communication network to satisfy the growing needs of the country, the Government plans further research on digital systems of communication for which the training of specialists and expert assistance will be required. The UNDP contribution to the project in the new cycle is estimated at $100,000.

Linkages

27. The above projects will provide a solid base for promoting international co-operation within the regional and global programmes. Some of them, such as the Centre of Engineering Methods in Biotechnology, will co-operate with the International Centre of Genetic Engineering and Biotechnology established under the auspices of the United Nations Industrial Development Organization (UNIDO). All European countries are expected to benefit from the outputs of the vaccine production project as it will strengthen the national barriers against possible penetration and spread of diseases into the continent. Therefore, the Government suggests the creation of a regional project with the participation of several European countries during the fourth programming cycle. The project on the communications network will continue its active participation in the regional projects RER/83/001, MEDARABTEL and RER/83/004, Development of the European Telecommunications.

Human resources development

28. Considerable experience has been accumulated in implementing advanced research methods and manufacturing technologies by the Bulgarian research and development institutions, including the Institute for Instrument Design; the Bulgarian Ship Hydrodynamics Centre; NC Machine Tool Centre and the Computer Aided Design Centre, established with UNDP assistance. It is imperative to establish centres for the training of scientific, managerial and executive personnel in order to share this experience with different sectors of the national economy. It is envisaged that these centres will work in close co-operation with the higher education institutions, research and development units and industry.

29. The rapid development of computer technology has a considerable influence on the process of education and requires the development of new educational methods and programmes. In order to meet these requirements, it is necessary to conduct systematic research, and experimental activities on methods and programmes to train the teaching staff, and to educate children, and to develop appropriate software.

Projects

30. An advanced manufacturing technologies training centre will be established within the State Committee for Science and Technical Progress in order to fulfil these objectives. The centre will have the following major functions:

(a) Sharing experience and training specialists from industry in the field of advanced manufacturing technologies, including seminars, short-term courses and training-on-the-job for all fields of computer-integrated manufacturing. The development of modern training methods, the preparation and distribution of text-books, audio-visual and video materials, etc., related to advanced manufacturing technologies;

(b) Elaborating and implementing a long-term programme for research and development. The application of industrial technologies with the objective of increasing the efficiency of national industry, by using high-productive technologies and advanced approaches for quality and process control;

(c) Providing expertise on industrial technologies and methodology for feasibility studies on the application of modules for computer-integrated manufacturing in specific productions.

The UNDP contribution to the project in the new cycle is estimated at $975,000.

31. The improvement of methods for physical and mathematical modelling of aerodynamic and hydrodynamic processes is of decisive importance for the development of modern vessels of high quality, the manufacturing and exploitation of which would allow for considerable savings of energy and materials. These activities will also enable the level of automation to be raised in engineering and allow for scientific experiments to be conducted in different fields of the economy, such as on the design of hydro-engineering structures, the development of methods for the efficient prevention of erosion, etc. To achieve this objective, a training centre for physical and mathematical modelling of aerodynamic and hydrodynamic processes will be established. The centre will organize the training of engineers and research and development specialists in the application of these methods for scientific experiment and equipment design. This training centre will use the facilities of the UNDP-supported Bulgarian Ship Hydrodynamic Centre. The UNDP contribution to the project in the new cycle is estimated at $150,000.

32. The Government, and the Lyudmila Zhivkova International Foundation jointly sponsor the implementation of the international research programme, Children in the Information Age. The United Nations Educational Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO), the International Institute for Applied System Analyses, the International Federation for Information Processing, and other international organizations take active part in this programme. A number of international meetings have been organized in Bulgaria. In 1985, a conference on this subject gathered 350 scientists from 40 countries and five international organizations. A UNDP-assisted project, International Research Centre for Educational Informatics, is intended to become the focal point for the activities under this international programme. The main tasks of the Centre will be:

(a) To elaborate methods and develop educational software on the basis of advanced experience and specific results;

(b) To provide assistance and expertise in the elaboration of national educational policies in the field of informatics;

(c) To organize training courses and promote the exchange of experience.

The UNDP contribution to the project in the new cycle is estimated at $200,000.

Linkages

33. These projects are expected to create conditions for the individual and group training of specialists from developing countries. The child education project in particular will be an integral part of the Children in the Information Age programme.

34. In addition to focusing on the main programme objectives discussed above, UNDP resources will also be utilized to favour small-scale projects to meet specific technical co-operation needs mostly in the form of expert assistance and fellowships in the following areas: agro-industry; science and technology; energy; health; industry; environmental control; and trade promotion. The UNDP contribution to these activities is estimated at $230,000.

C. Unprogrammed reserve

35. About ten per cent of the IPF, or $260,000, will be assigned to cover unforeseen contingencies during the implementation of the 1987-1991 country programme.

Annex

FINANCIAL SUMMARY

		$	$
I.	ACTUAL RESOURCES TAKEN INTO ACCOUNT FOR PROGRAMMING		
	A. UNDP-administered sources		
	Third cycle IPF balance	75 000	
	Fourth cycle IPF	2 640 000	
	Subtotal IPF		2 715 000
	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		-
	B. 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		2 715 000
II.	USE OF RESOURCES		
	Ongoing projects	300 000	
	New project proposals	2 155 000	
	Programmed reserve	-	
	Subtotal, programmed resources		2 455 000
	Unprogrammed reserve		260 000
	TOTAL USE OF RESOURCES		2 715 000

- - - - -