

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF AGRICULTURE AND FOOD INDUSTRY
REPUBLIC OF BULGARIA

THE FEASIBILITY STUDY
ON
THE PROJECT FOR
AGRICULTURAL REFORM
IN
BULGARIA

FINAL REPORT
(MAIN)

JUNE 1997

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements. The text notes that incomplete or inaccurate records can lead to significant legal and financial consequences for the organization.

2. The second section focuses on the role of internal controls in preventing fraud and errors. It outlines various control mechanisms, such as segregation of duties, authorization procedures, and regular audits, which are critical for ensuring the integrity of the organization's operations. The document stresses that a strong internal control system is not only a defense against fraud but also a means of improving operational efficiency and reducing risk.

3. The third part of the document addresses the challenges of data security and information management in the digital age. It highlights the need for robust cybersecurity measures to protect sensitive data from unauthorized access, theft, and loss. The text also discusses the importance of data backup and recovery plans to ensure business continuity in the event of a data breach or system failure.

4. The final section discusses the importance of regular communication and reporting to stakeholders. It emphasizes that timely and accurate information is crucial for informed decision-making and maintaining trust with investors, regulators, and other key parties. The document suggests that clear communication channels and regular reporting can help identify potential issues early and facilitate a more proactive approach to risk management.

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PREFACE

In response to the request from the Government of Republic of Bulgaria, the Government of Japan decided to conduct a feasibility study on the Project for Agricultural Reform in Bulgaria and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Republic of Bulgaria a study team headed by Mr. Toshimasa Kobayashi, Sanyu Consultants Inc., and composed of staff members of Sanyu Consultants Inc. and Daiwa Institute of Research Ltd., three times between June, 1996 and March, 1997.

The team held discussions with the officials concerned of the Government of Republic of Bulgaria, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Republic of Bulgaria for their close cooperation extended to the team.



Kimio Fujita
President

Japan International Cooperation Agency

June, 1997

June 1997

Mr. Kimio FUJITA
President,
Japan International Cooperation Agency
Tokyo Japan

Letter of Transmittal

We are pleased to submit hereby the final report on the Feasibility Study on the Project for Agricultural Reform in Bulgaria. This report incorporates the advise and suggestion of the authorities concerned of the Government of Japan and your Agency in the formulation of the above mentioned study. Also included are comments made by the Ministry of Agriculture and Food Industry and Irrigation System Company in the Bulgarian Government during discussions which were held in Sofia, Bulgaria.

The study result showed necessary countermeasures in agricultural sector for the transition from planned economy to market oriented economy. The study includes the master plan formulation of the three study areas and selection of the pilot project area among them to be a model of agricultural reform in Bulgaria. Feasibility study and project evaluation on the agricultural reform have been performed for the selected pilot project area in the Nova Zagora M3 Canal Block (the project area is 13,220 ha.) in the Sredna Tunja Study area. We have concluded that the Project is economically feasible and technically sound with high potentiality to perform as the model area of the agricultural reform in Bulgaria. We hope that the Project is implemented as soon as possible.

Economy in Bulgaria was aggravated abruptly from the end of 1996 to the beginning of 1997 and at the same time, the government was changed dramatically by the transformation itself. Agriculture is the most important sector for this country, and we wish that the Project is implemented immediately for the economic reconstruction and toward the development of this country.

This report consists of two volumes, namely Volume One; Main report (English, Japanese and Bulgarian) and Volume Two; Appendices (English).

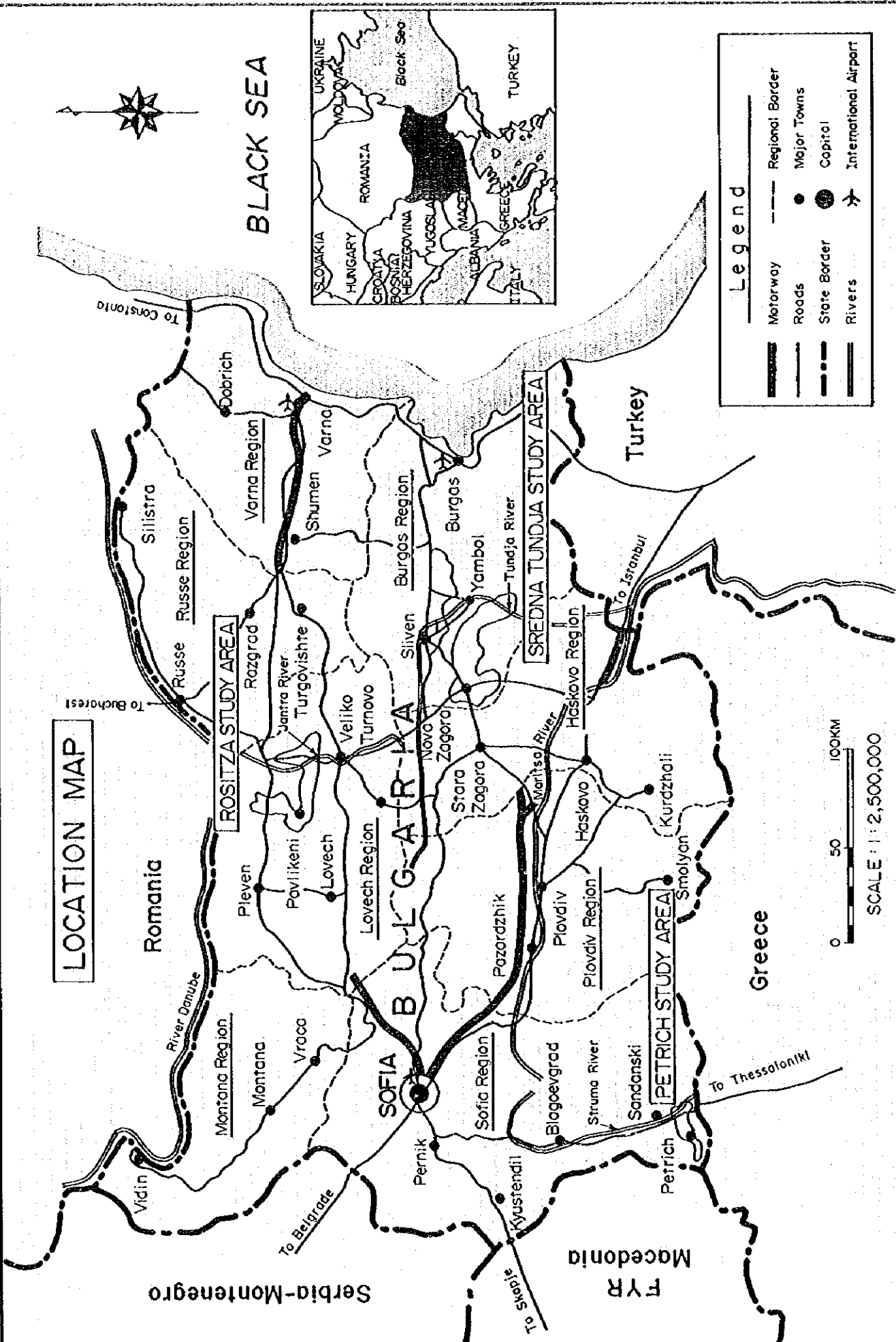
We would like to take this opportunity to express our sincere gratitude to your agency, Ministry of Foreign Affairs and Ministry of Agriculture for their effective advise and suggestion for the study. We wish to express our heartiest appreciation to the Ministry of Agriculture and Food Industry and Irrigation Systems Company in the Bulgarian Government for the close cooperation they have extended to us.

Very truly yours,

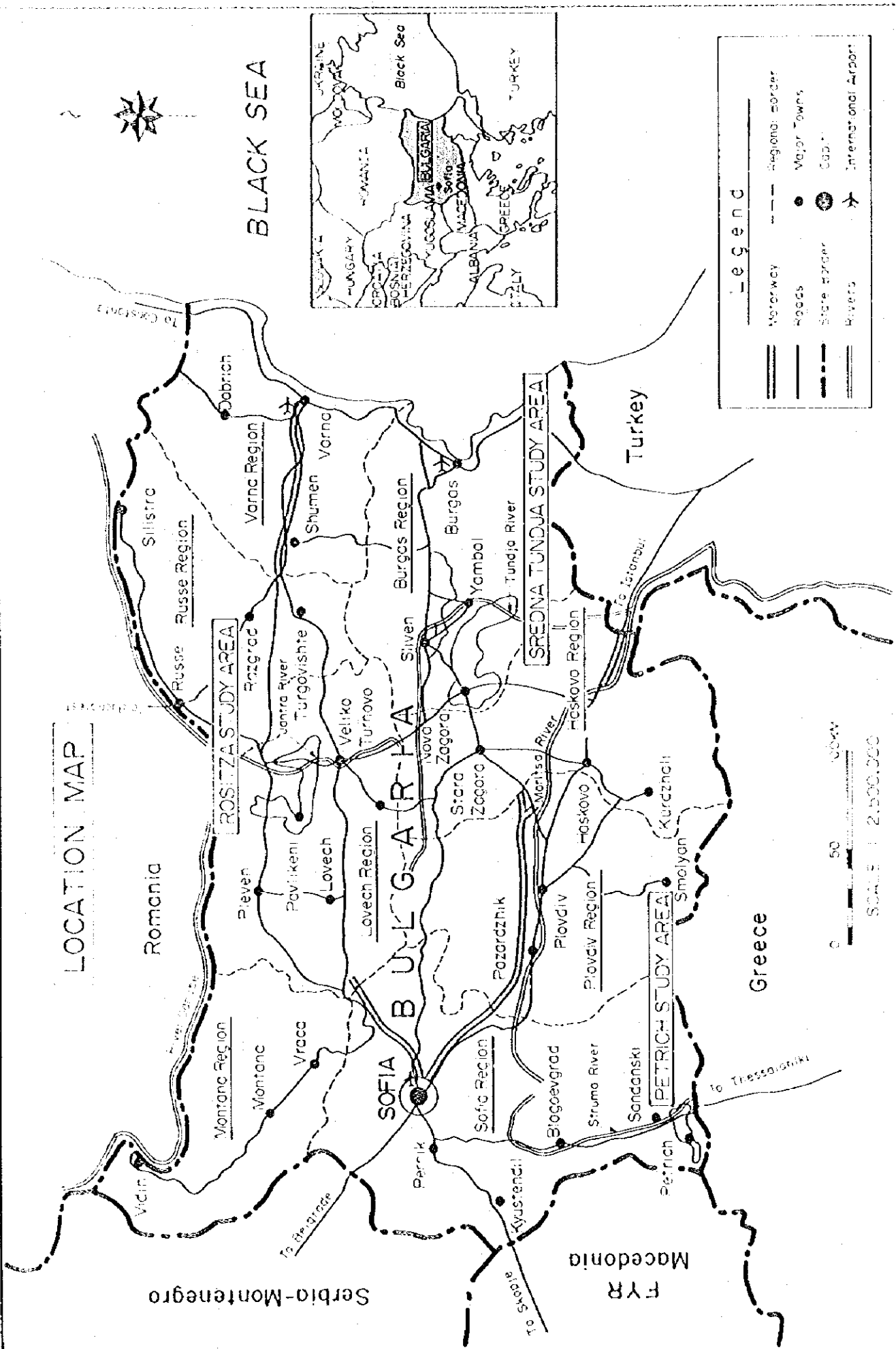


Toshimasa KOBAYASHI
Team Leader,
The Feasibility Study on the Project for
Agricultural Reform in Bulgaria

LOCATION MAP



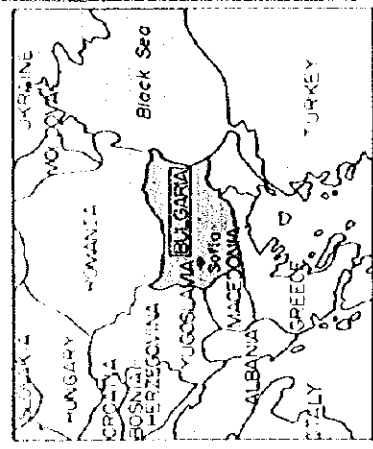
LOCATION MAP



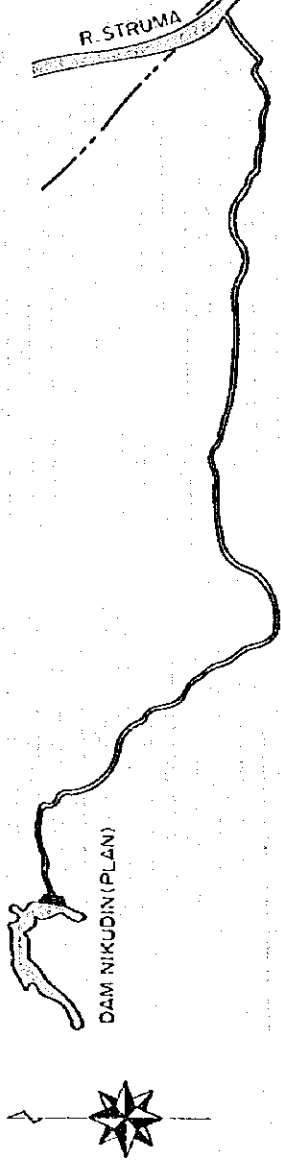
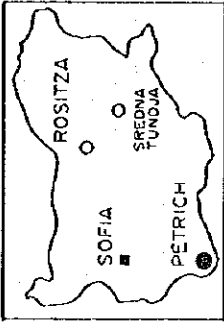
Legend

- Motorway
- Roads
- State Border
- Rivers
- Regional Border
- Major Towns
- Capital
- International Airport

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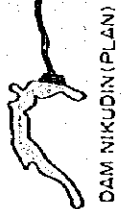


PETRICH STUDY AREA

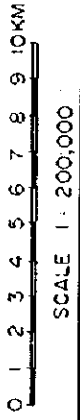


LEGEND

| | |
|--|-----------------------------|
| | Irrigation Block Boundary |
| | Irrigation Canal |
| | Tunnel or Siphon |
| | Reservoir |
| | Head Works |
| | River |
| | Municipal Boundary |
| | National Boundary |
| | Rail Road |
| | Settlement |
| | Study Area Case I |
| | Additional Area for Case II |

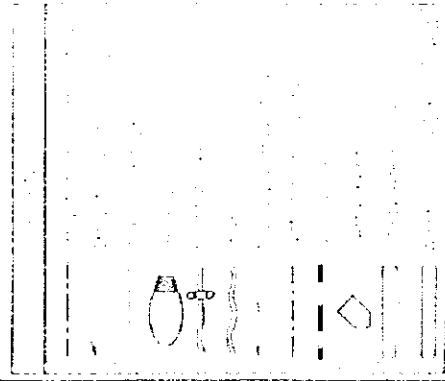
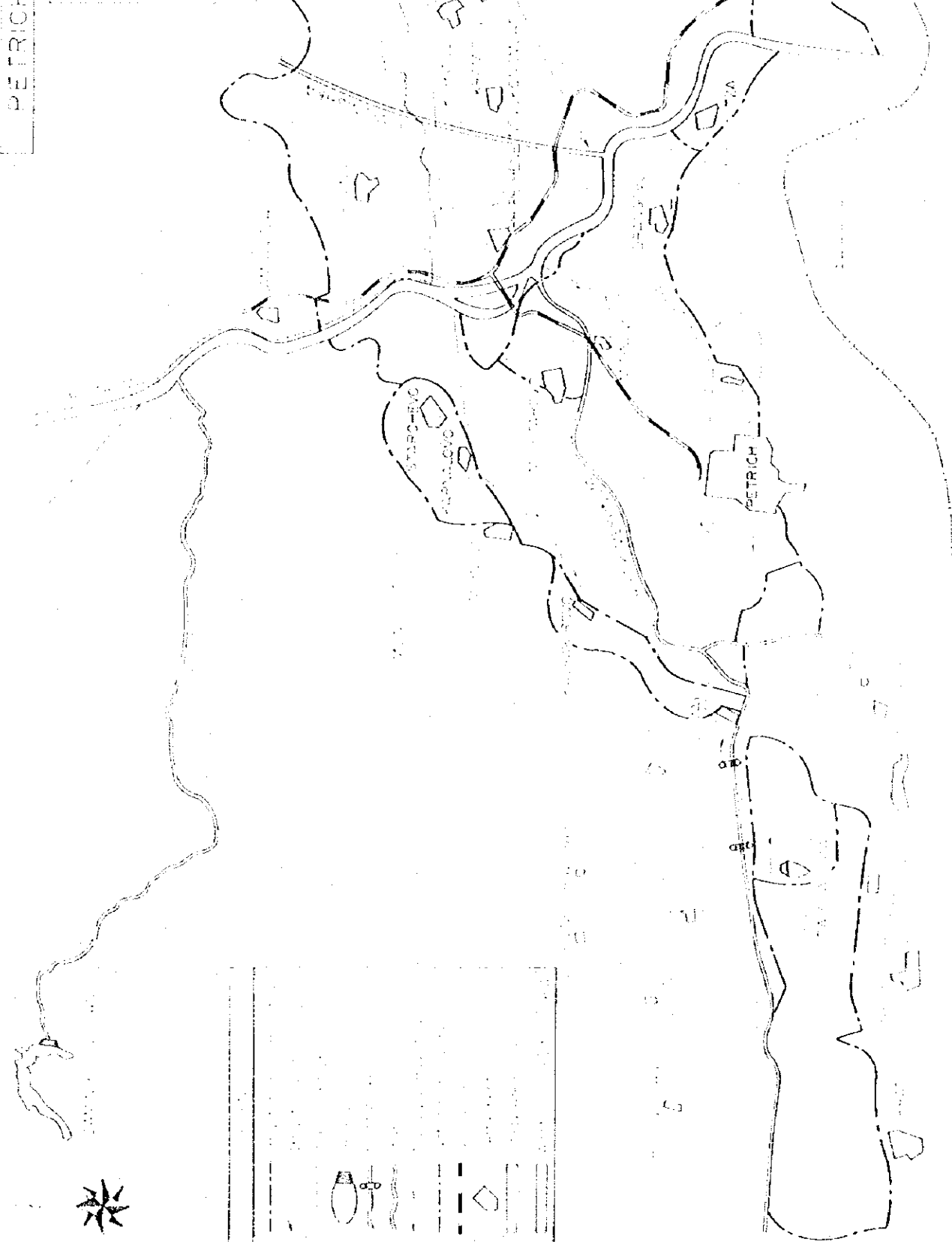
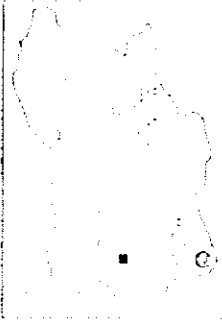


DAM NIKUDIN (PLAN)

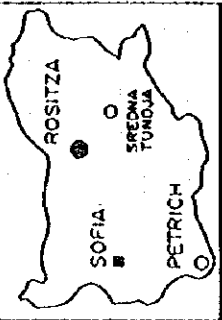


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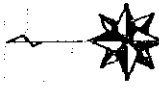
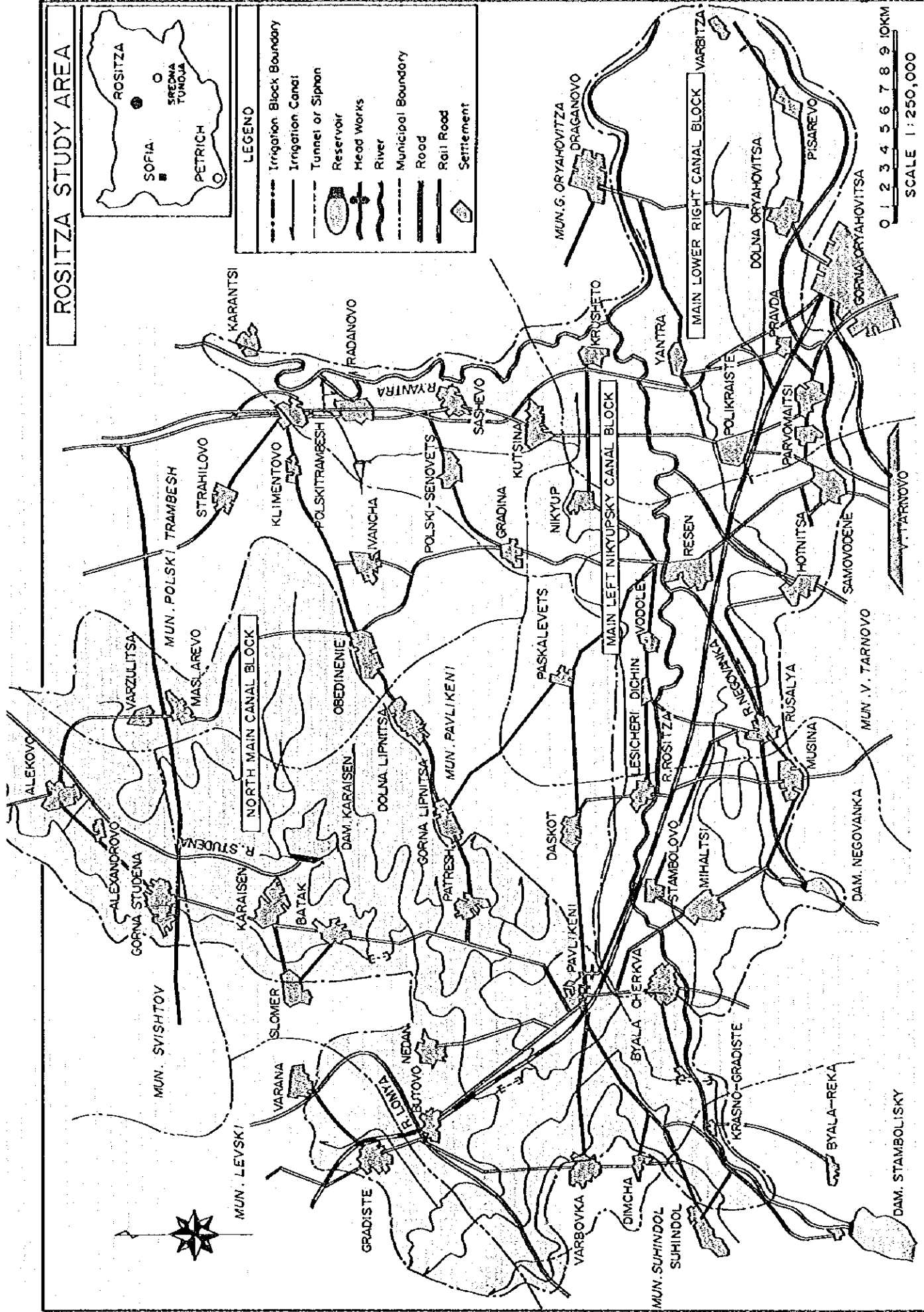
PETRICH STUDY AREA



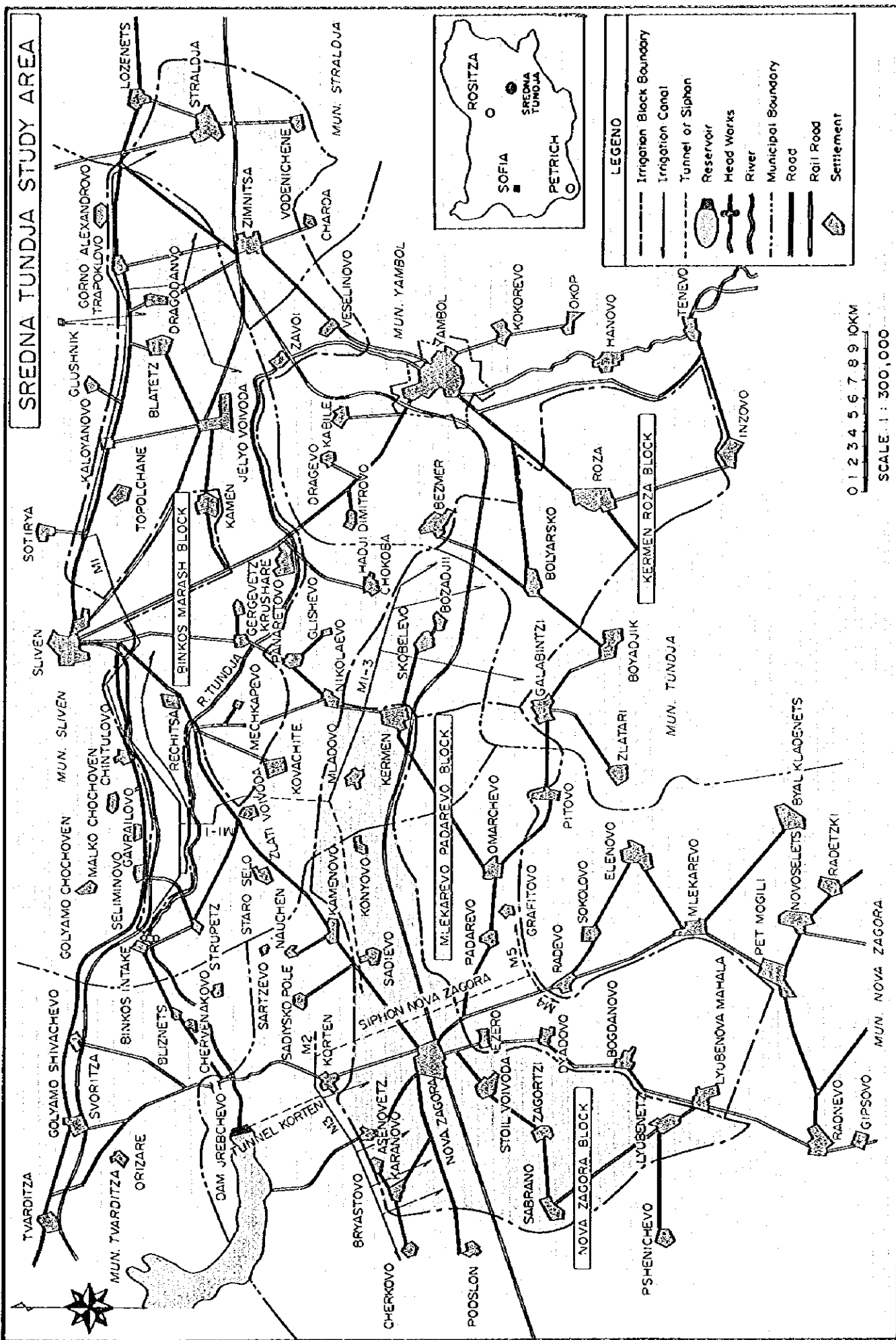
ROSITZA STUDY AREA



| LEGEND | |
|--------|---------------------------|
| | Irrigation Block Boundary |
| | Irrigation Canal |
| | Tunnel or Siphon |
| | Reservoir |
| | Head Works |
| | River |
| | Municipal Boundary |
| | Road |
| | Rail Road |
| | Settlement |

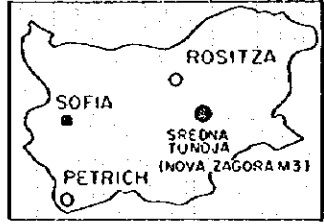
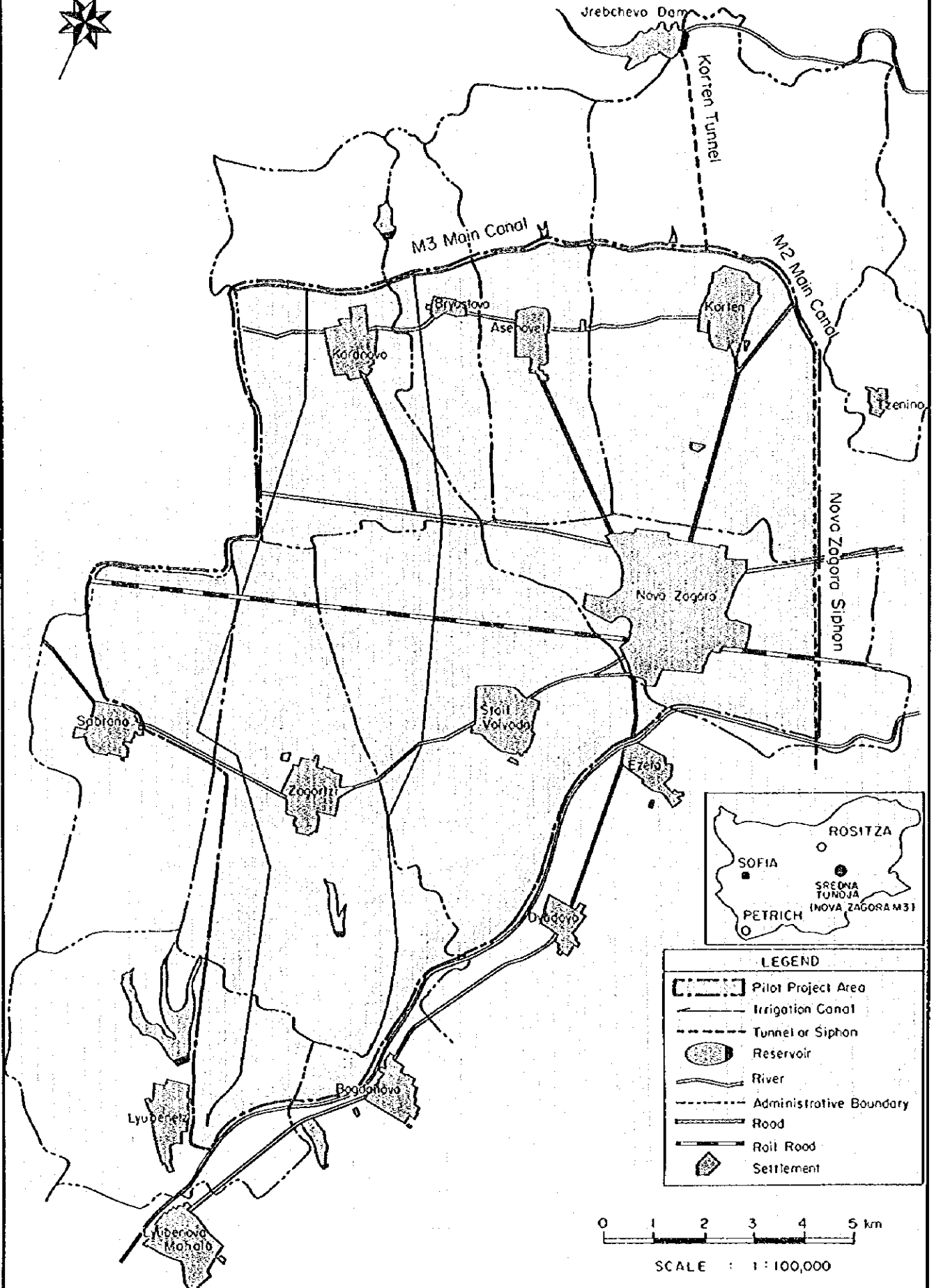


SREDNA TUNDJA STUDY AREA

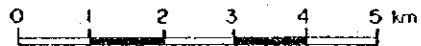


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NOVA ZAGORA M-3 CANAL PILOT PROJECT AREA MAP



| LEGEND | |
|--------|-------------------------|
| | Pilot Project Area |
| | Irrigation Canal |
| | Tunnel or Siphon |
| | Reservoir |
| | River |
| | Administrative Boundary |
| | Road |
| | Rail Road |
| | Settlement |



SCALE : 1 : 100,000

Executive Summary

Part I National Background of the Study

Background

The agricultural sector is of critical importance to the economic development of Bulgaria and its promotion and reform is an important task of the nation's successful adaptation to a market-oriented economy.

Reform plans in agriculture include attention placed on individual land ownership, investment, support services, privatization of agricultural processing industries and marketing systems. The objective of agricultural reform is to develop a new production, processing and marketing structure that will be internationally competitive.

The Japan International Cooperation Agency (JICA) decided to conduct the Feasibility Study on the Project for Agricultural Reform in the Republic of Bulgaria. Its objectives are to formulate the agricultural development plan in order to support the restoration of Bulgarian agriculture and to carry out technology transfer to the Bulgarian counterpart personnel through on-the-job training about methods of the study, procedure of planning and formulation of the Project in each specialized field. The Study is funded by the Japan International Cooperation Agency (JICA) and the counterpart (executing) agency is the Ministry of Agriculture and Food Industry (MAFI) in cooperation with the Irrigation Systems Company in Bulgaria.

In support of these objectives, the JICA Study Team consists of 11 experts as shown in the Appendix N-4 Assignment Schedule has completed a review of national-level conditions prevailing in Bulgaria, and surveyed the three Study Areas of Petrich, Rositza and Sredna Tundja. This Report is comprised of data collection and analysis, including the JICA Study Team's formulation of a master plan for three Study Areas and selection of the Pilot Project Area among the Study Areas. The Feasibility Study and analysis of project evaluation was completed for the Nova Zagora M3 Canal as the Pilot Project Area.

Macro Economic View

Before 1989, Bulgaria's economy was heavily dependent on trade with Russia and other countries of the former Soviet Union. In the early 1990s, the economy suffered from the loss of guaranteed COMECON markets for Bulgarian products. For decades, politicized bureaucrats rather than markets, allocated goods and services. Transition has therefore proven to be a learning experience filled with painful bumps and shocks.

The economic stability experienced in 1995, has not been sustained in 1996. Bulgaria continues to weather a turbulent period of high inflation, exchange rate fluctuation and productivity declines. The monthly consumer price inflation leaped to 23.3 % in July 1996 from 2.4% in April largely because of the fuel price hike since it has undergone a change at the range of 17 - 20 % up in a month with moving together drop of the Leva-dollar exchange rate. On the first of June, the value added tax increased from 18 % to 22 % and power and heating prices increased in line with pledges made to international lenders. In a move to boost budget revenues, the government introduced a new 5% import tax and increased duties levied on spirits and cigarettes. NSI analysts reported annual inflation in 1996 was 311.0%. However, the inflation has been accelerated more and more and monthly inflation jumped to 43.8% in January and 243.0% in February 1997 which is the highest monthly rate since the beginning of Bulgarian transition. When the results of the general election became clear, the economic fluctuation was rather stable, but the future macroeconomics condition will be unknown depend upon the policies of the new government together with the assistance of the IMF. With a projected stabilization of the exchange rate and the adoption of the Currency Board Arrangement (CBA), inflation is expected to decline to monthly rates below 2 percent by the end of 1997.

The Leva, the national currency, lost value against the dollar, reflecting the country's wider financial destabilization. The Leva traded at around 156 to the dollar at the end of June 1996 and the Leva fell under 500 lev/US\$ at the end of December to 3,000 lev/US\$ by mid-February before rebounding to about 1,500 lev/US\$ in mid-March 1997.

As the result of the deteriorated macroeconomic condition from January-June 1996, GDP is down 6.2 % (Lev 493,199 million) compared to the first half of last year at comparable prices. Especially in the second quarter, the decrease in agriculture output is remarkable and recorded at down 21.8 %. According to NSI, GDP in 1996 was Lev 1,660,000 million, down 10.9 % since 1995. The goal of 2.5% GDP growth in 1997, as agreed under the IMF stabilization program, remains a challenging target given the stagnation of 1996.

Agriculture in Bulgaria

1. General Information of Agriculture

The Republic of Bulgaria covers an area of about 110,000 km² with a population of approximately 8.4 million people. Agricultural land is an estimated 6,200,000 ha or about 56% of the total land area. The main crops are wheat, maize, alfalfa, barley, and renowned processed products include, yogurt, cheese, wine and rose oil for perfume.

The sector provides approximately 24% of the nation's gross national product, employs 12% of the total labor, and 20-25% of the exports. Approximately 20% of this export value comes from products of animal and plant origin, food, drinks and tobacco. Agriculture and its processed products are therefore, an important source of income and a promising growth industry if former markets are restored and new sales channels are found.

The most important cereal crop in Bulgaria is wheat, with total production in the last five years peaking at 4.5 million tones. Maize is the second major crop, with 2.5 million tones and it is used principally as an animal feed. Barley, follows in importance with about 1.5 million tones planted annually for consumption by both the feed industry and brewers across the country. Sunflower is the major oilseed in Bulgaria, and sunflower oil exports hold promise in a revised policy regime. Tobacco, grown on 14,000 ha in 1995, is the dominant export crop. Bulgaria has a tradition as an exporter of tobacco leaf to former Eastern bloc countries. Commercial vegetable production has declined with the loss of markets and privatization of processing industries. Bulgarian fruits, notably peaches, apricots, apples, and table grapes, are highly regarded although orchards and vineyards have greatly been destroyed and abandoned during liquidation of state farms and land reform confusion. Wine production, once a flourishing industry, is still a source of national pride and good quality low-priced wines are now beginning to find new foreign markets.

Livestock production has fallen off drastically following the collapse of the state livestock enterprises. Liquidation councils, land ownership confusion, high feed prices and low meat prices forced a massive sell off of animals in the early 1990s. The export of live animals, meat and hides was a major source of income for Bulgaria. The decline in animals slowed and stabilized in 1994, although exports remain limited. Livestock numbers are hard to verify given the changes towards increased small family farms.

2. Agricultural Policy

Agriculture in Bulgaria has traditionally been a source of national pride and has functioned efficiently to provide a variety of plant and animal products for domestic and export markets. Reforms in the 1990s, and a lack of direction on agricultural policy, has drained the vitality of the sector. Collective farms have been transformed into farmers cooperatives or liquidated and their assets divided among individual producers. Confusion over land reform, lost access to inputs and supplies and the disappearance of traditional markets has caused fields to be neglected, orchards and vineyards to be abandoned, and small farmers to struggle to make a living in farming. Livestock populations have been sold off, and yields and efficiency of crop production drastically reduced. Bulgaria finds itself in-between, neither fully stepping out from under the old socialist system or establishing a new market model of production.

Change abounds, and more restructuring is vitally important. Support to agriculture through research, extension, planning, market information, input supply, purchasing, machinery services and processing all require attention. Re-training and re-orientation call for the political will to re-organize and a major investment of Government funding.

The Agricultural Fund and the Amelioration Fund are the two principal pools of domestic finance for agricultural investment, including irrigation infrastructure investment. MAFI's Investment Policy Department takes the lead in guiding the prioritization of the funds, and distributes money via regional Governors and municipal structures. The Agricultural Fund is supported through privatization proceeds, export taxes on farm products, public farm land leases, and central budgetary allocations. The Agricultural Fund is a principal source of support for producers through price supports and preferential credits. Taxes on the profit of all state enterprises make-up the bulk of the Amelioration Fund resources, and the money is directed towards improving hydro-amelioration infrastructure.

In 1995/96, wheat received the majority of Agricultural Fund resources with an estimated 95% of the planted wheat subsidized at 350 Lev. per decare. The subsidy to producers is spread over three tranches. Typically, Bulgaria grows 1.1 million hectares of wheat, and the Government carries over 400-500,000 tones as grain reserves. In 1995, the reduced area, poor seeds, lack of fertilization, and early winter and late spring resulted in lower yields. Imports of wheat are planned in 1996, soaking up US\$85 million for 400-500 thousand tons. Further more due to the severe economic crisis started from the end of 1996 to early 1997, the estimated shortage of the new grain

production in 1997 amounts to 200 thousand tons of wheat and 250 to 300 thousand tons of fodder grain.

Policy decisions are needed in order to provide clarity on the type, scale, organization, and range of production units GOB wishes to encourage. As land restitution is finalized, associations, cooperatives and private farmers will seek to maximize the potential for commercially viable agriculture to take advantage of the rich agricultural lands.

3. Agricultural Reform

Officially, many of the old state-owned enterprises have been re-organized to some extent, however, still retain their past personality and their monopolistic status. Raw materials prices are in part, low, because of the monopoly over raw materials purchasing, processing, and distribution. Further restructuring, including privatization of a number of large agricultural enterprises, is scheduled for late 1996 and into 1997.

The acceleration and completion of the process of restoration of the ownership rights over agricultural lands will be the main target in 1996 and 1997. Land restitution, optimistically, will be completed in 1998 after which time production of now idle lands will resume and orchards and vineyards might be revived.

The Government is proceeding with the privatization of state-owned enterprises. The process began in 1993, and is planned to accelerate through 1997 with leading agro-processing enterprises targeted for privatization, making up 25% of the list of firms up for privatization.

European Union guidelines have provided both a model and an incentive for focusing the Government's attention on certification and export requirements. Market information systems are also recognized as an important resource for producers to decrease transaction costs, anticipate demands, and respond to domestic and foreign marketing opportunities.

4. Food Processing

Processing industries are vastly underutilized. The collapse of export markets and decline in real incomes, and accumulated debt, have caused a serious decline in processed output. Raw materials are reduced, and the old markets for processed products have disappeared. The dairy and brewing industries show a relatively high

rate of privatization, and recovery. The meat and vegetable, and oil industries lag behind. Cereal production has been adversely affected by the unprofitable state milling and feed companies.

5. Marketing

Marketing and distribution remains a major impediment to agricultural sector growth. Monopolistic purchasing power by processors is observed in the cereal and sunflower subsector, notably in the Rositza and Sredna Tundja study areas. For marketing of wheat and feed grains, the role of state is dominant. Private wholesalers increasingly purchase wheat and provide storage. The main commodity exchanges are in Dobrich, Varna and Montana. Wholesalers are the main suppliers for feed mills, and feeds are largely purchased by state-owned pig and poultry farms. Sunflower oil processors are dominated by 14 state firms, procuring 70-80% of the sunflower seed and producing 85-90% of the oil. Tobacco is strictly controlled by the government, through producer licensing and contracts, and established prices.

Producers now frequently sell produce on the street, on the farm, or through small producers markets for on-ward fresh product distribution. 70% of the total marketable vegetables and fruit are now traded in assembly and street markets. Presently there are seven national stock markets for cereals and sunflower, and three wholesale markets for vegetables and fruit.

6. Farmer's Organization

Production cooperatives are the predominant form of organization in the early years of market reform. The absence of credit, the high cost of machinery, and the security offered by massive state purchases of leading products reinforces this trend in the medium term. The completion of the land restitution process likely will encourage a reduction in the number of cooperatives and an increase in the formation of associations, lessees and private farm operations. An improved policy environment will strengthen the economic standing of farmers and encourage individual and new forms of association for production, input supply, credit, and marketing. Agricultural credit services are recently available for private farmers by EC-PHARE with the interest rate of 54%, though market interest rates are extremely high. Taxes on farm income are waived for five years. Late 1996 brought the ratification and implementation of a new land lease act, and land consolidation and a land market will require further legal guidance.

7. Institution

Agricultural extension, vocational education, and formal agricultural education and research are important components of a strategy to reform Bulgarian agriculture. New technical knowledge and farm management advice are particularly important in an environment filled with farmers struggling to make a living on their own. Re-training and re-tooling for the demands of a market economy will require educational institutions able to deliver valuable learning opportunities. Strengthening local government's role in agricultural development, and expanding an extension service network are top priorities.

An estimated 16% of the employable adult population is engaged in agriculture. Approximately 8% of the agricultural workforce is employed by private sector groups and firms. Seasonal workers in agriculture are estimated at 2.0 to 2.2 million people. Long-term education and vocational training programs are vital to rebuilding a rapidly aging agricultural labor base.

8. Water Users' Association

Water User Associations (WUAs) are encouraged to help on-farm water distribution, the collection of water charges and the maintenance of on-farm irrigation and drainage infrastructure. However, WUAs have little relevance until the basic infrastructure is rehabilitated, tertiary systems are expanded, and the economic incentives and viability of irrigated agricultural production improves. There is a national history of association in rural areas, yet personal trust has been eroded in the chaos of the transition. It will take time and economic stability to restore the vitality of rural life. Now, the organization of WUAs is proceeding with World Bank support, and irrigation extension services are being explored. Legislation to permit and encourage WUAs was drafted in 1996, and sound legal guidelines, if implemented, will encourage WUA formation.

9. Irrigation Facilities

An inventory of the irrigation facilities in the three Study Areas records the base from which to re-vitalize irrigated agriculture activity. Tremendous infrastructure capacity was developed under the central planning system. As the organization of agriculture changes, and incentives are confused, the use of irrigation system has fallen. New ownership, or no clarity of ownership, has lead many facilities to fall into disrepair. Lands remain fallow or marginally productive. Use of irrigation facilities is between 10-20%, and fees for irrigation water delivery and operation and maintenance are expensive, avoided, and a struggle to collect. Infrastructure for irrigation will be used if access is improved, structures are rehabilitated, ownership is defined and incentives encourage

production leading to income generation.

More than 50% of the irrigation in Bulgaria is applied by sprinkler irrigation systems. Large scale cultivation and water savings are recognized factors for sprinkler use. Sprinkler systems are generally in better states of repair than other forms of irrigation. Drip irrigation is found in many orchards and vineyards, and systems are poorly maintained. Gravitational canal and pump irrigation systems prevail in many areas. An estimated 80% of the total irrigation area operated by the Irrigation Systems Company (ISC) requires rehabilitation to meet new ownership and use patterns.

Gradual change in responsibility for the management of on-farm facilities will nurture the skills and attitudes of irrigation managers and producers to the assumption of new roles. Flexibility in management style tailored to local and regional differences will encourage restoration of facilities. Continued, modest, subsidies for water use and O & M will support increased use, and facilitate the development of new mechanisms for recovery of charges and personal responsibility.

Continued attention is encouraged on environmental protection, particularly with efforts to strengthen environmental institutions, improve the regulatory environment and develop new funding mechanisms.

Part II Master Plan Study for the Three Study Areas

Study Areas

Master plan Studies for the three Study areas in Petrich, Rositza and Sredna Tundja have been made and a pilot project area has been selected among them on the basis of a selection criteria.

1. Petrich

The Petrich study area lies within the southern part of the Greater Sofia region, bordering the Republic of Macedonia to the west and the Republic of Greece to the south. The 11,000 ha planned irrigation study area is within the valleys of the Strumica and Strumeshnitsa rivers. Crop production is intensive in the alluvial soils of the narrow valley, and vineyards and pastures and orchards are found on the bench terraces. The area's main city is Petrich, and the area's administrative center is Sandanski. The major market is Sofia. The transitional Mediterranean climate allows for early vegetable cropping and multicropping, though irrigated agriculture is limited by facility operation and reduced water availability.

Agriculture in the region is based on vegetable, fruit, vineyards, and tobacco growing. In 1995, 46% of the region's land was under cereals, 7% technical crops, 11% fruit and vegetables and 36% fodder crops. Farms sizes are small, averaging 1.2 ha. Commercial animal production is limited by the small farm size.

The limited water availability in this study area will restrict the possibilities for agricultural production. The comparative advantage of the region is in terms of early season production, and their geographic access to the Sofia market. The small farm size is also limits productivity, though the local population is intensively cropping the available land. Low domestic prices for the products, and the competition from across the borders will restrict returns. Specialization and target marketing are essential strategies to maximize the advantages of this area.

2. Rositza

The Rositza study area defined as 50,700 ha is in the Lovech region in the north central part of Bulgaria, located on the northern fringe of the Balkan range. The topography of the area is gently rolling hills, dissected by valleys. The irrigation system is built in 1955

along the Rositza river valley and water applied through gravitational canals and pumping stations. The soils are alluvial, along the river, black earths, in the east and northeast, and gray forest soils in the upland areas. The major towns located near the area are Veliko Tarnovo, Gorna Oryahovista, and Pavlikeni. The climate is moderate continental, with frosts in October. The irrigation system was built in the 1950s and large portions requiring pumps are not operational due to high electricity cost.

The region grows cereals on the plains, wheat, maize and sunflower, and along the hills, orchards of plums, pears, and apples and vineyards are found. A large sunflower oil processing plant is found at Polski Trambesh. Much of Bulgaria's sugar beet is grown in the region, with a refinery in Gorna Oryahovista. In 1995, the crop mix for the region was cereals 55%, technical crops 16%, vegetables 5%, fruit and vineyards 12%, and fodder crops 12%. The average farm size is about 1.5 ha. The area is an important producer of wheat, corn and sunflower as dryland crops without irrigation. Cooperative farming is common, particularly for barley, maize and sunflower. Orchards are on the decline, though vineyards are reviving.

The area has been hit hard by the loss of Bulgaria's markets for processed fruit and vegetables, the sell-off of livestock in the early 1990s. Sunflower is the major income earner, facilitated by proximity to processing facilities.

3. Sredna Tundja

Located in the Bourgas region, south of the Balkan range, the extensive plains around the Tundja river combine with continental and Mediterranean to provide excellent conditions for irrigated crop production over the planned 97,000 hectares. The soils vary from alluvial adjacent to the river, to black earths along the extensive valley bottoms, to brown forest soils on the edges of the plains and foothills. Nova Zagora is an important agribusiness center, Sliven is the largest city and leading light industrial center, and Yambol is an administrative and trading town. Under current irrigation infrastructure, water supply from the Jrebchevo dam is adequate, although it may become limited with construction of new irrigation facilities.

Sredna Tundja has the most diverse cropping pattern of the three areas. The crop mix for the region is predominately cereals, 65%, 15% in technical cultures, 9% in fodder, 8% in orchards and vineyards, and 3% in vegetables. The region is an important national supplier of barley, sunflower, grapes and fruits. Farm size is larger than the other 2 study areas, averaging 14ha. Farm size combined with lower population density and the

prevailing cropping patterns encourages cooperative and mechanized farming.

This area has the richest arable land base, water and infrastructure availability, and a diversity of crops. The area is struggling to rebuild, and making strides to find solutions to the challenges facing agricultural producers under the new market conditions.

Rural Socioeconomic Survey

During Phase I field work, the rural socio-economic survey of 400 farms in 80 villages in the three Study Areas has been conducted. The survey was organized by study area: Petrich(100 farms), Rositza(150 farms) and Sredna Tundja(150 farms), by irrigation block and by farm size. Phase II field focused on the preparation of a pilot project for the M3 Canal Area in Sredna Tunja, building upon data from Phase I.

The indicators employed provided guidance on the common rural sociology across the country. Social infrastructure, largely built under centralized planning, provided a common environment with only minor differences across the three areas. Unemployment, a new phenomenon for the former socialist economy, is most pronounced in the rural areas where it has reached up to 20%. Negative population growth is found in many areas, and urban out-migration has not been a reaction to market reforms. Rural population decline is anticipated to continue. Maintenance of basic services, including pensions, education, health care along with the creation of new job opportunities are highlighted as the dominant concerns of municipal government. Continued highly centralized public expenditure management holds local government heavily dependent on quota-based budgetary allocations from the national government. Agricultural sector growth is a principal concern. The study confirmed that hopes and energies are directed to restoring an economically viable rural life.

Formulation of the Study Areas

1. Basic Concepts for the Development of the Study Areas

The main features incorporated in the development of the three Study Areas are reflected in 10 key concepts: (1) macroeconomics stability is recognized as a vital element of agricultural reform and expansion, and (2) clearer definition of economic policy and development approach will facilitate the reform. Particular issues are land ownership, organization of farm producers, prices, exporting and production subsidies. (3) Land restitution, settlement of former state property, and agro-processing enterprise privatization will provide conditions for market-based decision-making. (4) Regional differences, including the natural and human resource base, farmer attitudes, and

institutional strengths are real. The aim is to encourage decentralization and target planning to meet the needs of local areas. (5) International organizations providing assistance, particularly the World Bank, EC-PHARE, the EBRD, provide funding and ideas that may benefit marketing and farm organization restructuring. (6) Farm management, marketing systems will require a re-orientation to meet the demands of a market economy. (7) Extension services, research, and supporting services are recognized as an "investment" in agriculture, and important components of the institutional setting. (8) Environmental planning and monitoring is encouraged to sustain the wealth and prosperity of the nation. (9) Irrigation rehabilitation is recognized as one factor to increase yields as well as quality and improving use of existing facilities. (10) The economic viability of the study areas, and the subdivided irrigation blocks, are valuable to understand the potential of each potential target.

2. Sub-division of the Study Areas

The Pilot Project Area is justified in order to provide a model area for the other areas of Bulgaria. The Pilot Project Area is defined to be less than 30,000ha to best manage the demonstration effect of the reform strategy. The Rositza and Sredna Tundja Study Areas have been sub-divided in accordance with the irrigation system networks, which are called "Block" in this Report. The acreage of each Block in the Study Area is shown in the following table:

Acreage of the Block in the Study Areas

| Name of Study Area & Block | Acreage(ha) |
|---------------------------------|----------------|
| Petrich Study Area | 11,000 |
| Rositza Study Area | 50,700 |
| North Main Canal Block | 29,300 |
| Main Left Nikyupski Canal Block | 9,380 |
| Main Lower Right Canal Block | 12,020 |
| Sredna Tundja Study Area | 97,000 |
| Nova Zagora Block | 22,400 |
| (Nova Zagora M3 Block) | (13,220) |
| Mlekarevo Padarevo Block | 20,000 |
| Binkos Marash Block | 35,000 |
| Kerman Roza Block | 19,600 |
| Total of the Study Areas | 158,700 |

3. Development Strategy for the Study Areas

(1) Petrich Study Area

In order to utilize the advantage of the location near to foreign countries, an export-oriented agriculture in the Petrich Study Area can be promoted. Also, due to the warm climate compared with other regions, promotion of an intensive agriculture and early production of vegetables, fruits and high profitable tobacco is encouraged. Promoting the intensified agriculture production can contribute to providing employment to the labor force in the region. In order to overcome the disadvantage of small-size landholdings, organization of the farmers' cooperative among the intensified farming groups to enlarge the farm size is proposed. Through the cooperative, a share-purchasing system can be introduced for agricultural inputs and farm machinery, and also marketing and credit organization can be introduced as a function of the farmers' organization.

Intensive crop production, with high requirements for irrigation water, can be profitable. A sophisticated farm management system on the basis of irrigated agriculture production system should be established. Water users' associations are encouraged to operate and maintain their own terminal irrigation facilities.

The availability of the water resources is not promising. In addition, most of the irrigation water intakes come from the river by pumping system. In order to utilize the limited water resources effectively, the existing small-size storage dam should be utilized to store the pumped water from the river. As for the on-farm irrigation facilities, a pipeline system can be introduced to save water loss as well as to improve the operation and maintenance system.

Farming practices for the intensive vegetables crops require high farming technology for proper timing of fertilizing, pesticide and water control. Success will require supporting services and institutional strengthening. It will possible to attain not only increase the production volume but also the quality can be improved.

As for the marketing improvement, a collecting point in Petrich at the existing marketing site can be proposed to support the marketing network in Sandanski, where EBRD Project will establish a wholesale market.

(2) Rositza Study Area

Topography of the area is extended in the elevation of about 200m in the hilly and mountain area. The annual average rainfall is exceeded by about 100 mm from the Sredna Tundja area, so it will be suitable to grow cereals which demand low water requirements. The soil condition is also fertile. The farm size of the private farmers is rather small (about 1.5ha), so promoting and organizing a larger size of the farmers' organizations in collaboration with farming is recommended.

The irrigation facilities in the Rositza Study Area were constructed between 1945 to 1955. The major water resource at the Stanboliiski Dam has adequate capacity to irrigate the area. Approximately 40% of the Study Area is irrigated by pumps and at present, most of the pumps are not operating due to high cost of electricity. The area under the North Main Canal Block in the Karaisen Regulating Reservoir area, the water must be pumped at about 50 to 60m. Also due to the long period of termination of the operation, most of the pump equipment are out-of-order or destroyed. In such areas, it will be difficult to sustain economic viability even after the rehabilitation works are completed. The following table shows the acreage of the pumping and gravity irrigation area in each block, across the 3 regions.

Table of Pump and Gravity Irrigation Area

| Name of Study Areas and Blocks | Irrigation Area by Pumping(ha) | Irrigation Area by Gravity(ha) | Total Area (ha) |
|--------------------------------|--------------------------------|--------------------------------|-----------------|
| Petrich Study Area | 4,300 | 6,700 | 11,000 |
| Rositza Study Area | 23,380 | 27,320 | 50,700 |
| North Main Canal Block | 14,200 | 15,100 | 29,300 |
| Main Left Nikyupski Block | 1,130 | 8,254 | 9,380 |
| Main Lower Right Block | 8,050 | 3,970 | 12,020 |
| Sredna Tundja Study Area | 55,800 | 41,200 | 97,000 |
| Nova Zagora Block | 0 | 22,400 | 22,400 |
| (Nova Zagora M3 Block) | (0) | (13,220) | (13,220) |
| Mlekarevo Padarevo Block | 13,800 | 6,200 | 20,000 |
| Binkos Marash Block | 30,300 | 4,700 | 35,000 |
| Kerman Roza Block | 11,700 | 7,900 | 19,600 |
| Total of Study Area | 83,480 | 75,200 | 158,700 |

Water charge in the pumping up area will be very high due to the high electric charges. Also the rehabilitation cost will be very expensive, because most of the pump equipment requires replacement. Therefore, it has been proposed to be excluded from the rehabilitation area where the rehabilitation cost are very expensive. The gravitational irrigation area accords a high priority for rehabilitation. However, the Left Nikyupski

Canal is old and mostly an unlined canal. In order to save the water loss and maintenance cost, the canal should be lined by concrete.

As for the marketing networks, a rehabilitation project of the wholesale market will be planned at Plevén, but the project is not accorded high priority. Plevén is rather far from the Rositza Study Area. Therefore, a collecting point at Pavlikeni will be proposed for vegetables and fruits.

(3) Sredna Tundja Study Area

The farm size is larger compared with the other areas, and the size of the cooperatives is also quite large. The construction of all of the planned irrigation facilities in the Study Area has not been completed. The entire area can be irrigated by gravity from the main dam of Jrebchevo, however, water availability is not sufficient to irrigate the whole potential area of 97,000ha, if facilities were in full use. The agricultural development strategies for the Area are composed of promotion of a large scale farming systems on the basis of cereals cultivation by farmers' organization as well as supporting and promotion of the livestock production, more production of maize and introduction of fodder in the area.

The main function of cooperatives is limited to producers cooperatives, such as purchasing the agricultural input and shareholding of the land. Marketing prices and credit requires attention. A rehabilitation project by EBRD for the wholesale market for horticulture at Sliven and Stara Zagora is scheduled to be commenced in 1997. Links with these other project investments are important, therefore vegetable and fruits production is proposed to increase.

The main canal system has been lined. Water users' associations will be organized to operate modern terminal facilities to reduce the water loss. Also, the Water Users' Association should operate and maintain their terminal facilities. On-farm development can be done by the Water Users' Associations, organized along a technological principle.

Selection of the Pilot Project Area

1. Major Function to be a Pilot Project

The pilot project will serve as a model for the market-oriented agricultural reform. The functions of the pilot project are: to support low-cost irrigation rehabilitation, nurture water users' association, advance the marketing system and encourage a collaborative style for consignment of the production, strengthen farm organizations, develop a rental system for farm machinery, introduce advanced farming technology supported by institutional and supporting services.

2. Selection Criteria

In the selection of the Pilot Project Area, the following major criteria were reviewed in order to select the "Model Area": 1) Natural and Physical Conditions 2) Irrigation 3) Social Condition 4) Economic Condition 5) Marketing 6) Agriculture 7) Farm Management and Economy 8) Cooperative and WUAs 9) Environmental Impact. Based on the above major selection criteria, forty (40) selection items were developed and a score in each item was given in accordance with a weighted point system.

3. Selection Procedure

The macro-criteria (economy, marketing, etc.) were formulated on the basis of regional or Study Area, and not on a Block basis. The selection process was applying in the following three steps: 1) Comparison of the three Study Areas, and then exclusion of the Study Area which was not suitable for a pilot project. 2) Comparison of the Blocks in the remaining Study Areas, and selection of potential Blocks through detailed evaluation. 3) Final selection as the Pilot Area based on the results of the economic evaluation.

4. Decision on the Pilot Project Area

In the first screening, Petrich Study Area was excluded from the pilot area, because the water availability is not promising. The land ownership is small, and few farmers' organization are established mainly among the tobacco farmers. In the second selection, four Blocks were selected in the Rositza Study Area at the Main Left Nikyupski Canal Block, in the Sredna Tundja Study Area at Binkos Marash Block, whole Nova Zagora Block (including new construction of M2 canal), and Nova Zagora M3 Canal Block at the Western side of the Nova Zagora Block.

For the final selection of the Pilot Project Area, an economic evaluation for 4 Blocks has

been made to calculate the highest benefit-cost ratio (B/C). The following B/C ratios for the Block were achieved: Main Left Nikyupski Canal -- 1.239; Nova Zagora (including new construction of M2 Canal) -- 0.890; Binkos Marash -- 1.660; and Nova Zagora M3 -- 2.090. Nova Zagora M3 Block shows the highest benefit-cost ratio.

In the Main Left Nikyupski Canal Block, the rehabilitation cost of the main canal is high due to extensive length of the canal lining compared with the size of area, so the B/C ratio is low. In Sredna Tundja, the Nova Zagora M3 Block requires low rehabilitation costs bringing the highest ratio of the benefit cost. The B/C ratio in the Binkos Marash Block is high although most of the areas is irrigated by pumps. The operation and maintenance cost, which should be paid by farmers themselves is high which will directly affect the management of Water User's association in future. As a result, the Nova Zagora M3 Block has been selected as the Pilot Project Area.

Part III Feasibility Study on the Pilot Project Area in Nova Zagora M3 Canal Block

In completed the Feasibility Study, a series of key assumptions and observations guided the development of project concepts and components.

Key Assumptions

1. A fundamental assumption is that completion of the land restitution process is essential to successful implementation.¹
2. Following land restitution, active encouragement of land consolidation is essential. The current farmland ownership size does not allow economic management.
3. The rehabilitation of non-functioning parts of the existing irrigation system in the Pilot Project area is a necessary, but not a sufficient condition for agricultural development. Concurrently, improvements need to be made to the extension and advisory services, the marketing, and the farmers organizations in the area.
4. The current interest rates do not allow farmers to take out production loans, or to make capital investment in machinery, livestock, irrigation facilities, vineyards and orchards etc. Changes in the base rate, or access to credit at preferential rates will have a significant impacts.

Key Observations

1. The concentration of the former state owned capital resources, including machinery within the cooperatives, combined with the fact that the current marketing system is closely linked to the large parastatal marketing structures, both restricts the access of new entrants to agriculture production and hinders the development of efficient market driven and appropriate scale marketing systems.
2. At this time many producers are price-takers. The current on-farm storage structures are either not available or are inappropriate, thus farmers are selling at the time of the harvest glut. Establishment of appropriate on-farm grain storage systems will allow them to

¹ According to the Land Committee in Nova Zagora, land restitution will be completed by the end of 1998.

- increase their incomes and stabilize the market.
3. The successful completion of the ongoing privatization process of the state-owned agro-industries will significantly affect the agribusiness environment in the Pilot Project Area, diversifying the markets available for grain, and for processing crops.
 4. A failure to invest in the orchards and vineyards will significantly restrict the options for future agricultural development and increases in the quality and volume of production from this sector of the agriculture.
 5. Currently a number of organizations; cooperatives, groups of leasees, the banking systems, and government services such as extension, influence agricultural development in the area. Following land restitution it is likely that changes will occur in all these organizations. The project will have activities supporting and encouraging those changes that are supportive of agricultural development, improved access to markets and resources, and rational water use.
 6. The ISC regional office in Sliven is well placed to implement the necessary actions that will be required, from supervision of the engineering works, to the complementary areas of establishment and development of water user associations, selected transfer of responsibilities for operations and maintenance, and taking responsibility for a more equitable water pricing system that encourages rational water use and investment in on-farm facilities.

Basic Concept of Agricultural Development

Two themes characterize the basic idea for the Agricultural Reform Project ; ① "From Monotony to Variety" and ② "From Quantity to Quality."

In order to improve the present agricultural constraints in the Pilot Project Area, the dual approaches are important. ① Macroeconomics to define the direction of the project target related, and the relationship to the other sectors, and ② Direct countermeasures are vital to address agricultural sector problems and constraints.

1. Macroeconomic Approach for Increasing Agricultural Production

The current unstable macroeconomic condition in Bulgaria is caused by a variety of factors. For example, the accumulated payment for foreign debt, delayed social-economic structural reform, the national budget deficit and low production from economic activity such as

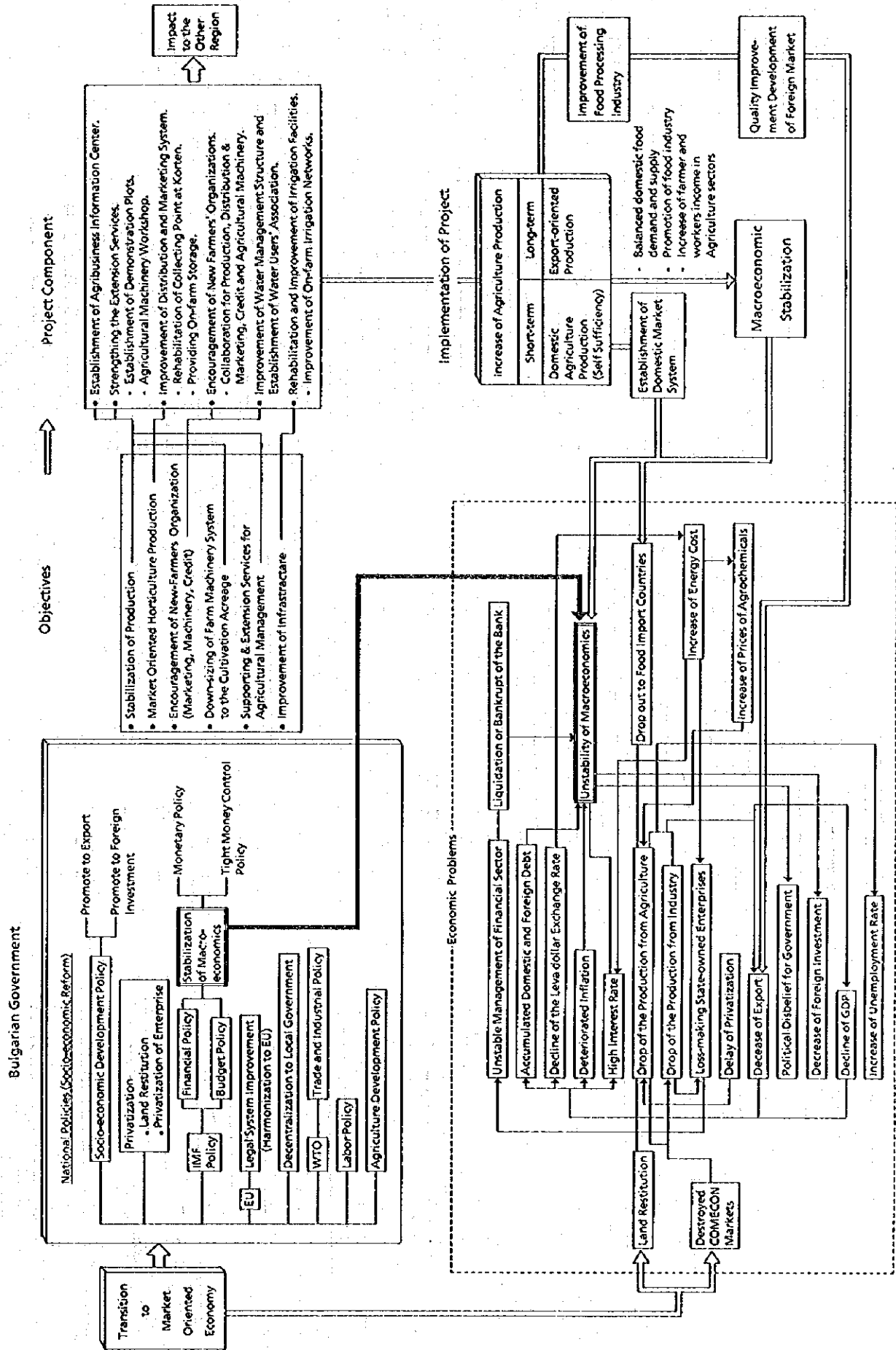
industry and agriculture sector, since the implementation of market-oriented economic system in 1989. Decline of production is the most influential problem for development of stable macroeconomics condition. At present, Bulgaria imports basic farm as well as industrial products and daily lives of people are supported by imported goods. Prices vary radically with the Lev-US\$ exchange rate. Since May 1996, Lev value vs. dollar continues to decline and inflation has escalated. Hyperinflation occurred in December, and continued in early 1997.

The IMF proposed the establishment of the currency board for developing the stable macroeconomics to Bulgarian government. However, this is only a monetary strategy, and it seems insufficient to change significantly the current economic condition. To stabilize the economic situation and increase production it will require implementation of an agricultural and industrial strategy.

Therefore, 'agriculture production increase' is the main objective of the strategy for agricultural development. Naturally, to attain the sustainable economic growth, it is necessary to consider an export strategy for fresh and processed agricultural products in the long term. Bulgaria is considered to have the potential to produce the high quality and low priced agriculture products can compete in international agricultural markets. Success depends on reconstruction of agricultural organizations and implementation of new information and technology for agriculture.

The link between macroeconomic problems and Project Implementation in market-oriented economy is described in Figure 1.

Figure 1 Linkage Flow between Macroeconomic Problems and Project Implementation in Market Oriented Economy



2. Direct Countermeasures for the Agricultural Sector

As for the direct countermeasures for the Agriculture Sector in general, the following 6 countermeasures are necessary to implement for the agricultural reform;

a) Establishment of Clear Agricultural Land Property Rights.

Major problems and confusion of Bulgarian Agriculture is caused by the current state of the system of land ownership of agricultural land. At present, most of the restituted farm land has only been approved to have temporary use rights, and most of the new "owners" have not yet established their property rights to their land. In Nov. 1996 the Agricultural Land Lease Act was announced. Currently, land leases are usually for one year in length. Its implementation will improve the situation with regard to leases and tenancy conditions and should therefore increase both the cultivation area and the land being farmed by private farmers. But the basic problems will not be solved. Without clear property rights, the following problems can be seen:

1. Farmers lack incentives to engage in and promote agricultural production without land ownership;
2. Due to the temporary use right, farmers do not have incentives to investment in their farm land, their buildings, their livestock or their machinery.
3. Due to lack of clear title and property rights to their land, there is no security for capital investments.
4. After the establishment of the land ownership, there are still problems because on any one farm, the land is scattered in several places. Regulations and governmental organization to proceed to the next stage, land consolidation, will be important.
5. In order to increase the average land holding size and farm management size, a land market act and the organization to take charge of the implementation of the act will be required.

b) Provision of Agricultural Credit.

When the property right for the farm land has been established, farmers will have more incentives to invest in their farm land. It will be necessary to provide an agricultural credit system with reasonable interest rates to promote the investment for their facilities and farm machinery.

c) Rehabilitation of Infrastructures.

In order to promote the farmers incentive to produce profitable crops and increase the quality of the production, diversification of the farming system will be necessary. On farm irrigation

facilities need to be readjusted to meet with the new farm sizes, the areas under cultivation and the types of crops. To promote the establishment of the Water Users Association and to facilitate easier operation and maintenance, measuring devices will be required. The on-farm irrigation system networks were designed for large (1,000 ha plus) cooperatives, not the emerging private farmers.

d) Establishment of New Private Farmers Organizations with Multiple Functions.

The current farmer organizations are frequently simply producer unions. It will be necessary to establish new private farmers organizations to promote competitive market oriented agricultural production. The new organizations should include not only producers unions but also organizations functioning on the basis of the principles of competition, as well as marketing and credit functions. It will be necessary to provide regulations and take actions to nurture and develop these new autonomous equitable organizations.

e) Improvement of Institution and Extension Services to Encourage Diversified Agricultural Production System.

Establishment of new institutions, and reinforcement of the extension service and information system networks, will play a very important role. The institutions are key to offer incentives for the farmers to improve quality and, introduce diversified agricultural production systems to meet with the emerging consumers needs and to select and produce marketable crops for both the domestic and export markets.

f) Export Oriented Agricultural Enterprises.

To move from a "quantity" to "quality" oriented the agricultural production system, it will be necessary to introduce and provide regulations and standardization of quality control, grading, ranking of quality of their production. Accelerating the privatization of the food processing industries, rehabilitation of their facilities, improvement of their management are important to upgrading the production systems to meet with the requirements of the international markets will allow the development and promotion of export-oriented agricultural production.

Project Components

In accordance with the basic concepts, the following six components have been selected for the Pilot Project implementation. The inter relation among these components and related factors are diagrammed in Figure 2.

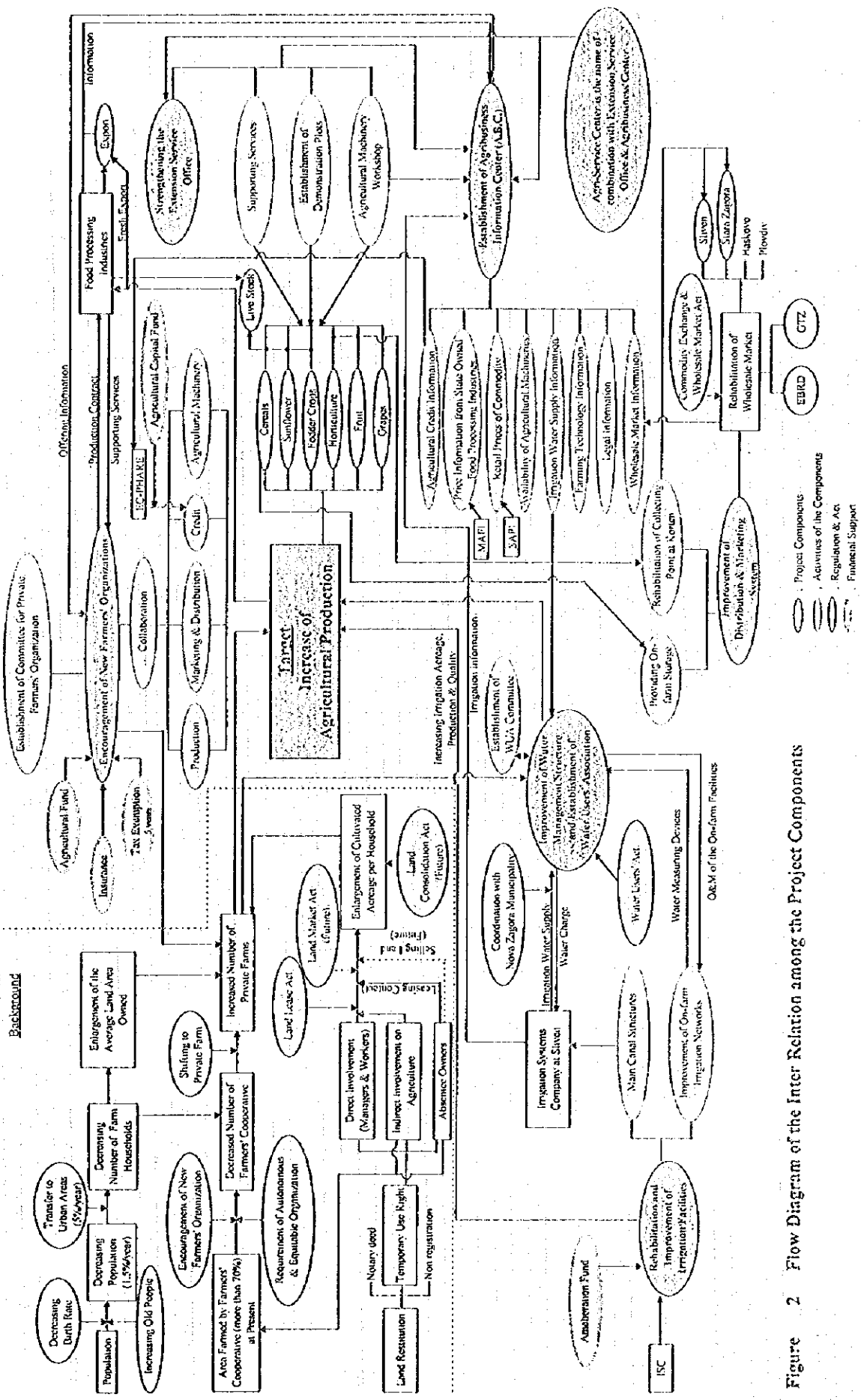


Figure 2 Flow Diagram of the Inter Relation among the Project Components

(1) Encouragement of the New Farmers' Organization.

The population of the Bulgaria is now reducing about 1.5% on an annual basis due to low rate of birth. In the rural area, younger generations tend to transfer to the urban area. In the Nova Zagora area the population is reducing about 5.0% in a year. On the basis of the trend analysis of the population in the area, about 22% of the population will be reduced during 10 year period in the Nova Zagora Municipality. As a result, the number of farm households will be reduced in the future. Promotion of rural agricultural development is vital to attract the younger generation in agriculture. However, due to the reduction of numbers of the farm household, it is necessary to increase the size of farm land area per household and the number of full-time farmers.

In the Project Area, more than 70% of the land is owned by absentee owners. Due to such land holding conditions, the management of cultivated land by farmers is complex. At present about 70% of total project area has been managed under the farmers' cooperatives.

Some of the cooperatives managed and controlled by a group of several managers, similar to the former collective farms. Under this complicated background, existing farmers' cooperatives based on the old collective structures, land holding systems and system of land restitution, the farmers do not have incentives to produce agricultural products. In the future, the farmers' cooperatives under the old type will likely dissolve and lands will be returned to private farmers. It is estimated that about 40% of the total project area (from the 70% at present) will be managed under the farmers cooperatives. The numbers of the private farmers will be increased and the farm management size per household will be increased in future. Accordingly, reorganization of the private farmers will be formed as lease and partner relationships. The new type of the private farmers organization should be encouraged requiring not only producers association but also distribution and marketing, credit and farm machinery. Technical assistance will be proposed to assist in restructuring the existing organizations and creating appropriate new ones, that operate as autonomous, equitable organizations.

(2) Strengthening the Extension Service Office

a) Establishment of Agricultural Machinery Workshop;

Large scale agricultural machinery is now used, and is a remnant of the former collective farms adopted to large scale farming systems. In the future, it will be necessary to provide smaller scale farm machinery for private farmers managing medium-scale farming of about 40 ha. However, the present economic situation will not support the purchase of this machinery by private farmers themselves without financial support such as agricultural credit or loan. Therefore, a farm machinery center (together with repair and spare parts shops) is

proposed within the extension service center in the Nova Zagora Municipality. The management will be through a leasing system.

b) Strengthen the Supporting Services for Horticulture;

In order to activate and accelerate market oriented agriculture, it is planned to utilize the on-going wholesale market project for horticulture. The market will be established in Sliven and Stara Zagora supported by financing from EBRD/GTZ. Cultivation of horticulture requires labor and high cost input materials, but may be profitable for farmers' income (High input but high return). Since introduction of suitable size of farm machinery has been planned, mechanized farming system for horticulture can be attained. Unemployment is high, and employment opportunities will be offered in the region by means of introducing selected labor intensive agriculture. It is necessary to strengthen the supporting services of the horticulture cultivation to the farmers, and re-establish processors to serve as major purchasers.

c) Settlement of Demonstration Plots;

The main purpose of the extension service center is to support and diffuse agricultural technology to the farmers. In order to supplement and strengthen the effect of diffusion of the farming technology, demonstration plots in key villages are necessary to demonstrate new skills to the local farmers.

(3) Establishment of Agribusiness Information Center (ABC)

In order to encourage and accelerate the farmers' willingness to participate in the market oriented economy, it is important to offer sufficient information related to their agricultural production. Prices and quantities of the agricultural production are very important for farmers, especially precise and timely information about the wholesale market in Sliven in order to encourage the farmers' direction to the market oriented economy. The information center will introduce an on-line computer system to link existing MAFI database systems, and offer information to the farmers.

In order to activate the ABC, farmers require data on their agricultural performance, information on supporting services, and irrigation supply schedules from ISC. Legal advice provision is also important. Recently, agricultural land lease act has been enacted and water users association act is under preparation. The contents, operation and new opportunities presented in the acts will require interpretation. For instance, no water users associations are registered, so the information and advice of registration system is very important to encourage and promote the establishment of WUAs. Also, guidelines and procedures to

apply for credit is very important. These information will be offered through published paper or radio, and seminars and lectures will be held in the center or within villages.

(4) Improvement of Distribution and Marketing System

At present EBRD/GTZ is supporting the rehabilitation of wholesale markets for horticultural crops. The first phase includes four project sites in Sliven, Stara Zagora, Haskovo and Plovdiv. In order to activate the wholesale markets in Sliven and Stara Zagora, highly profitable horticultural crops, especially vegetables and fruit are encouraged in the Project area. Under the collective-farm system, a large cooling facility was built in Korten. This facility can be utilized as a collecting point for vegetables and fruits with additional facilities of grading and packing equipments and forklifts. Introduction of a quality control and grading system will support obtaining better prices for produce sold in Sliven, Stara Zagora, and other markets.

The cereal crops are the main crops in the Project area, but the on-farm storage facilities are not sufficient. At present the harvested grains are brought to the milling factory directly without controlling the quality. The production of cereal crops is expected to increase, therefore, additional storage facilities will be required.

(5) Improvement of Water Management Structures and Establishment of Water Users' Associations

Under the World Bank Project, the restructuring of the irrigation system is being encouraged through the transfer of irrigation management and operation and maintenance to farmers. The program also seeks to improve water delivery and application efficiency by means of organizing Water Users Associations across the country. No WUAs are established in the Project area up to now. Coordination with the on-going World Bank project is encouraged to establish the WUAs in the Project Area.

In order to improve water management conditions in the project area, water management is necessary to encourage and strengthen both of facilities and organizations involved. This capacity building will focus on ISC from supply side, and farmers from the users side. The Nova Zagora Municipality needs to participate in the water management system and coordinate with ISC and WUAs. In order to activate and accelerate the irrigation water utilization and autonomous management of the on-farm irrigation facilities, WUAs are important within the irrigation network. ISC Sliven office is well placed to give advice on the establishment of the WUAs in accordance with the Water Users Act prepared by MAFI.

(6) Rehabilitation and Improvement of the Irrigation Facilities

No major reconstruction is planned under the irrigation rehabilitation, however repair of parts of the network and some improvements of on-farm facilities is proposed. In those limited areas where the farm management unit is small, supplements the on-farm network may be necessary. Water measurement devices will also be installed. All these improvements will be supportive of ISC Sliven's goal of rational and economic management of their irrigation water resources. The majority of the project area is likely to be operated in large management units, growing primarily dry land winter cereals, with some irrigated forage, maize and field vegetables. ISC Sliven is encouraged to operate as a regional authority, with the ability to negotiate appropriate arrangements for the pricing and delivery of water to the different kinds of WUA's. Successful client orientated relations will allow ISC Sliven to expand its irrigation acreage, improve water use efficiency in the pilot area and thus increase both the quantity and quality of the pilot project area's agricultural production.

Prioritizing Components

(1) Establishment of Agri-Service Center

Considering the present agricultural crisis in Bulgaria, it is important to seek quick yields with comparatively small investments. Priority among the 6 components is given to the establishment of the Agribusiness Information Center and the Extension Service Office especially Agricultural Machinery Workshop. In order to activate and efficient guide for the farmers, it is proposed to combine these two components at one place and named as "Agri-Service Center".

The staff for the ABC will need high knowledge of the computerized data-base system, efficient management technology for data collection and experiences in marketing, farm management etc. The success of the ABC will rely on the ability of its staff in sense of special training over a long period provided by experienced in field experts. The initial investment cost will not be large but the knowledge and technology will be crucial. The selection of the staff and their training should be seriously conducted.

Strengthening the Extension Service Center, especially introducing the agricultural machinery, will yield results of the private farmers. The economic conditions in the foreseeable future will not allow individual farmers purchase agricultural machinery. The machinery can be purchased by the project under Extension Service Office and then leased to farmers in order to repay some of the cost.

(2) Necessity of Foreign Experts for the Agri-Service Center

As the urgent countermeasure, establishment of Agri-Service Center, which is combined with ABC and Extension Service Office including Agricultural Machinery Workshop, has been proposed. At the initial stage of the Agri-Service Center, it is very important to have staffs who have sufficient ability and knowledge for the operation and management of the Center. It will be recommendable to dispatch experienced a few experts at the initial stage for a few years, to train and guide the local staffs in order to give sufficient knowledge for the operation and management of the Center by themselves. It is expected to exhibit sufficient effect from the beginning of the operate of the Center by dispatching the experienced experts and at the same time the local staffs can be trained through on the job training system. As for the urgent countermeasures, dispatching experienced experts will be a key point to bring the success of the Agri-Service Center.

Project Cost

The project cost includes construction cost, equipment procurement cost, engineering fee, VAT(22%), land acquisition cost, contingency and price escalation(6%/year in US\$ base), and estimated by US\$ at the exchange rate of 1US\$=224.3 Lev as of October 1996.

Table of the Project Cost

| <u>Components</u> | <u>(unit : US\$)</u> | | |
|---|----------------------|---------------------|-------------------|
| | <u>Local Cost</u> | <u>Foreign Cost</u> | <u>Total Cost</u> |
| (1) Agribusiness Information Center and Extension Service Office | 399,000 | 283,000 | 682,000 |
| (2) Agricultural Machine Workshop | 1,841,000 | 3,109,000 | 4,950,000 |
| Sub-total (1) & (2) as Agri-Service Center | 2,237,000 | 3,392,000 | 5,629,000 |
| (3) On-Farm Storage Facilities | 1,935,000 | 328,000 | 2,263,000 |
| (4) Korten Collecting Point | 269,000 | 360,000 | 629,000 |
| (5) Rehabilitation of Irrigation Facilities | 7,875,000 | 1,139,000 | 9,014,000 |
| Total | 12,319,000 | 5,219,000 | 17,538,000 |

Economic Evaluation

For the evaluation of the proposed project, economical internal rate of return (EIRR) is calculated. The costs comprise the project cost and operation and maintenance cost of facilities and equipment. The local currency portion of financial value estimated above are converted into economic value using the standard conversion factor (SCF) of 0.91, but the purchasing cost of the agricultural machinery of the component of Agricultural Machinery Workshop in the Extension Service Office is excluded because the cost is already included in the depreciation cost of the crop production. The benefits are focused on crop yield increases by implementation of the project comparing with the 'without' conditions. The current market prices of agricultural produce do not reflect to real economic situation in Bulgaria. International prices indicated in World Bank's publication are referred as real farmgate prices. Consequently the proposed project would bring EIRR of 24.4% with the Net Present Value (NPV) of 3.79 million US\$, which can be evaluated as feasible, highlighting the high development potential of the area and the sector.

CONCLUSION AND RECOMMENDATIONS

- (1) An early implementation of the Project is strongly recommended in order to support rural development and thus contribute to the development of the regional and nation as a whole. The field studies, interviews and analysis of data, along with the economic crisis facing the nation is weighted in this report and spurs the need for action.
- (2) The Pilot Project is meant to be a model area in Bulgarian agriculture that requires a diffusion of the results of the Project to the other areas.
- (3) Among the 6 project components, priority on the establishment of "Agri-Service Center". This combines the Agribusiness Information Center and Extension Service Office including Agricultural Machinery Workshop and promises good results yield with comparatively small investments. The final location of the Agri-Service Center and personnel for management and operation will need to be discussed in detail with the Nova Zagora Municipality and MAFI, though the concept was approved by the Mayor.

- (4) Among the components of extension service, distribution and marketing and establishment of WUA, there are on-going similar projects financed by international agencies, such as EC-PHARE, EBRD/GTZ and World Bank. It is important to coordinate with such international agencies and related local organizations.

- (5) Since the Pilot Project Area in the Nova Zagora M3 Canal Area is a part of Sredna Tundja Irrigation Area, establishment of water management structure in the Pilot Project Area requires coordination with other irrigation block such as Nova Zagora M2 Canal Block, Binkos Marash etc., especially to address water distribution from the Jrebchevo Dam.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management.

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Abbreviation and Terminology

Abbreviation

| | |
|----------|---|
| ABC | Agribusiness Center (Agribusiness Information Center) |
| AECD | Agency of Economic Coordination & Development |
| AEI | Agroeconomic Institute |
| AGI | Agrovod Invest Ltd |
| AMF | Ameriolation Fund |
| AMIS | Agriculture Marketing Information Service |
| APC | Agriculture Producer Cooperative |
| APF | Agriculture Producer Fund |
| BGL | Bulgarian Lev |
| BNB | Bulgarian National Bank |
| BSP | Bulgarian Socialist Party |
| CC | Consumer Cooperative |
| CCB | Central Cooperative Bank |
| CCU | Central Cooperation Union |
| CEEC | Central and East European Countries |
| CEFTA | Central European Free Trade Association |
| CIS | Commonwealth of Independent States |
| CM | Council of Ministers |
| COMECON | Council for Mutual Economic Assistance |
| DZI | Governmental Insurance Institute |
| EAP | Economic Active Population |
| EBRD | European Bank for Reconstruction and Development |
| EC-PHARE | European Communities - Poland and Hungary Aid Restructuring Economy; Programme of Assistance Extended to all CEECs |
| EE | Eastern Europe |
| EFTA | European Free Trade Agreement |
| EU | Europe Union |
| FAO | Food Agriculture Organization, United Nation |
| GDP | Gross Domestic Product |
| GOB | Government of Bulgaria |

| | |
|--------|---|
| GTZ | Gesellschaft für Technische Zusammenarbeit (Society for Technical Cooperation) |
| IEE | Initial Environmental Examination |
| IFME | Institute of Farm Mechanization and Electrification |
| IHA | Institute of Hydrotechnique and Amelioration |
| IIDR | Institute for Irrigation, Drainage Research |
| IMA | Irrigation Management Agency |
| IMF | International Monetary Fund |
| ISC | Irrigation Systems Company |
| JEB | Japan Embassy in Bulgaria |
| JICA | Japan International Cooperation Agency |
| KZ | Collective Farms |
| LAO | Local Advisory Offices |
| LPAP | The Law on Protection of Agricultural Producers |
| MAFI | Ministry of Agriculture and Food Industry |
| MCM | Million Cubic Meter |
| MLSW | Ministry of Labor and Social Welfare |
| MOE | Ministry of Environment |
| MOED | Ministry of Economic Development |
| MOF | Ministry of Finance |
| MOI | Ministry of Industry |
| MOT | Ministry of Transport |
| MTFC | Ministry of Trade and Foreign Economic Cooperation |
| MTS | Machinery and Tractor Stations |
| NASS | National Agricultural Advisory System |
| NCOW | National Council of Waters |
| NEP | National Economic Program |
| NSI | National Statistical Institute |
| O&M | Operation and Maintenance |
| PRA | Privatization Agency |
| RIIDHE | Research Institute for Irrigation, Drainage and Hydraulic Engineering |
| SAPI | System for Agricultural Information |
| SCF | Standard Conversion Factor |
| SDR | Special Drawing Rights |

| | |
|-------|--|
| SOE | State-owned Enterprise |
| TBF | Tabacco Fund |
| TC | Trade Cooperatives |
| TKZ | Labour Cooperative of Agricultural Firms |
| TIR | Transport International Routier |
| TPK | Labour Production Cooperative |
| UBB | United Bulgarian Bank |
| UDF | Union of Democratic Forces |
| UNDP | United Nations Development Program |
| USAID | United State Agency for International Development |
| VAT | Value Added Tax |
| VPE | Vodproject EAD |
| WB | World Bank |
| W/G | Working Group (Member of the Bulgarian side counterparts consist of the staff in the MAFI and ISC) |
| WSM | Wholesale Market |
| WTO | World Trade Organization |
| WUA | Water Users' Association |
| WUO | Water Users' Organization |
| WUU | Water Users' Union |

Currency (as of October 1996)

| | |
|------|---|
| Lev | Currency Unit of Bulgaria US\$ 1.0 = Lev 224.3 |
| ECU | Currency Unit of European Union US\$ 1.0 = ECU 0.8 |
| US\$ | US\$ 1.0 = ¥ 110.78 |

Unit of Measurement

| | |
|------|---------------------------|
| dec. | decare 1 dec. = 0.1 ha |
|------|---------------------------|

PART I

NATIONAL BACKGROUND OF THE STUDY

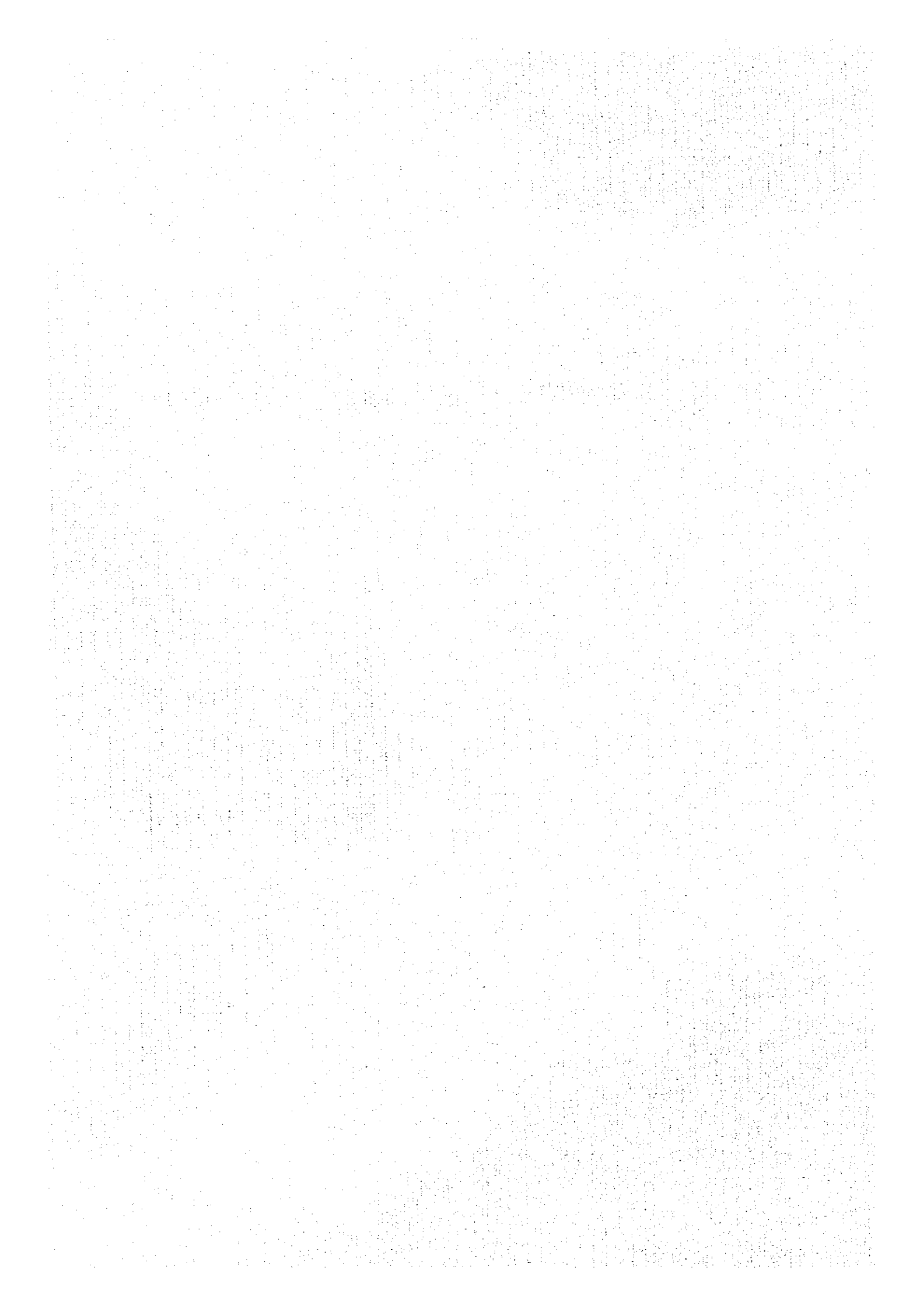


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CHAPTER 1. INTRODUCTION

1-1 Background of the Project

The Final Report for the Feasibility Study on the Project for Agriculture Reform in Bulgaria was prepared on the basis of the Scope of Work attached in the Appendix N-2. The Scope of Work was agreed upon and signed between the Ministry of Agriculture and Food Industry (MAFI) in association with the Irrigation Systems Company (ISC) of the Government of Bulgaria (GOB) and Japan International Cooperation Agency (JICA) of the Government of Japan.

The agricultural sector is of critical importance to the economic development of Bulgaria, and its promotion and reform is an important component of the nation's successful adaptation to a market-oriented economy. Economic reform efforts were, and continue to be implemented. In 1994, GDP growth was 1.4% per year. In July 24 1996, the International Monetary Fund (IMF) disbursed the first \$115 million tranche of the funding arrangement approved for Bulgaria.

1-2 Objectives of the Study

The objectives of the study are:

- 1) To survey the agricultural development in three Study Areas, Petrich, Rositza and Sredna Tundja, and to select one as the priority project area for a feasibility study. This study is designed to support the restoration of Bulgarian agriculture in a market-oriented economy in accordance with the Scope of Work agreed between MAFI and JICA.
- 2) To carry out technology transfer to the Bulgarian counterpart personnel through on-the-job training during the study, in the procedures of Project planning and formulation in each specialized field.

1-3 Management of the Study and Related Organizations

1-3-1 Work Schedule

The Study has been conducted according to the following two phases and each phase consisted of field works in Bulgaria and home office works in Japan. The assignment

schedule of the JICA Study Team together with the report submission of the study are shown in the Appendix N-4.

(1) Phase I - Year 1 (Fiscal Year 1996)

a) Study Preparation ; May 30 to June 5, 1996

As an initial step in study preparation, the Inception Report was prepared for reviewing the study implementation plan, and early explanatory meetings with MAFI and the Working Group had sought consensus on strategy for implementing this study.

b) Field Work (1) ; June 9 to August 29, 1996

The first field work had obtained a sound understanding of national agricultural sector priorities while completing a first-hand picture of conditions in each of the three Study Areas. Rural Socio-economic Survey had been conducted on total 400 farm households of 100 in Petrich, 150 in Rositza and in 150 in Sredna Tunja by random sampling methods. The Progress Report (1) at the end of the field work had been prepared and a selection criteria of one Pilot Project Area had been studied.

c) Home Office Work (1) ; August 30 to September 28, 1996

The Master Plan studies had been made for the three Study Areas and in accordance with the selection criteria for selection of one pilot area for the F/S in Phase II, and finalized the selection of the Pilot prefecture in Nova Zagora M3 Land Area. The results of the study are incorporated in the Interim Report.

(2) Phase II - Year 1 (Fiscal Year 1996)

a) Field Work (2) ; November 2 to December 16, 1996

At the beginning of the second field work, the results of the Interim Report have been explained to the W/G and the concepts have been approved and obtained the agreement. The Feasibility Study of the Pilot Project Area had been conducted to survey farm management definition, water management issues, agricultural mechanization and agro-processing industries in the selected pilot area of Nova Zagora M3 of Sredna Tunja. Also, the marketing and support service plan recommendations, infrastructure requirements, operation and maintenance concerns, farm organization strategies (producers associations and water user organizations) and environmental considerations had been studied. The Progress Report (2) had been prepared at the end of the field work.

b) Home Office Work (2) ; December 17, 1996 to January 16, 1997

The F/S for the proposed project containing ; a) estimation of project costs and direct/indirect benefits, b) establishment of management model, c) economic analysis by economic internal rate of return, d) income and expenditure plan evaluating investment needs by term length and operating expenses, e) implementation plan and f) final policy and institutional recommendations had been carried out. The results of F/S and the studies in Phase I and II had been compiled into the Draft Final Report. The Draft Final Report has been sent to the Bulgarian Government and submitted to the W/G.

c) Field Work (3) : March 3 to 14, 1997

The Draft Final Report has been explained to W/G, MAFI, ISC in Bulgaria and refined with their consensus on the sector strategies. The comments from the W/G for the Draft Final Report has been incorporated in the Final Report. The member of a part of W/G has been changed in accordance with the political changing of Bulgarian situation.

(3) Year 2 (Final Report) - Year 2 (Fiscal Year 1997) : Mid of April, 1997

The Final Report has been completed after making amendments to the draft on the basis of the comments from W/G.

1-3-2 List of Members Assigned for the Study

(1) Bulgarian Side

a) Phase I & Phase II (June 1996 to January 1997)

The Bulgarian Advisory :

| | |
|--------------------|--|
| Mr. Dimo Uzunov | First Deputy Minister of MAFI |
| Mr. Emil Betzinsky | Head of International Cooperation Department, MAFI |

The Working Group :

| | |
|-------------------------|---|
| Mr. Georgi Spiridonov | Chief of the Working Group |
| | Chief - Plant Production Division, MAFI |
| Ms. Ani Yamakova | Expert - Information Division, MAFI |
| Mr. Orlin Illiev | Expert - International Cooperation Division, MAFI |
| Mr. Kalin Andreev | Expert - Irrigation, MAFI |
| Ms. Miroslava Georgieva | Head - Economic Regulation Division, MAFI |
| Ms. Liliana Karafisieva | Executive Director - Irrigation Systems Company |
| Mr. Valentin Slavov | Senior Expert - Irrigation Systems Company |

b) During the Draft Final Report Explanation (March 1997)

The Bulgarian Advisory :

Mr. Hasan Ali Deputy Minister, Ministry of Agriculture and Food Industry

The Working Group :

Mr. Valeri Iliev Chairman, MAFI Working Group
Head of Section, Plant Growing Department
Ms. Miroslava Gueorguieva Head of Economic Regulation Section, MAFI
Ms. Elena Gugulanova Chief Expert - International Cooperation Study, MAFI
Mr. Kalin Andreev Expert - Plant Growing Department, MAFI
Ms. Anna Yamakova Expert - Information Department, MAFI
Ms. Krassinira Stoyanova Expert - Legal Department, MAFI
Ms. Liliana Karafisieva Executive Director, ISC
Mr. Valentin Slavov Head of Division, ISC

(2) Japanese Side

Embassy of Japan in Bulgaria :

Mr. Masatoshi Sato First Secretary - Embassy of Japan in Bulgaria

The JICA Study Team :

Mr. Toshimasa Kobayashi Team Leader
Mr. Nobuhisa Asano Expert on Macroeconomy
Mr. Yoshihiro Uchida Expert on Agricultural Management & Credit
Mr. Myles Elledge Expert on Organizations & Institutions
Ms. Naoko Toriumi Expert on Marketing
Mr. Jonathan Greenham Expert on Agronomy
Mr. Hiroshi Kondo Expert on Agricultural Infrastructure
Mr. Tihomir Katardjiev Expert on Rural Sociology
Mr. Yuji Aoki Expert on Project Evaluation
Mr. Mahbub Reza Expert on Environment
Mr. Seiji Miyamoto Expert on Design & Cost Estimation

Advisory Committee of JICA :

Mr. Osamu Koyama Chief of Project Advisory Committee, JICA
Mr. Ryoichi Nakasato Member of Project Advisory Committee, JICA
Mr. Katsutoshi Saegusa Member of Project Advisory Committee, JICA
Mr. Tetsuo Iwasaki Member of Project Advisory Committee, JICA

1-3-3 Government Structure

(1) MAFI

Government institutions responsible for management of the agricultural sector, like the economy as a whole, are in a state of transition. Analysts link poor agriculture sector performance to prevailing institutional ambiguities in Bulgaria, as institutions and organizations are central to defining roles and responsibilities to structure attractive incentives for economic performance. Indicative of the change, an organizational chart for MAFI as of May 1996 is shown in Figure N-1-2, Appendix N. However, this structure was likely to change again in late 1996.

Reliable information and bankable statistical data on the structure of Bulgarian agriculture as of June - August 1996 does not exist. Over the last five years, a series of administrative reorganizations has created new national, regional and local structures and a series of top-level Minister changes in MAFI. This transition of administrative structures is unable to keep up with the informality of new farm organizations. The statistical services are unable to keep pace with the evolving structure of farming and government administration. Data quality is suspect, availability is limited, and the administrative structure for collection of new data is not in place. Rapid changes in the land ownership and land use patterns aggravate the ability of a rolling administrative structure to collect data on agriculture sector activities.

MAFI reports formally to the Council of Ministers, the principal body for policy making under the Bulgarian Parliamentary form of government. MAFI is responsible for agricultural sector policy, including the food processing industry that GOB transferred from the Ministry of Trade and Industry in 1994. The country is divided into nine administrative regions (oblasts in Bulgarian) and further divided into municipalities. GOB appoints regional administrative leadership, and the regional government mirrors the national level structure of Ministries. Municipal leadership, a mayor, is popularly elected.

(2) Governance of Irrigated Agriculture

Direction of irrigation management falls within MAFI structure, via its staff concerned with crop production. In addition, institutions dealing with irrigation are found at the national, regional and local level. The National Water Council is the policy level organization responsible for authorizing water use.

The Agricultural Fund and the Amelioration Fund are the two principal pools of investment funding for agricultural activity, including irrigation. MAFI's Investment Policy

Department takes the lead responsibility for guiding the prioritization and allocation of the funds of the Amelioration Fund. While the funds of the Agricultural Fund are guided and allocated by the board of managers of the Fund the distribution is trusted to the municipal and regional structures.

Agrovodinvest is the principle investment policy making unit for investments into water management structures and design of irrigation facilities. Agrovodinvest will be a critical link in defining investment policy priorities in the irrigated agriculture sector as it assumes responsibility for tasking all projects. MAFI's Investment Policy Department formally directs all irrigation-related investment through Agrovodinvest. It is critical that implementing arrangements for irrigated agriculture investments recognize these prevailing management structures and incorporate MAFI and Agrovodinvest in forward planning.

ISC is a joint-stock company established in 1993. The State and MAFI wholly own ISC, and ISC has served as the principal counterpart after MAFI for JICA study team. ISC is responsible for maintaining main irrigation and drainage facilities. ISC is based in Sofia, staffed by water management specialists and has largely assumed a day-to-day management role of the use of irrigation facilities including their operation and maintenance and the collection of water user fees. ISC, with the advice of the World Bank, has also taken responsibility for encouraging the registration of Water User Associations (WUAs). ISC has a network of twenty branch offices across the country, but these do not correspond to the nine administrative regions or prevailing municipal structures. ISC institutional capacity and interest vary at each of the branch offices.

Additional important organizations under MAFI involved in irrigation management, besides ISC include: Vodproekt (design company), Vodnostopansto (construction company) and Agrocomplex (construction company). At the local level, cooperative roles are defined between ISC and these other state irrigation engineering companies. Several private construction firms are emerging, which work cooperatively, and at times competitively, with these State irrigation construction organizations. Those organization charts are shown in Appendix N-1.

CHAPTER 2. NATIONAL BACKGROUND

2-1 Natural and Physical Conditions

2-1-1 Location and Topography

Bulgaria occupies land in latitude 41°14' to 44°13' North and in longitude 22°22' to 28°37' East in the north-east part of the Balkan Peninsula. Bulgaria borders Romania to the north by the Danube river, Macedonia and Serbia to the west, Greece and Turkey to the south and the Black Sea to the east. The nation covers 110,993.6 sq.km including the water surface of international rivers and islands. The topography of Bulgaria includes:

| | | |
|----------|-----------------------------|--------|
| Plain | less than 200 m in altitude | 31.5 % |
| Plateau | 200 to 600 m | 40.9 % |
| Mountain | greater than 600 m | 27.6 % |

There are two major mountain ranges: the Balkan mountain range (Stara Planina) located in central Bulgaria, and the Rhodopes mountain range. The Danube height is located between the Danube River and Balkan Range, and the Thracian plain is between the Balkan Range and Rhodopes Range. Most agricultural lands are located in the Danube height and Thracian plain. The highest mountain in the Balkan peninsula is Rila mountain on the west side of Rhodopes Range. Rila mountain is 2,925 m above sea level.

2-1-2 Climate

The climate of Bulgaria is in the zone between a continental climate and a Mediterranean climate. The Bulgarian climate can be separated into four seasons; moderate summer, comparative cold winter, and the transition of these two seasons. Annual mean temperature of the country is 10 to 13°C. Annual mean precipitation ranges between 400 to 700 mm. Monthly climate condition of Sofia is tabulated as follows:

Climate Condition of Sofia

| | <u>Jan</u> | <u>Feb</u> | <u>Mar</u> | <u>Apr</u> | <u>May</u> | <u>Jun</u> | <u>Jul</u> | <u>Aug</u> | <u>Sep</u> | <u>Oct</u> | <u>Nov</u> | <u>Dec</u> | <u>Annual</u> |
|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|
| Mean Temp. °C | -1.5 | 1.0 | 4.9 | 10.2 | 14.4 | 17.7 | 20.0 | 19.8 | 16.3 | 10.6 | 5.1 | 0.6 | 9.9 |
| Precipitation mm | 27.9 | 35.5 | 36.4 | 50.0 | 65.1 | 67.6 | 51.3 | 48.4 | 35.3 | 32.6 | 47.7 | 44.9 | 542.7 |
| R. Humidity % | 84 | 78 | 72 | 66 | 68 | 67 | 62 | 61 | 68 | 75 | 83 | 85 | 72 |

Source : Science Year Book (Japan) 1996

2-1-3 Land Use

According to the agricultural year book, land use of the country is summarized as follows:

Land Use of Bulgaria

| <u>Description</u> | <u>Area (1,000ha)</u> | <u>Percentage</u> |
|---------------------------------|-----------------------|-------------------|
| Total Area | 11,091 | 100.0 |
| Land Area | 11,055 | 99.7 |
| Arable Land and Permanent Crops | 4,310 | 38.9 |
| Permanent Meadows and Pastures | 1,811 | 16.3 |
| Forest and Woodland | 3,877 | 35.0 |
| Others | 1,057 | 9.5 |

Source : Statistical Year Book of Bulgaria, 1995

Changes in agricultural land use are shown below. The table highlights changes from perennial crops to annual crops, and indicates stable levels of agricultural land.

Change of Land Use of Bulgaria (1,000 ha)

| | <u>1975</u> | <u>1990</u> | <u>1991</u> | <u>1992</u> | <u>1993</u> | <u>1994</u> |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total of Agricultural Land | 5,955 | 6,159 | 6,159 | 6,159 | 6,159 | 6,159 |
| Cultivation Land | 3,956 | 3,856 | 3,864 | 4,047 | 4,063 | 4,001 |
| Cropped Area | | | | | 3,614 | 3,399 |
| None Cropped Area | | | | | 449 | 602 |
| Grass Land | 278 | 287 | 289 | 291 | 278 | 270 |
| Combination Land | 112 | 204 | 197 | 26 | 58 | 156 |
| Perennial Crop land | 382 | 296 | 293 | 279 | 244 | 216 |
| Public Pasturage Land | 1,215 | 1,516 | 1,516 | 1,516 | 1,516 | 1,516 |

Source : Statistical Year Book of Bulgaria, 1995

2-2 Social Conditions

2-2-1 Local Government and Administration

Bulgaria has a population of 8,459,800 people in 1992. The nation is administratively divided into 9 regions that are further divided into 278 municipalities (in superscript figures) as follows : Sofia - city²⁴ (14 % of the total population), Bourgas²¹ (10.0 %), Varna³⁰ (10.8 %), Lovech³² (12.0 %), Montana³³ (7.4 %), Plovdiv³⁴ (14.4 %), Russe²⁷ (9.1 %), Sofia⁵⁰ (11.6 %) and Haskovo²⁷ (10.7 %). A regional administration, headed by a governor (appointed executive), duplicates the functions of the central government at the regional level, and plays mostly a consultative role. All regions consist of municipalities

which are local governing units with popularly elected mayors and councils of local representatives.

2-2-2 Social Conditions

(1) Drastic Change of the Political Circumstances in Bulgaria

Since late 1996 to early 1997, Bulgarian political circumstances have been drastically changed and the Bulgarian Socialist Party (BSP) has resigned from the ministerial position. The following paragraph explain the background of this political movements.

Since early 1996 Bulgaria faced on serious economic crisis. In the presidential election held on 6th November 1996, Peter Stoyanov from UDF has beaten the candidate of the BSP and he obtained more than 60% of the votes. In December 1996, the Cabinet led by Prime-Minister Zhan Videnov has to be resigned, and people requested a general election as soon as possible. It was resolved when, under the leadership by President Peter Stoyanov, the main political parties in Bulgaria reached an agreement on early general elections to be held on 19 April 1997. A caretaker government was installed under the recommendation of the President on 12 February, led by Prime-Minister Stefan Sofianski who is the Mayor of the Sofia City. The general election has been performed in accordance with the original schedule and UDF has obtained 52% of the seat. In May 1997, the new Cabinet led by Prime-Minister Ivan Kostov the leader of the UDF has been started.

(2) Population Characteristics

Population data is available through 1992 census results. Additional data on current demographic statistics (reports for births, marriages, divorces and deaths) for the subsequent years are also available. The census of 1992 indicates that the population of Bulgaria decreased by 5 % compared to 1985. The indicators of natural movement of the population are also negative, illustrating a decrease of life expectancy for men, negative natural increase (-3.8 % for the country and -10.8 for rural areas). The birthrate is 9.4, and the death rate 13.2.

The intensity of the internal (country) migration for the period between last censuses (1986-1992) was 39.7 per 1,000 people. Compared with the ten-year period between the previous two censuses, 1975 and 1985, the intensity of migration decreased two times but compared with the ten-year period between 1966-1975—it decreased four times. This decline is greatly associated to the depopulation of rural areas which population in 1992 was 2,783,000 people, nearly a million less than in the beginning of the century.

(3) Unemployment

Unemployment, something unthinkable before 1989, peaked at 20.5 % in October 1994. Unemployment was reported at 14.7 % in October 1995. The highest percent of unemployed people (37.7 %) is among young Bulgarians between 15 and 24 years of age. This fact is believed to contribute to the very high rate of crime (2.9 times higher than the average for the country) committed by the same age group. The average Bulgarian family member's real purchasing power has decreased since 1989 by 49.3 %. The country has experienced tremendous changes during last six years, bringing enormous hardship to the average Bulgarian.

(4) Education

During 1995/96 school year, 3,325 schools for general education, 128 schools for students requiring special care, and 535 professional schools functioned in the country. At these schools were educated 1,190,475 students. Student enrollment has decreased by 15.3% from 1989/90 to 1995/96 due to the decreasing birth rate.

2-3 Macroeconomic Conditions

2-3-1 Economic Development

(1) National Economic Development Program

Prior to 1989, the Government of Bulgaria managed the national economy based on five year-national economic development programs. However, after the transition to a market-oriented economic system, the long term national economic development program has existed as a nominal program. In September 1990, Bulgaria officially affiliated with IMF and World Bank. The National Economic Program (NEP) as agreed with IMF, is the major economical development policy program. This NEP includes a short-term economic action plan for the next two years.

The Government has given top priority to fiscal and financial policy, such as the reduction of the national budget deficit, rehabilitation for stabilization of banking system, and control of inflation. Macroeconomical factors restrict the reconstruction of each sector, including the agriculture. For example, a subsidy system for agriculture production is not implemented because of the reduction of governmental expenditure, and the high interest rate is a strain on agriculture producers and processors.

In May 1995, the government formulated the four-year national program of reform. The following objectives were included in the program.

- GDP growth rate equal to 5% in 1998;
- Annual inflation rate equal to 12% in 1998; and
- The private sector's contribution to GDP equal to 60% of GDP in 1998.

(2) 1996-97 Economic Program and The International Monetary Fund Strategy

Bulgaria achieved remarkable macroeconomics stabilization in 1995, as inflation fell sharply, real GDP growth edged up, and the external current account moved into a substantial surplus. However, delays in addressing financial problems in the enterprise and banking sectors undermined these results and contributed to the destabilization of the economy. The slow pace of privatization and structural reform remain as the major policy problems.

On 19 July 1996, IMF approved a 20-month stand-by credit for Bulgaria equivalent to SDR 400 million (about US\$ 582 million) in support of the Government's 1996-97 economic and financial program. In view of the substantial policy actions already implemented by the Bulgarian authorities and the country's immediate need to replenish reserves, IMF disbursed the first tranche (SDR 80 million; US\$ 115 million) in July. However, the second tranche (SDR 80 million; US\$ 115 million) scheduled for September was postponed because of the slow pace of structural reform such as macroeconomic stabilization, privatization of enterprises and closing of loss-making state firms and several insolvent banks in Bulgaria.

In October, IMF proposed the introduction of a currency board, as used in Argentina, Estonia, Lithuania and Latvia to stabilize and improve the macroeconomic condition. At present, negotiations between the government and the IMF for the establishment of the currency board is on-going. Information about the schedule for establishment of a currency board; its function and the constitution of the board member is not clear.

The macro-economics framework of Bulgaria's 1996-97 economic program, as agreed by IMF, includes the following objectives.

- achieve real GDP growth of 2.5% in 1997, after an expected stagnation in 1996;
- sharply reduce inflation from 20% per month to 2.5 % per month by end-1996, and to 1.5% per month by end-1997;
- achieve an external current account surplus of 3.1 % of GDP in 1996 and 2% of GDP in 1997;
- increase official international reserves by 50% by the end of 1996 to a level that will

cover over 2.5% of imports of goods and non-factor services, and to 3.5 months in 1997; and

- reduce the fiscal deficit from 4.7% of GDP in 1996 to 2.6% in 1997.

(3) Admission to EU

East and Central Europe, including Bulgaria, are required to meet the following requirements to join the European Union (EU).

- take on the obligations of membership including the aims of political, economic and monetary union;
- achieve stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities; and
- establish a functioning market economy able to cope with competitive pressure and market forces within the Union;

The timing of Bulgaria joining EU is unclear at this moment. However, it is unlikely Bulgaria will become a member of EU before the year 2000.

2-3-2 Macroeconomic Framework

(1) Economic Conditions

After 1989 the national economy reached a crisis due to loss of COMECON markets and structural reforms, such as privatization of state-owned and municipality property, and land restitution. By 1993, GDP had contracted drastically at the level of about 70 % of GDP in 1989.

Bulgaria's economic situation remains uncertain still. In 1996, economic performance declined. The monthly consumer price inflation leaped to 23.3 % in July 1996 from 2.4% in April largely because of the fuel price hike since it has undergone a change at the range of 17 - 20 % up in a month with moving together drop of the Leva-dollar exchange rate. On the first of June, the value added tax increased from 18 % to 22 % and power and heating prices increased in line with pledges made to international lenders. In a move to boost budget revenues, the government introduced a new 5% import tax and increased duties levied on spirits and cigarettes. NIS analysts reported annual inflation in 1996 was 311.0%. However, the inflation has been accelerated more and more and monthly inflation jumped to 43.8% in January and 243.0% in February 1997 which is the highest monthly rate since the beginning of Bulgarian transition. Pension fell to 5 to 7 US\$ per month and wages in the budget sector to below 10 US\$ per month. Even with the

doubling of wages at the beginning of February, and further 60% increase of the wages on March 1, and the temporary allowances granted to pensioners by the caretaker government, social conditions remain dire. When the results of the general election became clear, the economic fluctuation was rather stable, but the future macroeconomics condition will be unknown depend upon the policies of the new government together with the assistance of the IMF. With a projected stabilization of the exchange rate and the adoption of the Currency Board Arrangement (CBA), inflation is expected to decline to monthly rates below 2 percent by the end of 1997.

The Leva, the national currency, lost value against the dollar, reflecting the country's wider financial destabilization. The Leva traded at around 156 to the dollar at the end of June 1996 and on 10 December was around 500 to the dollar. The lev fell under 500 lev/US\$ at the end of December to 3,000 lev/US\$ by mid-February before rebounding to about 1,500 lev/US\$ in mid-March 1997. The main reasons for the drop in the value of the Leva are; the payments for foreign debt; withdrawal of the dollar reserves from Bulgarian banks; and accreted exchange to dollar from the Leva due to a loss of confidence in the Leva. Rumors about the impact of a currency board proposed by the IMF have also promoted the decline in the Leva value against the dollar.

Foreign exchange reserves were down to US\$ 525 million on 4 July 1996 from US\$ 658 million at the end of November due to central bank intervention to halt the Leva's decline on the interbank market. Official reserves of the BNB(excluding gold) had fallen to US\$408 million at the end of February, but has received a boost from the privatization proceeds of the soda ash company, other privatization transactions and balance of payments support. After debt service in March-May, official reserves are projected at US\$700 million just prior to start of the Currency Board Arrangement (CBA). To control the inflation, Central Bank's interest rate was raised twice from 67% to 108% in May and to 300 % in September, it has since declined to 180 %. Bulgarian National Bank (BNB) interest rate will likely remain high until inflation calms.

Additionally, agricultural production is estimated to decrease in volume compared to last year due to the long and severe winter. In the first half, the decrease in agriculture output is recorded at down 14.3 %.

As the result of the deteriorated macroeconomic condition, from January-June 1996 GDP is down 6.2 % (Lev 493,199 million) compared to the first half of last year at comparable prices. Especially in the second quarter, the decrease in agriculture output is remarkable

As the result of the deteriorated macroeconomic condition, from January-June 1996 GDP is down 6.2 % (Lev 493,199 million) compared to the first half of last year at comparable prices. Especially in the second quarter, the decrease in agriculture output is remarkable and recorded at down 21.8 %. According to NSI, GDP in 1996 was Lev 1,660,000 million, down 10.9 % since 1995.

(2) Future Projection of National Macroeconomy

For the future projection of GDP growth, the Agency for Economic Program Development (AEPD) in the Ministry of Economic Development has issued an optimistic projection report of future economics in Bulgaria. The agency considers real GDP growth rate will be 2% in 1997, 4% in 2000 and 5% in 2005. On the other hand, NSI's economic projection is a little pessimistic and estimates real GDP growth rate to be 2% down in 1997. The improvement of future macroeconomic conditions will be indebted to the introduction of a currency board by IMF. If a currency board is established in Bulgaria, it is possible to stop the present macroeconomic instability. However, future real GDP growth will be slow, 1-2% during this century at the highest estimate.

2-3-3 Land Restitution Scheme

The establishment of property rights is a precondition for successful transformation to a market economy. In the agricultural sector, it involves three main elements: (i) the restitution of land ownership rights; (ii) the liquidation of collective farms and distribution of non-land assets; and (iii) the privatization of state-owned enterprises in upstream and downstream industries linked to agriculture. The Bulgarian government has accelerated the transition from collective to private agriculture through implementing a number of schemes.

(1) Restoration of Land Ownership Rights

The land law "Law for Ownership and Use of Agricultural Land", promulgated in February 1991 and amended several times, allows for the restitution of land to the pre-collectivization owners (or their heirs). Despite a number of legislative and organizational changes since 1991, land restitution has made progress.

The data, as of July 26, 1996, of MAFI shows that 2,445,871 people with 5,481,291 ha (49% of the total land area), have already received land restitution certificates (notary deeds) based on the ownership pattern in 1946 and had their ownership rights fully restored. This is equal to an average size of land 22.4 dca (2.24 ha). Procedure of the issue of

notary deeds has made slow progress. However, remaining 25% of the farmland which has temporary use rights is cultivated on a one-year lease basis either by liquidation committee or privately, pending resolution of disputes and completion of land reallocation plans. (see Table A-5-5, Appendix A)

Under the current regulations on land restitution, the land to be restituted for a land owner is limited to less than 200 deca (20 ha) in the southern region, 400 deca (40 ha) in the northern region in Bulgaria. However, in order to promote effective land use taking into consideration the present farming and land ownership status, the government enacted the "Law on Lease of Agriculture", promulgated on September 13, 1996. According to this law, a contract for the lease of a farmland is set up from four years as minimum term to fifty years as maximum despite the one year renewal contract system before the promulgation of the new law. Also, the government is presently preparing the law regarding land trade and market to facilitate consolidation of land holdings and a land market. The new Government and the new National Assembly of Bulgaria starting their activity from May 1997 have started to review the agricultural policies. To promote an active agricultural land market, a law will be submitted to the new parliament in July, that will revamp the complex regulations regarding leasing arrangements, titling, occupation rights, and facilitate the restitution of land. The new parliament is expected to pass the Consolidation Act. At the same time, the government and responsible authorities are expected to promote agricultural land lease in the depopulated regions, launch the privatization of at least part of the national irrigation system and simplify the cumbersome procedures on ownership rights restitution of the land that has not been restituted yet. In addition, the legal and institutional framework for mortgaging land and other immovable objects will be reviewed and amended as necessary to ensure the enforcement of claims on collateral.

Several concrete steps will also be taken to improve the internal market for agriculture and easy entry barriers. First, all state mills and more than a half of the capacities in the food industry will be privatized by the end of 1997 to encourage competition in the market. Other 30 food enterprises will have gone into liquidation by end-May. Second, a law will be introduced in July to revise the ban on foreign land ownership which restricts foreign investment in agriculture.

(2) Liquidation of Collective Farms

The Land Law provided for transformation of collective farms (former state cooperatives) into "new private cooperatives" requiring members to clearly define their shares in non-land assets (machinery, equipment, buildings, perennial crops and breeding animals).

Many new farmers' organizations are emerging from the land restitution and decollectivization process. New groups include private cooperatives, small family farms, associations, corporate farms and household plots. A new production cooperative is much smaller than a former collective farm, and there may be two or three cooperatives per village each farming about 500 ha, coexisting with a few family farms of about 2-3 ha, and a large number of household plots of about 0.5 ha surviving from the collective period. Larger family farms exceed 8.0 ha.

According to the latest data on the cooperatives, 3,157 new cooperatives have been formed covering 43.5 % of the agricultural land. However, data reliability is suspect given ambiguity in definition.

(3) Privatization of Agri-industries

MAFI is directly responsible for the privatization of the majority of these enterprises, but final decision for privatization rests with the Privatization Agency.

According to the data of MAFI, MAFI is privatizing 805 enterprises, of which 443 are agricultural (mainly poultry and pig breeding, green-houses and enterprises providing services to agriculture) and 362 food industry enterprises. Further 207 privatization procedures had been opened up to the end of 1995 from which 89 are completed with transactions. In 1996, MAFI initiated the privatization procedures of 38 enterprises, and strives for the completion of the procedures for 31 enterprises: 1 poultry breeding; 3 pig breeding; 1 agri-trade; 1 agri-chemical service; 2 veterinary medicine; 1 mechanization; 1 agricultural construction; 1 greenhouse production; 2 fodder industry; 1 milling industry; 7 meat processing; 6 dairy production; 2 canning industry; and 2 wine industry. In line with the mass privatization scheme which has been accelerated by the government, MAFI targets the reduction of the capital for mass privatization of the enterprises from agricultural and agri-chemical services, mainly the former Machinery and Tractor Stations (MTS).

2-3-4 Privatization

The Bulgaria's government is proceeding with privatization of state-owned and municipality enterprises based on "The Law on Transformation and Privatization of State-Owned and Municipal Enterprises" established in 1993. There are two types of privatization, case-by-case, and mass privatization. The Privatization Agency is the State authority responsible for overseeing the privatization of State companies with assets in excess of Lev 70 million.

Approximately 25% of the enterprises in the list of mass privatization are agricultural and food processing companies.

MAFI is directly responsible for the privatization of the agricultural and food processing companies with assets in less of Lev 70 million, but final decision for privatization rests with the Privatization Agency.

According to the data of MAFI, MAFI is privatizing 805 enterprises, of which 443 are agricultural (mainly poultry and pig breeding, green-houses and enterprises providing services to agriculture) and 362 food industry enterprises. Further 207 privatization procedures had been opened up to the end of 1995 from which 89 are completed with transactions. In 1996, MAFI initiated the privatization procedures of 38 enterprises, and strives for the completion of the procedures for 31 enterprises. In line with the mass privatization scheme which has been accelerated by the government, MAFI targets the reduction of the capital for mass privatization of the enterprises from agricultural and agri-chemical services, mainly the former Machinery and Tractor Stations (MTS).

In the plan of 1997, MAFI will privatize 21 companies (1 poultry, 4 pig breeding, 1 agrochemical, 2 veterinary service, 3 agromachine, 2 milling, 1 edible oil refinery, 1 meat processing, 2 daily product, 1 canning industry, 2 winery and 1 brewery and total dealing price is estimated to be max. Lev 370 million.