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Report No. P-1838-YU

REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
TO
PREDUZECE VODOVOD I KANALIZACIJA SARAJEVO
(SARAJEVO WATER SUPPLY AND SEWERAGE ENTERPRISE)
WITH THE GUARANTEE OF
THE SOCIALIST FEDERAL REPUBLIC OF YUGOSLAVIA
FOR A
WATER SUPPLY AND SEWERAGE PROJECT

May 12, 1976

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CURRENCY EQUIVALENTS *

Currency Unit	Yugoslav Dinar (Din.)
US\$1	Din. 18.00
Din. 1	US\$0.0555
Din. 1,000	US\$55.55
Din. 1,000,000	US\$55,555.55

* The Yugoslav Dinar has been floating since July 13, 1973.
The currency equivalents given above are as of April 30, 1976.

FISCAL YEAR

January 1 - December 31

GLOSSARY OF ABBREVIATIONS

Vodovod = Preduceze Vodovod i Kanalizacija
Sarajevo (Sarajevo Water Supply
and Sewerage Enterprise)

SAS = Social Accounting Service

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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TO THE EXECUTIVE DIRECTORS ON A
PROPOSED LOAN TO PREDUZECE VODOVOD I KANALIZACIJA SARAJEVO
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1. I submit the following report and recommendation on a proposed loan equivalent to US\$45 million to Preduzece Vodovod i Kanalizacija Sarajevo (Sarajevo Water Supply and Sewerage Enterprise, or Vodovod) with the guarantee of the Socialist Federal Republic of Yugoslavia, to help finance a water supply and sewerage project. The loan would have a term of 25 years, including five years of grace. Interest would be 8-1/2 percent per annum.

PART I - THE ECONOMY

2. A basic economic mission visited Yugoslavia in November 1972; its report entitled "The Economic Development of Yugoslavia" (194a-YU) was distributed to the Executive Directors on January 2, 1974. An updating Economic Memorandum (662a-YU) was distributed to the Executive Directors on June 23, 1975. An economic mission visited Yugoslavia in October 1975 and the findings of this mission are incorporated in this report. Basic data on the economy are given in Annex I.

Economic Trends and Development Issues

3. The Yugoslav economy has experienced rapid growth during the last two decades, with total GDP at constant prices having increased by an average rate of 6.3 percent, and per capita GDP at 5.2 percent annually. In 1973, per capita GNP came to about US\$1010 (World Bank Atlas methodology). This impressive record of growth was accompanied by some fundamental structural changes in the economy which has moved towards a modern industry/service oriented urban society. The share of agriculture in GDP declined from 38 to 20 percent while the share of industry and mining increased from 16 to 37 percent.

4. The population growth rate averaged 1 percent per year during the last two decades, but with considerable regional variations ranging from an average rate of 1.6 percent for the less developed Republics and Provinces to 0.7 percent for the developed ones. The structural changes in the economy permitted a sizeable transfer of labor force from agriculture to industry and services. However, by 1974 nearly 45 percent of the resident active labor force was still engaged in agriculture and forestry, mostly on small private farms; industry (including mining) accounted for 21 percent, and other sectors for 34 percent.

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5. The socio-political framework evolved through several constitutional amendments which were consolidated in the new constitution of 1974. It strengthens three important features of the socio-political system of Yugoslavia. First, self-management, whereby the use and control of the socially owned means of production is entrusted to the workers' collectives, is the fundamental right and obligation of every "basic organization of associated labor" (the smallest technologically identifiable unit of operation) in every sector and activity. Second, the responsibility for most important social and policy decisions has been shifted from the Federation down to the Republics and Provinces, and on to the communes. And third, the management and financial responsibility for social activities (like health, education, welfare, etc.) is transferred from the realm of the state to "communities of interest" (decision-making bodies which comprise delegates of both suppliers and users of the specific services). Responsibility for certain economic activities affecting large segments of the society (like communal services, power production, highways and water management) can be - and progressively is - similarly organized through communities of interest.

6. The social sector, which includes government, most enterprises and public institutions such as libraries, hospitals, theatres and schools, has the leading role in economic and social development; it accounts for 85 percent of GDP and employs over half of the total labor force. The private sector is predominantly comprised of peasant farms (with a 10 hectare limit to land holdings) and small enterprises (with a 5 person limit on the number of non-family workers), mainly in handicrafts, construction, trade, transport and tourism. In the past, the private sector had been relatively neglected by government policy. However, lately more attention is being devoted to private farmers with a view to accelerating the growth of agricultural production and reducing the rural/urban income disparity.

7. Regional income disparity - with a gradient of per capita income falling generally from North to South - has emerged as one of the most important development issues of the country. Four distinct regions can be distinguished by stage of development. The Republic of Slovenia is the high income region with almost double the national average. The Republics of Serbia and Croatia and the Autonomous Province of Vojvodina make up the middle income regions, ranging from 100 to 125 percent of the national average; however, even within these regions pockets of underdevelopment persist. The Republics of Bosnia-Herzegovina, Montenegro and Macedonia - with per capita income between 67 to 75 percent constitute the upper group among the officially designated "less developed regions". The Autonomous Province of Kosovo, with an average income of only 33 percent of the national average, is at the bottom of the spread. These inter-regional disparities can be traced back further to intra-regional disparities. Within Republics and Provinces the spread between communes can extend over the range of 10 to 1, and it is the prevalence of stagnating poor rural communes within the less developed regions which largely determines the disparity between the regions. The rate of economic growth of the less developed regions as a whole was only slightly below the average for Yugoslavia, but

due to the faster population growth (1.6 percent per year versus 0.7 percent in the more developed regions) the income disparity had tended to widen significantly during the last two decades. In order to reverse this trend and to accelerate economic growth and social development in the less developed regions, mechanisms have been instituted for sizeable transfers of financial resources. In 1973, credits on highly favorable terms (containing a grant element of around 50 percent) were made available through the "Federal Fund" to the less developed regions in the amount of almost US\$250 million, equivalent to more than 20 percent of their total investment in the social sector. An additional US\$130 million for social services were transferred as budgetary grants. Both categories of transfers have been growing since in line with the growth in total GDP.

8. Open unemployment has not been a serious problem and is estimated to be only around 3-4 percent of the resident labor force in 1974. However, this low rate conceals three important aspects of the employment problem. First, an estimated one million out of a total labor force of around 9 million (in 1974) has assumed temporary employment abroad. Second, there is some evidence of growing regional and occupational imbalances, due to low inter-regional mobility of labor and to unmatched skill requirements in a fast changing economy. Third, severe underemployment persists in the private agricultural sector.

Recent Developments

9. In 1974, Yugoslavia recorded a rapid increase of GDP of 9 percent in real terms as compared to 5 percent and 4 percent in 1973 and 1972 respectively. Industry was the leading sector with an estimated growth rate of 11 percent in 1974; however, the growth of agricultural production, enhanced by favorable weather conditions, and of services (with the exception of tourism) also accelerated during the year. This rapid expansion of economic activity permeated the whole economy. Investment outlays grew in nominal terms by almost 40 percent (9 percent in real terms) and total consumption expenditures by about 41 percent (13 percent in real terms). The resulting rapid increase in total demand for goods and services was reflected both in the rise of employment and of imports - both in nominal and real terms - and domestic prices. The gain in total employment amounted to about 5 percent in 1974 and exceeded for the first time the natural increase of the labor force. Industrial producer prices rose by almost 30 percent while the cost of living rose less rapidly by some 21 percent. Since fiscal policy leaves, for institutional reasons, little room for demand management, the major response to the inflationary pressures was in terms of monetary policy and direct controls through prices and income policy, including recent legislation placing greater control on investment expenditures. After an expansionary phase during 1972 and 1973, the money supply increased by only 24 percent as compared to a nominal increase of social product of about 36 percent. The shift to a large deficit in the balance of payments in 1974 also contributed to the increased effectiveness of the monetary policy.

10. The balance of trade deficit increased from US\$1.7 billion in 1973 to almost US\$3.7 billion in 1974 both on account of an increase in the volume and the rapid rise in the price of imports and the stagnation of real exports (the terms of trade for the country are estimated to have deteriorated by about 11 percent). The recession in Western Europe has led to a sharp decline in exports to that area. The traditionally large surplus for invisibles (mostly from workers remittances and tourism receipts) failed to compensate for the large trade deficit and the country recorded a current account deficit in excess of US\$1 billion in 1974 as compared to a surplus of US\$464 million in 1973. In response to the circumstances, the import regime has been gradually tightened since August 1974, affecting a large variety of consumer goods and some capital and intermediate goods. In addition, the National Bank raised the intervention point in the foreign exchange market, in effect devaluing the dinar by about 7 percent as against the currencies of Yugoslavia's major trading partners. The large current account deficit has led to some loss of foreign exchange reserves; the official reserves fell by US\$345 million in 1974 (compared to a gain of US\$632 million in 1973). In addition, net foreign borrowing, which averaged US\$390 million during 1971-73, increased to around US\$650 million in 1974. Commercial import credits from suppliers and credits from financial institutions continued to be the major sources of foreign capital. Long-term funds related to financing of development are being made available mainly by the Bank and some bilateral sources (particularly the US Export-Import Bank and Federal Republic of Germany). Yugoslavia has also been one of the beneficiaries of the IMF's Special Oil Facility. Yugoslavia's medium- and long-term external debt outstanding as of December 31, 1973 was US\$4,319 million (disbursed only) and is expected to have increased to about US\$5.0 billion during 1974. Debt service payments amounted to about 15.9 percent of foreign exchange earnings (including workers remittances) in 1973 and 15.3 in 1974.

11. In 1975, the growth rate of the economy is estimated to have receded to 4.5 percent, due mainly to the combined effects of a restrictive monetary policy, stagnating exports and a reduced growth of personal incomes; economic investment and housing construction provided the major growth stimulus during 1975. The inflationary pressure which built up during 1974 and extended into 1975 receded drastically in the second half of the year; the rate of increase of industrial producer prices decreased from 30 percent in 1974 to an annual rate of 12 percent for the first ten months of 1975 and the index of real net personal income remained unchanged for the same period. The good harvest in 1974 has had a favorable impact on the balance of payments, although meat exports were severely affected by the European Community ban on meat imports. Exports to oil producing countries and to the non-convertible currency area have continued to expand rapidly in 1975, but are not expected to compensate for the sharp decline in exports to the convertible currency area. Workers' remittances and receipts from tourism have increased marginally. The current account deficit for 1975 was estimated to approximate the level of 1974 on the basis of preliminary estimates, but there are now indications that it may have dropped by 20 to 25 percent due to a curtailment of imports and an increase in exports during the last third of 1975.

Prospects for 1976

12. The balance of payments is expected to remain the central problem in 1976 as well as for the years to come. The current account deficit is expected to decline somewhat as imports are restrained and there is a recovery in the level of economic activity in Western Europe. The inflationary momentum will probably be curtailed further through improved investment control, closer alignment of real income changes with improvements of productivity and restrictive monetary policy. The real growth rate of GDP is expected to be constrained to about 4.5 percent in 1976 with a gradual recovery in subsequent years.

Medium- and Long-Term Objectives and Prospects

13. The aggravation of major economic problems during 1974, such as rapid inflation and balance of payments pressures, has led to a reappraisal of development objectives. In the light of the recent shift of relative prices in favor of raw materials, more emphasis will be given to the development of Yugoslavia's own natural resources. In this connection, the development of the energy sector is given the highest priority. It focuses on electric power, where the generating capacity is likely to fall critically short of the rapidly rising power requirements of the expanding economy. The development of the power sector will largely be based on the large unutilized hydropower potential and soft-coal reserves of the country. Other priority activities are ferrous metallurgy, some segments of non-ferrous metallurgy (notably lead, zinc, copper, nickel and bauxite/aluminum), technologically advanced production equipment, basic chemicals including petroleum refining, agriculture and food processing, interpublic transportation, multipurpose works, and housing and basic construction material.

14. This emphasis on accelerated development of the raw material basis and the deepening of the economic infrastructure requires a more capital-intensive investment pattern, associated with longer time-lags between investment and output. To sustain this development path, both continued high borrowing abroad and an increased savings rate will be essential. Since, with the possible exception of private savings, interest rates do not play a significant role in the determination of the level of aggregate savings, the income policy --i.e. the guidelines governing the distribution of enterprise income between workers' income and accumulation--will have a crucial role.

15. The new Five Year Plan (1976-1980), presently under preparation, will focus on the implementation of these objectives. For growth, an average rate of 7 percent per year is proposed as feasible, comparing with a target growth rate of the previous Plan of 7.5 percent and an expected realized growth rate of 6.5 percent. For employment, the average planned growth rate would come to about 3 percent with annual increments exceeding the natural increase of the labor force by growing margins. This would permit more vigorous pursuit of two major social objectives: the reduction of the number

of temporary migrants abroad, and an increased absorption of the rural under-employment into the social sector. The economy will continue to be open to the world market although the composition of foreign trade is expected to change with a reduced share for raw material, semifinished products and consumer goods on the import side, and an increased share for agricultural products and manufactured goods on the export side. Workers' remittances are not expected to increase in real terms, but rising tourism receipts are expected to compensate for the expected declining importance of workers' remittances.

16. The reduction of regional disparities is another priority objective of the new Five Year Plan. To that end, the transfer of financial resources to the less developed regions in the form of loans at concessionary terms for economic investment and budgetary grants for social development will be continued and probably will increase as a proportion of total GDP. Since most of the natural resources of the country, including hydropower, are to be found in the less-developed regions, they will, in addition to the transfers, benefit from the increased emphasis on the development of basic industries and power which will to a considerable degree be financed through direct financial contributions from the consuming regions.

17. The new Five Year Plan is being prepared according to the self-management principle as stipulated by the Constitution of 1974. "Self-management planning" is perceived as an iterative process of sequential, converging consensus-finding. In the initial stage, broad priorities (as to sectors and activities) and general quantitative targets and constraints (like growth rates of social product and the volume of savings and investment) are determined by political consensus of the assemblies of the socio-political communities (Communes, Republics and Provinces, Federation). Subsequently, the planning process starts at the bottom with individual enterprises and communities of interest setting out their expectations and targets. The planning process then proceeds through successive and partially overlapping stages of horizontal adjustments within sectors and branches (aimed primarily at eliminating gross duplications), vertical adjustments between closely interdependent sectors and branches (aimed at determining realistic orders of magnitudes of production, conceptually within an input/output framework), and regional adjustments between Republics and Provinces (aimed at both horizontal and vertical consolidation). The socio-political communities participate in this process by ensuring observance of the broad priorities, targets and constraints, and by resolving conflicts which cannot be resolved by the direct participants. The evolving consolidated programs of action, which in their totality constitute the operational portion of the Plan, are codified in the form of "social contracts" or "self-management agreements" which are legally binding for the whole Plan period unless renegotiated in the case of major deviations occurring in the course of Plan implementation. The new Plan, which is currently under preparation is, thus, expected to differ from the previous Plan in strengthening and formalizing the commitments for implementation by enterprises, banks and government institutions.

Creditworthiness

18. In spite of the present balance of payments problems, the prospects for Yugoslavia's continued economic growth during the next decade are good. The country's endowment of natural and human resources, its relatively low dependence on imported primary energy, its pragmatic approach to economic problems and its readiness to undertake institutional changes, combine to give grounds for a favorable assessment of future prospects. Yugoslavia will need to continue to raise foreign capital on a fairly large scale, mostly from established channels such as the Euro-currency market, suppliers credits and the World Bank. In addition, greater use may be made of credit lines from COMECON countries and the EC, and efforts are being intensified to open up new sources of capital in OPEC countries. Due to the size and structure of external borrowing during 1974 and the years to come, the debt service ratio is expected to increase from 15.3 in 1974 to 18.2 in 1976. Although the debt service ratio may continue to increase gradually, it is expected to peak around 1980 at about 19 percent and decline thereafter. However, taking into account Yugoslavia's debt service record and the measures taken in the past to control balance of payments problems, as well as the prospective growth of production and structural improvement of the balance of trade, Yugoslavia remains creditworthy for a substantial amount of Bank lending.

PART II - BANK GROUP OPERATIONS IN YUGOSLAVIA

19. The Bank has made 35 loans totalling about US\$1,160 million to Yugoslavia. Of this amount approximately 50 percent (US\$571.4 million) has been for 13 loans for the transportation sector - seven for highways totalling US\$220 million, four for railways totalling US\$248 million, US\$108.4 million for natural gas and oil pipelines, and \$44 million for a port project. Bank lending has generally concentrated on infrastructure including, in addition to the transportation loans, power (three loans totalling US\$135 million), telecommunications (one loan for US\$40 million), three multipurpose projects totalling US\$103 million and US\$6 million for a water supply and sewerage project. Nine loans have also been made for industry and two each for tourism and agriculture. IFC has made investments in nine Yugoslav enterprises totalling about US\$130 million. The Bank disbursed \$126 million during FY75, compared with \$59.4 million in FY74, and about \$140 million is projected for FY76. Annex II contains a summary statement of Bank loans and IFC investments as of March 31, 1976, and notes on the execution of on-going projects.

20. The major objectives of current and future Bank lending to Yugoslavia are to accelerate development in the less-developed regions of the country; to promote agricultural development, particularly among the small private farmers by providing basic infrastructure and credit for the financing of farm development, equipment and processing facilities; to promote structural reforms in major sectors of the economy through improved coordination and the strengthening of institutions; and to provide Yugoslavia with long-term external capital

and thus help to alleviate critical shortages of convertible foreign exchange, while encouraging and promoting Yugoslavia's efforts to tap other sources of medium- and long-term capital. These objectives are basically the same as those which have guided Bank lending in previous years, but efforts to give special support to the less-developed regions are being strengthened.

21. A proposed loan of US\$20 million for the Morava Region development project (water supply, sewerage, and water resources planning) has been recently submitted for your consideration. A proposed loan for the Sarajevo air pollution control project (US\$38 million) is being submitted concurrently with this loan and a loan of US\$50 million for a second industrial credit project has been negotiated and is expected to be submitted shortly for consideration. Over the next two years loans envisaged include a second loan for agricultural credit, two loans for irrigation, and a loan for agricultural industries, all for the less developed regions. Highway, railway and power transmission projects during the same period will both assist the less-developed regions and promote structural reforms in the transport and energy sectors. IFC is currently investigating several new investment opportunities to encourage joint ventures which would provide technical, management and marketing expertise as well as long-term capital.

22. In addition to substantial assistance given in identifying and preparing projects for Bank financing, the Bank is providing technical assistance in several areas. A series of regional studies of the four less-developed regions of Yugoslavia was initiated three years ago and three studies, covering Kosovo, Macedonia and Bosnia-Herzegovina, have been completed. The fourth study, of Montenegro, will be completed soon. This series will contribute to better assessment of development programs and will assist both the Governments and the Bank in formulating development strategies for these regions. An energy sector review was undertaken by the Bank in cooperation with the Federal Government to review the energy sector survey which the Federal Government had been undertaking as well as to review the work being done on energy problems in the individual Republics with the objective of analyzing the main problems, issues and policy options for meeting Yugoslavia's future energy needs. A Bank assisted study on the improvement of the financial mechanism has been concluded and its recommendations have been included in draft legislation for a new banking law. Bank cooperation in a training program for auditors of the Social Accounting Service, which audits all enterprises and Government activities, including Bank financed projects, has progressed satisfactorily and further training is underway in cooperation with an international accounting firm. Assistance from EDI, as well as through Bank operations, has been directed towards the improvement of project evaluation.

23. The level of Bank lending has remained constant averaging about US\$200 million annually during the period FY74-76. Although this represents only a small proportion of the country's need for external finance, it is equivalent to almost one-third of the annual long-term official capital inflow in convertible currencies. The outstanding debt to the Bank is expected to gradually decline from its current level of less than 10 percent of Yugoslavia's total external debt. Service on Bank loans as a proportion of total debt service was 4.0 percent in 1974 and is projected to increase to about 6 percent in 1980.

PART III - WATER SUPPLY AND SEWERAGE IN SARAJEVO

24. Sarajevo is the capital city and economic center of the Republic of Bosnia-Herzegovina. It is located in a mountain valley in south-central Yugoslavia. Large-scale migration from surrounding underdeveloped areas tripled its population to over 300,000 between 1945 and 1975 and it is expected to grow to 410,000 by 1985. The most densely populated part of the city lies along the Miljacka River. At the western edge of the city the Miljacka River flows into the Bosna River which flows through the most densely populated part of Bosnia-Herzegovina. Because of its rapid growth and special geographic and climatic conditions, Sarajevo has developed severe air and water pollution problems which threaten the health of its population. The city is attempting to solve both of these problems through coordinated water supply and sewerage and air pollution control projects. The Bank is assisting with both projects and my Report and Recommendation to you on a proposed loan for the Sarajevo Air Pollution Control Project (Report No. P-1839-YU dated May 12, 1976) is being submitted simultaneously with this one.

Water Supply, Sewerage and Water Pollution

25. The existing water distribution system in Sarajevo is old and inadequate. Most of the distribution pipes in the old part of the city were installed more than sixty years ago and are badly corroded. Within the distribution network separation of the pressure zones is incomplete, leading to very high pressure in portions of the network. Primarily as a result of this, more than one-third of the water entering the system is lost. In addition, the development of water supply and sewerage infrastructure has not kept pace with the rapid growth in population. The water supply system was operating at design capacity in 1969; between 1969 and December 1974 water was rationed in many areas of the city. Recent minor expansion of the system is expected to meet demand through 1978. Additional water supplies to be provided by this proposed project will meet demand through 1985.

26. The sewerage system is in even worse condition. The main collectors were built between 1902 and 1914 and were designed to serve a population of 60,000. About 40 percent of the sewered area is served by separate sanitary sewers; the remainder is served by combined sanitary and storm sewers. The main collectors empty directly into the Miljacka River as it flows through the city. About 20,000 households outside the sewer system discharge wastes into nearby streams or septic tanks. The city's hospitals empty their wastes, without treatment, into the municipal sewage system. During the summer the sewage flow in the Miljacka River is about three times the minimum river flow. At this time, the Miljacka River has the characteristics of an open sewerage canal, is the source of considerable stench and poses a serious health hazard.

27. Furthermore, because of the deterioration of water supply pipes and sewage pipes (often laid in close proximity to each other), sewage infiltrates the water supply system. In spite of the fact that raw water quality

at the source is generally good and supplies are regularly chlorinated, bacteriological pollution of distributed water is detected frequently, particularly in the old part of the city.

28. The pollution of the rivers, streams and water supply poses a serious health hazard to the city, its surrounding communities, and the communities along the Bosna River downstream from Sarajevo. Some typical waterborne diseases which could be transmitted to the population are typhoid, cholera, paratyphoid, bacillary dysentery, poliomyelitis and infectious hepatitis. In the recent past, Sarajevo has suffered epidemics of typhoid, hepatitis and diarrhea. Outbreaks of hepatitis occur frequently. Between 1967 and 1973, over 8,500 cases of waterborne diseases were reported and, of those almost 3,000 of the patients required hospitalization.

29. Water supply and sewage disposal are the responsibility of local communities in Yugoslavia. To preserve and enhance the quality of inland and coastal waters, a Federal Commission for Water Management establishes the basic framework for maintaining water quality, and Republic Commissions for Water Management set standards and coordinate programs to improve water quality. Financial assistance for improving water quality is available through Republic Water Funds. However, the ultimate responsibility for providing water services and meeting the established quality standards rests with the communes. The citizens of Sarajevo assign a high priority to solving their water supply and water pollution problems, and in 1972, by referendum, voted to tax their incomes to provide financing for improving the water supply and sewerage system.

PART IV - THE PROJECT

30. The nature and extent of Sarajevo's water supply and water pollution problems, as well as the extremely severe air pollution problems, were first brought to the Bank's attention by the Sarajevo authorities in mid-1972, followed by a formal request in early 1973 from the Federal Government for assistance in financing programs to reduce air and water pollution in Sarajevo. Feasibility studies for adequate water supply and sewerage systems which had been prepared in 1970 were revised in 1974. Bank missions to assist with project preparation began in January 1973. Appraisals of both the water supply and sewerage project and the air pollution control project were substantially completed in December 1974. Negotiations were held in July and August 1975 in Washington. The Yugoslav delegation was led by Mr. Dane Maljkovic, President of the Sarajevo City Assembly. Subsequent to negotiations, delays were experienced in ensuring the financing and gas supplies for the air pollution control project. Pending resolution of these issues, Sarajevo requested that the further consideration of the water supply and sewerage project be postponed so that both projects could be implemented simultaneously. Those issues were resolved in March 1976. The appraisal of the water supply and sewerage project was updated and revised by a Bank mission in February, 1976.

Project Description

31. The proposed loan and project are summarized in Annex III and described in detail in the report "Appraisal of Sarajevo Water Supply and Sewerage Project: Report No. 1167-YU" and dated May 7, 1976 which is being distributed separately to the Executive Directors. The project would provide facilities to expand and improve the water supply and sewerage systems in the city.

32. The proposed water supply facilities are part of a master plan to expand the city's supply and to rehabilitate and extend the distribution network. They are designed to provide Sarajevo with an adequate supply of water through 1985 and to serve an area approximately twice that served by the present system. This would be achieved by the construction of an infiltration gallery, reservoirs, pumping stations and expansion of existing reservoirs and pumping stations; installation and replacement of water mains and distribution pipes; replacement of obsolete service connections; provision of related control systems; construction of offices; and engineering services for designs, supervision, project administration, training and hydrogeological studies to prepare a water resources master plan. Pollution of the city's waters would be reduced by construction of new collectors and main sewers; replacement of worn-out sewer laterals and service connections; construction of sewage treatment facilities; installation of sludge filters and renovation of the existing landfill; installation of an activated sludge pilot plant for experimentation in sewage treatment processes to attain optimal utilization of the main treatment facilities; and related engineering services.

Project Execution

33. The Sarajevo Water Supply and Sewerage Enterprise (Preduzece Vodovod i Kanalizacija Sarajevo, or Vodovod) would implement the project and be the borrower under the loan. Vodovod is an independent Organization of Associated Labor consisting of three Basic Organizations of Associated Labor - Water Supply, Sewerage and Administration. It is operated on the principle of workers' self-management, as are all enterprises in Yugoslavia, but because it provides vital public services the workers share control of certain activities with the Sarajevo city government. The city approves Vodovod's working statutes, work program, functional or organizational changes, appointment of the manager, and tariff rates. Vodovod is well managed by a competent and experienced staff (their water supply engineers have provided consulting services to other towns in Yugoslavia). The sewerage staff have no operational experience in sewage treatment and staff training would therefore be part of the project. Consultants are assisting Vodovod with the preparation of final design and tender documents and would also assist with the supervision of construction (Loan Agreement Section 3.02).

34. Because sludge from the sewage treatment plant would be discarded on the city landfill, Vodovod would enter into an appropriate agreement with Rad, the Sarajevo enterprise responsible for solid waste disposal, for the joint ownership and operation of the landfill (Loan Agreement Section 3.03).

35. Vodovod would begin construction of the water supply and sewerage project in late 1976 and expects to complete it by the end of 1980.

Coordination

36. Because the water supply and sewerage and air pollution control projects are being pursued simultaneously by separate entities, the City Assembly would coordinate project implementation and the Bank would sign a Project Coordination Agreement with the Assembly. Construction coordination is particularly important to ensure that there is a minimum disruption to normal city life and that both projects are completed on schedule. The Institute for the Construction of the City, a special unit of the city government responsible for the physical development of the urban area, would be the coordinating agent on behalf of the City Assembly (Project Coordination Agreement Section 2.01).

37. In addition to its construction coordinating role, the city government would establish protection zones for Sarajevo's groundwater sources (Project Coordination Agreement Section 2.04).

Project Cost Estimates and Financing Plan

38. The total estimated cost of the project is US\$95.7 million (excluding interest during construction). The estimate includes duties and taxes (about 5 percent of project costs) and an allowance of about 36 percent for physical and price contingencies. The estimated foreign exchange component is US\$38.5 million. Details of the cost estimates are shown in Annex III.

39. The proposed Bank loan of US\$45 million would finance 98 percent of the estimated foreign exchange cost of equipment and materials, civil works, and engineering services of the project, and interest during construction on the Bank loan (US\$7.6 million). This would represent about 44 percent of total costs (including interest during construction on the Bank loan).

40. During this period (1976-80), Vodovod would require financing for project costs (US\$95.7 million), interest during construction (US\$8.8 million), and other capital expenditures 1/ (US\$7.8 million), or a total of US\$112.3 million. In addition to the Bank loan, funds would be provided from internal cash generation (30 percent), local borrowing (8 percent) and capital contributions from the Republic Water Fund and city government (22 percent). The City Assembly has agreed that it would provide additional funds to meet any cost overruns (Project Coordination Agreement Section 2.02 and Loan Agreement Section 5.07).

1/ Routine expansion of the water supply system into new areas and protection of water sources.

Financial Performance

41. Vodovod is a financially autonomous and viable enterprise. The rate of return on average net fixed assets was 9.2 percent in 1973, 13.1 percent in 1974 and is estimated to be 15.4 percent in 1975. During the construction period it is projected to average over 13 percent, rising to a peak of about 19 percent in 1977. After completion of the project it would fall back to about 6 percent (9 percent for water supply and 3 percent for sewerage) because of the very large increase (threefold for water and thirteenfold for sewerage) in the net value of fixed assets.

42. To generate sufficient resources to expand the water and sewerage system in line with demand Vodovod introduced significant tariff increases in 1971 which, together with funds from a special income tax levied by the city, enabled it to finance the improvements which ended daily water rationing in December 1974. To generate the cash needed for the project Vodovod plans to undertake further tariff increases. The City Assembly has passed a resolution authorizing annual increases totalling 200 percent for water and 400 percent for sewerage between 1973 and 1980; however, each annual increase must be approved by the City Assembly before implementation. The increases planned for the period 1973-1976 have been implemented. To ensure that the required financing from internal resources is available, and to maintain its financial strength in the future, it has been agreed that Vodovod would implement whichever is the higher: the presently scheduled tariff increases or a modified schedule of increases which would provide sufficient revenues to finance not less than 30 percent of the cost of investments in water and sewerage facilities during the period of construction (1976 to 1980), and in each year thereafter not less than 35 percent of the average cost of investments during each consecutive three year period comprising one actual and two forecast years (Loan Agreement Section 5.04). The City Assembly has agreed that it would approve Vodovod's requests for tariff increases to meet the above requirements (Project Coordination Agreement, Section 2.03(b)).

43. Vodovod's debt equity ratio in 1974 was 16:84. With the increase in borrowing for the project, it would rise to 42:58 in 1980. Vodovod has agreed that, except as the Bank shall otherwise agree, they would not incur additional debt unless their net cash generation before depreciation and interest exceeds 1.3 times their debt service in any future year, including debt service on the debt to be incurred (Loan Agreement Section 5.05).

Procurement and Disbursement

44. Materials and equipment contracts estimated to cost more than US\$200,000 would be let after international competitive bidding in accordance with the Bank Group's "Guidelines for Procurement". For the purpose of bid comparison, qualified domestic manufacturers would be given a margin of preference of 15 percent or customs duties, whichever is the less. Civil works contracts estimated to cost more than US\$500,000 would be awarded after international competitive bidding in accordance with the Bank Group's "Guidelines

for Procurement". The remaining materials and equipment, and civil works contracts would be awarded on the basis of competitive bidding advertised locally in accordance with the procedures of the Federal Government which are satisfactory. Vodovod may carry out by force account minor works, such as renovations and modifications to the existing water and sewer networks, under arrangements acceptable to the Bank (Loan Agreement Schedule 4, Section C). The total value of such minor works is expected to be less than US\$10 million. All equipment supply and civil works contracts are expected to be won by Yugoslav enterprises, except those for the supply of equipment for the sewage treatment plant and other specialized equipment, which are expected to be awarded to foreign firms.

45. Expenditures by the City Assembly and Vodovod for the preparation of feasibility studies, final designs and tender documents, amounting to about US\$1.5 million, are expected to be incurred prior to loan signature. Retroactive Bank financing of such expenditures from January 1974 of not more than US\$750,000 is recommended (Loan Agreement, Schedule 1, paragraph 4).

46. The loan would be disbursed as follows:

- (a) Equipment and Materials - 100 percent of the c.i.f. cost of directly imported materials, equipment and pipe and 50 percent of the total cost of locally supplied materials, equipment and pipe.
- (b) Civil Works - 30 percent of the cost of construction and installation contracts, including force account work.
- (c) Engineering Services - 50 percent of the cost of consulting services and training.
- (d) Interest During Construction - 100 percent of the interest during construction on the Bank Loan.

Disbursements would begin in the last quarter of 1976 and be completed in March 1981.

Audit

47. Vodovod's accounts would be audited by the Social Accounting Service (SAS) or another experienced auditing firm acceptable to the Bank (Loan Agreement Section 5.02). With Bank encouragement, the SAS started a program in January 1974 under which its staff are being trained by foreign consultants in auditing methods consistent with modern auditing standards. The program is currently in its second phase in which additional SAS staff are being trained, under the consultants' guidance, by those who participated in the

first phase. Vodovod gave the Bank informal assurances that the group of specially trained auditors would be asked to conduct their audits beginning with the accounts for the year ending December 31, 1976. In the event the special group cannot be assigned to this audit Vodovod would engage other independent auditors acceptable to the Bank.

Justification

48. The pollution of river water in Sarajevo threatens the health and well-being of its population as well as the population residing along the Bosna River downstream from Sarajevo. Without corrective action this threat would increase constantly as the population grows. With the expansion and improvement of the water supply and sewage disposal systems adequate potable water would be available and the threat of waterborne diseases would be significantly reduced. There would be a variety of benefits, including medical cost savings, increased productivity of workers, savings on future septic tank expenditures, increase in property values along currently polluted waterways and an increase in the recreational potential of these waterways. The danger of potential major epidemics of waterborne diseases would be substantially reduced. Sarajevo would become a better place in which to live and work.

49. The abovementioned benefits are difficult to quantify; however, using the city's authorized 1976 water tariff rates, the internal economic rate of return of the water supply system would be about 15.6 percent. The major justification for the sewerage system investment is that the collection and treatment of sewage in Sarajevo is necessary for healthful and orderly development of the area and the proposed method of collecting and treating the sewage is the least cost solution.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

50. The draft Loan Agreement between the Bank and Preduzece Vodovod i Kanalizacija Sarajevo; the draft Project Coordination Agreement between the Bank and the City Assembly of Sarajevo; the draft Guarantee Agreement between the Socialist Federal Republic of Yugoslavia and the Bank; the report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement; and, the text of a draft resolution approving the above loan, are being distributed to the Executive Directors separately.

51. Provisions of the agreements of special interest were noted in paragraphs 33 through 47 of this report. Special conditions of loan effectiveness (Loan Agreement Section 7.01) are:

- (1) The execution and delivery of the Project Coordination Agreement on behalf of the City Assembly of Sarajevo have been duly authorized and ratified; and

(2) All local financing arrangements have been completed and are in full force and effect.

52. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATIONS

53. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara
President

Attachments
May 12, 1976

TABLE 3A
- SOCIAL INDICATORS DATA SHEET

LAND AREA (THOU KM2)	YUGOSLAVIA			REFERENCE COUNTRIES (1970)			
	TOTAL	1960	1970	MOST RECENT ESTIMATE	ROMANIA, REP	SPAIN	GERMANY, FED. REP. **
TOTAL	255.8						
AGRIC.	144.3						
GNP PER CAPITA (US\$)		360.0	740.0	1010.0	n.a. /a	1260.0	4210.0
POPULATION AND VITAL STATISTICS							
POPULATION (MID-YR, MILLION)		18.4	20.4	21.0	20.3	33.6	60.7
POPULATION DENSITY PER SQUARE KM.		72.0	80.0	82.0	85.0	66.0	240.0
PER SQUARE KM. AGRIC. LAND		..	..	145.0	..	..	..
VITAL STATISTICS							
CRUDE BIRTH RATE PER THOUSAND		24.0	17.8	18.0	21.1	19.6	13.4
CRUDE DEATH RATE PER THOUSAND		10.0	8.9	8.7	9.5	8.5	12.1
INFANT MORTALITY RATE (/THOU)		88.0	55.5	43.3	49.4	27.9	23.6
LIFE EXPECTANCY AT BIRTH (YRS)		62.0	67.0 /a	68.0	68.6	71.0	70.3
GROSS REPRODUCTION RATE		1.3	1.3	1.3	0.9	1.4	1.2
POPULATION GROWTH RATE (%)							
TOTAL		1.2	1.1	1.0	1.0	1.1	1.0
URBAN		6.0	4.6	..	3.4	1.9	4.1
URBAN POPULATION (% OF TOTAL)		27.2	38.7	39.0	41.0	59.1	80.4
AGE STRUCTURE (PERCENT)							
0 TO 14 YEARS		31.0	26.9	26.9	25.9	27.8	23.2
15 TO 64 YEARS		63.0	65.1	65.1	65.5	62.5	63.0
65 YEARS AND OVER		6.0	8.0	8.0	8.6	9.7	13.2
AGE DEPENDENCY RATIO							
ECONOMIC DEPENDENCY RATIO		0.6	0.5	0.5	0.5	0.6	0.6
		1.0	..	0.9	0.7 /g	1.1	0.9
FAMILY PLANNING-ACCEPTORS (CUMULATIVE, THOU)							
USERS (% OF MARRIED WOMEN)		..	..	..	..	..	..
EMPLOYMENT							
TOTAL LABOR FORCE (THOUSAND)		8300.0	..	8900.0	9900.0	11900.0	26500.0
LABOR FORCE IN AGRICULTURE (%)		57.0	..	45.0	49.0	24.8	8.9
UNEMPLOYED (% OF LABOR FORCE)		7.0 /a	..	3.3 /a	..	2.0 /a	0.7
INCOME DISTRIBUTION							
% OF PRIVATE INCOME REC'D BY-							
HIGHEST 5% OF HOUSEHOLDS		16.4 /b	15.1	..	6.3 /b	..	..
HIGHEST 20% OF HOUSEHOLDS		41.5 /b	41.4	..	..	..	..
LOWEST 20% OF HOUSEHOLDS		6.9 /b	6.6	..	24.3 /c	..	..
LOWEST 40% OF HOUSEHOLDS		19.0 /b	18.4	..	..	..	..
DISTRIBUTION OF LAND OWNERSHIP							
% OWNED BY TOP 10% OF OWNERS		..	15.1 /b	..	..	..	..
% OWNED BY SMALLEST 10% OWNERS		..	84.9 /c	..	..	..	..
HEALTH AND NUTRITION							
POPULATION PER PHYSICIAN		1400.0 /a	1010.0	900.0	680.0	750.0 /b	580.0
POPULATION PER NURSING PERSON		500.0 /a,c	410.0	380.0	200.0	1430.0	350.0
POPULATION PER HOSPITAL BED		190.0 /a	180.0	170.0 /b	120.0	220.0	90.0
PER CAPITA SUPPLY OF -							
CALORIES (% OF REQUIREMENTS)		115.0	124.0	125.0	118.0	107.0	121.0
PROTEIN (GRAMS PER DAY)		91.0	92.0	94.0	92.0	81.0	88.0
-OF WHICH ANIMAL AND PULSE		27.0	29.0	..	28.0	40.0	56.0
DEATH RATE (/THOU) AGES 1-4		4.7 /a	2.5	2.5	3.0	0.9	0.9
EDUCATION							
ADJUSTED ENROLLMENT RATIO							
PRIMARY SCHOOL		96.0	94.0	96.0	112.0	131.0	117.0 /a
SECONDARY SCHOOL		34.0	45.0	48.0	46.0	57.0	45.0 /a
YEARS OF SCHOOLING PROVIDED (FIRST AND SECOND LEVEL)							
VOCATIONAL ENROLLMENT (% OF SECONDARY)		12.0	12.0	12.0	14.0	13.0	15.0
ADULT LITERACY RATE (%)		72.0	72.0	74.0	58.0 /d	20.0	48.0 /a
		77.0	85.0	..	99.0	94.0	99.0
HOUSING							
PERSONS PER ROOM (AVERAGE)		1.7	..	1.3	1.3 /e	..	0.7 /b
OCCUPIED DWELLINGS WITHOUT PIPED WATER (%)		..	..	66.0 /c	88.0 /e,f	..	0.3 /c
ACCESS TO ELECTRICITY (% OF ALL DWELLINGS)		55.0	..	88.0	49.0 /e	..	100.0
RURAL DWELLINGS CONNECTED TO ELECTRICITY (%)		36.0	..	80.0	27.0 /e	..	..
CONSUMPTION							
RADIO RECEIVERS (PER THOU POP)		84.0	163.0	176.0	152.0	214.0	318.0
PASSENGER CARS (PER THOU POP)		3.0	35.0	54.0	..	70.0	223.0
ELECTRICITY (KWH/YR PER CAP)		529.0	1288.0	1570.0	1615.0	1627.0	4128.0
NEWSPRINT (KG/YR PER CAP)		2.3	4.3	3.5	2.6	5.8	17.5

SEE NOTES AND DEFINITIONS ON REVERSE

NOTES

Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961, for 1970 between 1968 and 1970, and for Most Recent Estimate between 1971 and 1973.

** Selection of Federal Republic of Germany as an objective country is based on the close economic ties maintained by the two countries, as well as on the fact that the greater part of Yugoslavia's around one million workers temporarily abroad have found employment in the Federal Republic of Germany.

<u>YUGOSLAVIA</u>	1960	/a	1962; /b	1963; /c	Including midwives and midwifery, and nursing auxiliaries.
	1970	/a	1966-67; /b	Agriculture land held by Social Sector Kooperative; /c	Agriculture land held by private small-holders.
		<u>MOST RECENT ESTIMATE:</u>	/a	Ratio of registered job seekers to active population; /b	Government hospitals only; /g
					Water piped inside.
<u>ROMANIA</u>	1970	/a	The calculation of these figures is under discussion; based on information supplied by the Romanian Government, and using a currency conversion rate of 20 Lei to the US\$, the per capita GNP would amount to \$890 for 1973, and the preliminary estimate for 1974 would be \$910. These figures are, however, not strictly comparable with those for other reference countries, as presented here; /b		
		/c	Percent of salaried workers earning more than 2,500 Lei; /d		
		/e	Percent of salaried workers earning less than 1,100 Lei; /f		
		/g	Full-time education only; /h		
		/i	1966; /j		
		/k	Piped water inside only; /l		
		/m	Ratio of population under 15 and 65 and over to total labor force.		
<u>SPAIN</u>	1970	/a	Registered unemployed; /b		
		/c	Registered, not all practicing in the country.		
<u>GERMANY, FED. REP.</u>	1970	/a	Includes the relevant data relating to Berlin for which separate data have not been supplied; /b		
		/c	Total, urban and rural; /d		
		/e	Inside only.		

RL2, May 3, 1976

DEFINITIONS OF SOCIAL INDICATORS

2

Land Area (thou km²)

Total - Total surface area comprising land area and inland waters.

AGRIC. - Most recent estimate of agricultural area used temporarily or permanently for crops, pastures, market & kitchen gardens or to lie fallow.

GNP per capita (US\$) - GNP per capita estimates at market prices, calculated by same conversion method as World Bank Atlas (1972-74 basis).

Population and vital statistics

Population (mid-yr. million) - As of July first; if not available, average of two end-year estimates.

Population density - per square km - Mid-year population per square kilometer (100 hectares) of total area.

Population density - per square km of agric. land - Computed as above for agricultural land only.

Vital statistics

Crude birth rate per thousand - Annual live births per thousand of mid-year population; usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Crude death rate per thousand - Annual deaths per thousand of mid-year population, usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Infant mortality rate (thou) - Annual deaths of infants under one year of age per thousand live births.

Life expectancy at birth (yrs) - Average number of years of life remaining at birth; usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Gross reproduction rate - Average number of live daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates, usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Population growth rate (%) - total - Compound annual growth rates of mid-year population for 1950-60, 1960-70, and 1960 to most recent year.

Population growth rate (%) - urban - Computed like growth rate of total population; different definitions of urban areas may affect comparability of data among countries.

Urban population (% of total) - Ratio of urban to total population, different definitions of urban areas may affect comparability of data among countries.

Age structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population.

Age dependency ratio - Ratio of population under 15 and 65 and over to those of ages 15 through 64.

Economic dependency ratio - Ratio of population under 15 and 65 and over to the labor force in age group of 15-64 years.

Family Planning - acceptors (cumulative, thou) - Cumulative number of acceptors of birth-control devices under auspices of national family planning program since inception.

Family planning - users (% of married women) - Percentages of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

Employment

Total labor force (thousand) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc.; definitions in various countries are not comparable.

Labor force in agriculture (%) - Agricultural labor force (in farming, forestry, hunting and fishing) as percentage of total labor force.

Unemployed (% of labor force) - Unemployed are usually defined as persons who are able and willing to take a job, out of a job on a given day, remained out of a job, and seeking work for a specified minimum period not exceeding one week, may not be comparable between countries due to different definitions of unemployed and source of data, e.g., employment office statistics, sample surveys, compulsory unemployment insurance.

Income distribution - Percentage of private income (both in cash and kind) received by richest 5%, richest 20%, poorest 20%, and poorest 40% of households.

Distribution of land ownership - Percentages of land owned by wealthiest 10% and poorest 10% of land owners.

Health and Nutrition

Population per physician - Population divided by number of practicing physicians qualified from a medical school at university level.

Population per nursing person - Population divided by number of practicing male and female graduate nurses, "trained" or "certified" nurses, and auxiliary personnel with training or experience.

Population per hospital bed - Population divided by number of hospital beds available in public and private general and specialized hospital and rehabilitation centers; excludes nursing homes and establishments for custodial and preventive care.

Per capita supply of calories (% of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day; available supplies comprise domestic production, imports less exports, and changes in stock; net supplies exclude animal feed, seeds, quantities used in food processing and losses in distribution; requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distributions of population, and allowing 10% for waste at household level.

Per capita supply of protein (grams per day) - Protein content of per capita, net supply of food per day; net supply of food is defined as above; requirements for all countries established by USDA Economic Research Services provide for a minimum allowance of 60 grams of total protein per day, and 20 grams of animal and pulse protein, of which 10 grams should be animal protein, these standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey.

Per capita protein supply from animal and pulse - Protein supply of food derived from animals and pulses in grams per day.

Death rate (/thou) ages 1-4 - Annual deaths per thousand in age group 1-4 years, to children in this age group, suggested as an indicator of malnutrition.

Education

Adjusted enrollment ratio - primary school - Enrollment of all ages as percentage of primary school-age population, includes children aged 6-11 years but adjusted for different lengths of primary education, for countries with universal education, enrollment may exceed 100% since some pupils are below or above the official school age.

Adjusted enrollment ratio - secondary school - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational or teacher training instructions for pupils of 12 to 17 years of age, correspondence courses are generally excluded.

Years of schooling provided (first and second levels) - Total years of schooling; at secondary level, vocational instruction may be partially or completely excluded.

Vocational enrollment (% of secondary) - Vocational institutions include technical, industrial or other programs which operate independently or as departments of secondary institutions.

Adult literacy rate (%) - Literate adults (able to read and write) as percentage of total adult population aged 15 years and over.

Housing

Persons per room (average) - Average number of persons per room in occupied conventional dwellings in urban areas; dwellings exclude non-permanent structures and unoccupied parts.

Occupied dwellings without piped water (%) - Occupied conventional dwellings in urban and rural areas without inside or outside piped water facilities as percentage of all occupied dwellings.

Access to electricity (% of all dwellings) - Conventional dwellings with electricity in living quarters as percent of total dwellings in urban and rural areas.

Rural dwellings connected to electricity (%) - Computed as above for rural dwellings only.

Consumption

Radio receivers (per thou pop) - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect, data for recent years may not be comparable since most countries abolished licensing.

Passenger cars (per thou pop) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

Electricity (kwh/yr per cap) - Annual consumption of industrial, commercial, public and private electricity in kilowatt hours per capita, generally based on production data, without allowance for losses in grids but allowing for imports and exports of electricity.

Newsprint (kg/yr per cap) - Per capita annual consumption in kilograms estimated from domestic production plus net imports of newsprint.

ECONOMIC DEVELOPMENT DATA
(Amounts in Million US Dollars)

	Actual		Projected		1965-72 Average Annual Growth Rates	1972-75 Average Annual Growth Rates	1973-76 Average Annual Growth Rates	1972 As Percent of GDP	1974 As Percent of GDP	1976 As Percent of GDP
	1972	1973	1974	1975 ^{1/}						
<u>NATIONAL ACCOUNTS</u> ^{3/}										
Constant 1974 Prices and Exchange Rate of \$1=17.0 Dm.										
Gross Domestic Product	21,638	22,720	24,765	25,887	5.6	6.2	6.0	97.8	100.0	100.6
Gains from Trade of Trade (+)	4,468	4,681	4,712	4,820				7.7	100.0	100.0
Gross Domestic Income	22,106	23,401	24,765	25,712	5.5	5.2	4.7	100.0	100.0	100.0
Imports (Incl. NRS)	6,588	7,600	8,312	8,036	12.6	6.9	2.6	29.7	33.6	30.6
Exports (Incl. NRS)	5,437	5,788	5,696	5,678	8.8	1.5	2.3	24.5	23.0	23.0
Resource Gap	1,151	1,812	2,618	2,358						
Consumption Expenditures	16,139	17,716	19,953	20,151	6.7	7.7	5.2	73.0	80.6	76.8
Investment Expenditures (Incl. stocks)	6,500	6,816	7,429	8,095	6.0	6.8	7.3	30.0	30.0	31.3
National Savings	6,904	6,806	6,241	7,169	6.6	1.3	4.5	31.2	25.2	28.8
Domestic Savings	5,499	5,004	4,812	5,736	3.1	1.4	8.5	24.9	19.4	23.8
<u>MERCHANDISE TRADE</u>										
Annual Data At Current Prices										
Imports	688.6	1003.8	1306.0	1909.5				As a Percentage of Total		
Capital Goods	82.5	219.8	681.2	730.9				21.3	17.4	23.6
Petroleum	1953.9	2389.1	4560.8	4659.8				63.1	69.7	67.5
Intermediate Goods	302.3	698.0	970.0	1072.3				15.6	12.2	8.9
Consumer Goods	522.7	951.7	1314.8	1897.3				100.0	100.0	100.0
Total Merch. Imports (c.i.f.)	3527.3	4510.7	7518.0	8092.3				100.0	100.0	100.0
Exports	316.1	389.2	514.0	655.0				As a Percentage of Total		
Capital Goods	382.4	409.2	477.0	548.0				14.1	13.5	14.0
Textile and Leather Products	272.0	324.6	556.0	458.0				14.2	14.6	12.1
Non-Ferrous Metallurgy	476.0	621.6	604.0	503.0				21.3	15.9	12.2
Agricultural produce (Incl. food)	810.7	1107.9	1654.0	1824.0				36.2	43.5	46.3
Other	2237.2	2852.6	3805.0	3988.0				100.0	100.0	100.0
Total Merch. Exports (f.o.b.)	2237.2	2852.6	3805.0	3988.0				100.0	100.0	100.0
<u>MERCHANDISE TRADE INDICES</u>										
1974=100										
Export Price Index	63.0	76.0	100.0	107.0				15.6	16.0	15.1
Import Price Index	98.0	68.0	100.0	111.0				21.0	31.8	32.6
Terms of Trade Index	109.0	112.0	100.0	96.0				53.3	52.2	52.3
Export Volume Index	93.3	98.4	100.0	100.0				100.0	100.0	100.0
<u>VALUE ADDED BY SECTOR</u>										
Annual Data in Constant 1974 Prices and Exchange Rate of \$1=17.0 Dm.										
Agriculture	3213	3406	3765	3727	2.7	5.1	3.5	15.6	16.0	15.1
Manufacturing & Mining	6374	6735	7471	7030	4.6	7.6	7.7	31.0	31.8	32.6
Other	10854	11442	12272	12821	5.7	5.7	6.0	53.3	52.2	52.3
Total	20545	21576	23512	26504	5.9	6.2	6.0	100.0	100.0	100.0
<u>PUBLIC FINANCE</u> ^{4/}										
Current Prices										
Current Receipts	2772.0	3489.0	..	..	..	..	..	17.5	..	..
Current Expenditures	2320.8	3154.8	..	..	..	..	..	1.6	..	..
Budgetary Savings	251.2	334.2	..	..	..	..	..	1.6	..	..
Public Sector Investment	224.9	281.3	..	..	..	..	..	1.4	..	..
<u>LABOR FORCE AND OUTPUT PER WORKER 1974^{5/}</u>										
In Millions										
Agriculture ^{6/}	1972	1974	1972	1974	1972-74 Average Annual Growth Rate	1972-74 In US Dollars	1974	1972	1974	1972-74 Average Annual Growth Rate
Manufacturing and Mining	3.9	3.8	47.8	45.0	-1.9	823	1003	32.7	35.6	10.4
Other	1.6	1.7	19.1	20.4	4.3	4075	4395	162.1	155.8	3.9
Total ^{6/}	2.7	2.9	33.1	34.6	3.2	4050	4228	163.1	150.9	2.5
	8.2	8.3	100.0	100.0	1.0	2514	2821	100.0	100.0	5.9

^{1/} Preliminary.
^{2/} Estimate.
^{3/} Figures may not add exactly due to rounding.
^{4/} Federation, Republics and Autonomous Provinces and Communes. Figures cannot be projected because of the far reaching effects of the new Constitution on the role of the State and the size of the budget.
^{5/} Total resident active labor force.
^{6/} Labor force in agriculture and non-agricultural private employment, and, accordingly, total employment in economy are overstates.

BALANCE OF PAYMENTS AND EXTERNAL ASSISTANCE AND DEBT

	1972	Actual 1973	1974	Estimated 1975	Projected 1976	Average Annual Growth Rates 1972-75		
SUMMARY OF BALANCE OF PAYMENTS								
Exports (incl. NFS)	3425	4407	5694	6088	7319	21.1		
Imports (incl. NFS)	3821	5168	8312	8891	9961	32.5		
Resource Balance (X-M)	-395	-761	-2618	-2803	-2642			
Interest	-165	-222	-285	-305	-407	22.7		
Workers Remittances	889	1310	1511	1700	1926	24.1		
Other factor services net	17	50	93	70	-	60.3		
Current Transfers (net)	74	87	110	120	132	17.5		
Balance on Current Account	419	464	-1189	-1218	-991			
M< Loans ^{1/}								
Disbursements	943	1170	1426	2101	2449	30.6		
Repayments	-570	-686	-814	-1106	-1279	24.7		
Net Disbursements	373	484	612	995	1170	38.7		
Capital Transactions n.e.i. ^{2/}	-117	-285	139	320	-			
Use of Reserves	-675	-663	438	-97	-179			
GRANT AND LOAN COMMITMENTS								
Official Grants & Grant-like	-	-	-	-	-			
Public M< Loans								
IBRD	75.0	104.9	256.5	-	-			
IDA	-	-	-	-	-			
Other Multilateral Governments	182.9	175.0	612.7	-	-			
Suppliers	82.3	3.1	.6	-	-			
Financial Institutions	142.0	19.4	367.5	-	-			
Bonds	-	-	-	-	-			
Public Loans n.e.i.	482.2	302.4	1237.3	-	-			
Total Public M< Loans	482.2	302.4	1237.3	-	-			
Actual Debt Outstanding on Dec. 31, 1974								
	Disbursements Only		Percent					
World Bank	424.6		19.9					
IDA	-		-					
Other Multilateral Governments	1149.7		53.8					
Suppliers	143.6		6.7					
Financial Institutions	392.5		18.4					
Bonds	19.0		.9					
Public Debt n.e.i.	2136.6		100.0					
Other M< Debts	2833.2							
Short-term Debt (disb. only)								
DEBT AND DEBT SERVICE ^{3/}								
Public Debt Out. & Disbursed							Actual	Estimated
	1972	1973	1974	1975				
Interest on Public Debt	63.1	96.4	102.6	114.5				
Repayments on Public Debt	154.1	208.0	288.1	313.3				
Total Public Debt Service	217.3	304.4	390.7	427.8				
Other Debt Service (net)	634.5	722.6	821.4	975.1				
Total Debt Service (net)	851.8	1027.0	1212.1	1502.9				
Burden on Export Earnings ^{4/} (%)								
Public Debt Services Ratio	5.0	5.3	5.4	5.5				
Total Debt Service Ratio	19.7	18.0	16.8	19.3				
TDS - Direct Investment Inc.	-	-	-	-				
Average Terms of Public Debt								
Int. as % Prior Year DO&D	4.7	5.9	5.4	5.4				
Amort as % Prior Year DO&D	11.4	12.8	15.1	14.7				
IBRD Debt Outs. & Disbursed	19.5	18.4	19.9	-				
" as % Public Debt O&D	14.7	12.6	11.3	11.6				
" as % Public Debt Services								

^{1/} Includes direct foreign investment.

^{2/} Includes errors and omissions, short term loans, net export credits, IMF account, National Bank and Commercial Bank Credits.

^{3/} Figures on debt service do not correspond with balance of payments figures due to differences in coverage.

^{4/} Includes workers remittances.

THE STATUS OF BANK GROUP OPERATIONS IN YUGOSLAVIA

A. STATEMENT OF BANK LOANS (as at March 31, 1976)

<u>Number</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	US\$ million	
				<u>Bank</u>	<u>Undisbursed</u>
Fifteen Loans fully disbursed				434.7	
657	1970	Yugoslav Investment Bank	Telecommunications	40.0	0.2
751	1971	SFRY	Roads	35.0	0.4
752	1971	Hotel "Bernardin", Piran	Tourism	10.0	3.6
777	1971	SFRY	Multipurpose Water	45.0	34.7
782	1971	"Babin Kuk" Hotelsko Turisticki Centar, Dubrovnik	Tourism	20.0	9.9
836	1972	Twelve Electric Power Enterprises in Yugoslavia	Power	75.0	23.1
894	1973	Stopanska Banka, Skopje	Agricultural Industries	31.0	12.3
916	1973	Naftagas	Gas Pipeline	59.4	24.8
947	1973	Kikinda	Iron Foundry	14.5	4.3
965	1974	IMT	Tractor Factory	18.5	1.5
966	1974	FOB	Iron Foundry	15.0	8.5
990	1974	Bosnia-Herzegovina Road Funds	Roads	30.0	4.4
1012	1974	Stopanska Banka, Skopje	Industrial Credit	28.0	22.2
1013	1974	Privredna Banka Sarajevo	Industrial Credit	22.0	18.6
1026	1974	Community of Yugoslav Railways	Railways	93.0	76.3
1060	1974	Port of Bar	Harbor Expansion	44.0	43.8
1066	1974	Vodovod Dubrovnik	Water Supply and Wastewater	6.0	6.0
1129	1975	Vojvodjanska Banka	Agricultural Credit	50.0	50.0
1143	1975	Republic Road Organization in Slovenia, Montenegro and Serbia	Roads	40.0	40.0
1173/a	1975	Jugoslavenski Naftovod	Pipeline	49.0	49.0
Total (less cancellation)				1160.1	433.6
of which has been repaid				136.3	
Total now outstanding				1023.8	
Amount sold				7.8	
of which: Amount repaid				6.2	
Total now held by Bank				1022.2	
Total undisbursed					433.6

/a Not yet effective.

B. STATEMENT OF IFC INVESTMENTS (as at March 31, 1976)

<u>Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Amount in US\$ million</u>		
			<u>Loan</u>	<u>Equity</u>	<u>Total</u>
1970	International Investment Corporation for Yugoslavia	Investment Corporation	-	2.0	2.0
1970	Zavodi Crvena Zastava Fiat S.P.A.	Automotive Industry	5.0	8.0	13.0
1971	Tovarna Automobilov in Mororjev Maribor (TAM)/Klockner-Humboldt Deutz A.G. (KHD)	Automotive Industry	7.5	2.1	9.6
1972	FAP-FAMOS Belgrade/Daimler Benz A.G.	Automotive Industry	12.7	2.7	15.3
1972	Sava/Semperit	Tires	4.0	1.5	5.5
1973	Belisce/Bell	Pulp and Paper	13.3	-	13.2
1974	Zelezarna Jesenice/ARMCO	Special Steel	10.0	-	10.0
1974	Salonit Anhovo	Cement Plant	10.0	-	10.0
1975	Rudarsko Melaturski	Steel	50.0	-	50.0
Total Gross Commitments			112.5	16.3	128.8
less cancellations, terminations, repayment and sales			57.8	2.2	60.0
Total commitments held by IFC			54.9	14.1	68.8
Total Undisbursed			36.6	5.8	39.4

C. PROJECTS IN EXECUTION 1/

Loan 657 Telecommunications: US\$40.0 million Loan of February 20, 1970;
Effective Date: August 30, 1970; Closing Date: March 31, 1976.

After initial delays the Bank-financed part of the project is proceeding satisfactorily and is now nearing completion. The installation of trunk exchanges which are not financed by the Bank, has been delayed and will be fully completed shortly. We are in communication with the borrower with respect to the undisbursed balance of \$200,000.

1/ These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense, and with understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

Loan 751 Fifth Highway: US\$35.0 million Loan of June 18, 1971; Effective Date: June 2, 1972; Closing Date: December 31, 1977.

After an initial delay of about eight months in fulfilling the conditions for effectiveness of the loan, construction work on all sections has progressed well. All road sections but one are open for traffic. Completion of the remaining section has been delayed due to lack of funds. While costs have increased, future earmarked revenues from fuel taxes, particularly on purchases of fuel by Italian motorists crossing the border to buy cheaper fuel in Yugoslavia, have decreased. The final section is now expected to be completed by September, 1977.

Loan 752 Bernardin Tourism: US\$10.0 million Loan of June 18, 1971; Effective Date: May 31, 1972; Closing Date: June 20, 1977.

There have been delays in implementation of the project due to delays in making the loan effective, appointing consultants, providing the necessary infrastructure and approvals by local authorities. As a result disbursements are behind schedule. Bids received in July 1974 indicated that the project, if it were to be implemented as originally envisaged (2,500 beds) would cost approximately 100 percent above the originally estimated cost of US\$25.6 million. This increase was mainly due to rapid inflation in construction costs. The Bank and the project sponsors have agreed to finance a reduced complex containing some 1,616 beds (Amendment to Loan 752-YU, December 16, 1974, R74-258). The total cost would be US\$39.9 million requiring additional financing of about US\$14 million. Financing for the revised project has been agreed upon. The port hotel is scheduled for pre-opening occupancy in April, 1976 and the village hotel complex is scheduled to open in May 1976; however, serious construction problems with regard to the foundations were encountered in the case of the cliff hotel, the completion of which has been delayed until October, 1976.

Loan 777 Ibar Multipurpose Water: US\$45.0 million Loan of June 20, 1971; Effective Date: May 31, 1972; Closing Date: December 31, 1976.

The start of project work was delayed for one year. Construction is now underway with the main dam scheduled for completion by late 1976. A small part of the irrigation network has been completed with the remainder expected to be completed in 1978. Project costs have been above appraisal estimates but the overrun financing is being provided by the Province of Kosovo. Delays have been encountered in the arrangements for boundary adjustment and agricultural extension services. Consultants have been recently engaged to help find solutions.

Loan 782 Babin Kuk Tourism: US\$20.0 million Loan of July 21, 1971; Effective Date: June 12, 1972; Closing Date: July 31, 1977.

There have been delays in the implementation of the project due to delays in making the loan effective and in mobilizing consultants. Accordingly disbursements are behind schedule. Although these problems have now been largely resolved, the project is almost two years behind schedule. Bids for civil works and estimates for other components indicated that the project would cost at least twice as much as originally estimated (US\$49.9 million). This increase is largely due to rapid inflation in construction costs. The Bank and the project sponsors have agreed to finance a reduced complex containing some 2,034 beds (Amendment to Loan 782-YU, December 16, 1974, R74-259). The total cost would be US\$51.5 million requiring additional financing of about US\$1.6 million. This additional financing for the revised project has been arranged but in light of the increased financial commitments necessary from the local banks and a re-evaluation of the financial capabilities of the sponsor necessary to implement a project of this size, the local banks and the Borrower have proposed and are discussing with the Bank a change in sponsorship. This proposed change in sponsorship will be submitted to the Executive Directors for their consideration after being fully reviewed by the Bank. Meanwhile, construction is proceeding well and all civil works are near completion. The hotels are scheduled to open in June, 1976.

Loan 836 Power Transmission: US\$75.0 million Loan of June 23, 1972; Effective Date: December 29, 1972; Closing Date: June 30, 1977.

Project execution began about one year behind schedule mainly because of coordination difficulties and inherent delays in reaching agreement among 12 borrowers. This is the first attempt at countrywide coordination in the sector. All main contracts have been awarded and construction is proceeding satisfactorily; however, the cost of the project has increased 84 percent from \$225 million to \$415 million chiefly due to escalation in overall costs, including both civil works and equipment. The cost overrun is expected to be financed from funds from the Federal Republic of Germany and the borrowers' own resources. Action on appointment of management consultants to help improve planning operation and management of the interconnected power system is still pending. Early difficulties with reporting, changes in the organization of the sector, and determination of the financial performance of individual borrowers have largely been resolved.

Loan 894 Agricultural Industries (Macedonia): US\$31.0 million Loan of May 25, 1973; Effective Date: November 28, 1973; Closing Date: December 31, 1978.

Sub-projects accounting for all but Din 7.75 million (\$430,500 equivalent) of the amount allocated have been approved by the lending institution. Private sector demands for sub-loans have by far been in excess of financing available under the project. Twenty-one sub-projects have been

completed and eighteen are under construction in the social sector. Of the three studies encompassed by the project the one on irrigation has been completed while the other two on marketing and private farm production are in the final draft stage.

Loan 916 Naftagas Pipeline: US\$59.4 million Loan of June 25, 1973; Effective Date: March 22, 1974; Closing Date: June 20, 1977.

Bids received on pipes and equipment exceeded appraisal estimates and civil works costs have increased so that project costs are now about 71 percent above the appraisal estimate. Accordingly the project has been re-defined. Phase I is a reduced version of the original plan. Phase II would provide for a pipeline extension to link up with the pipeline to be constructed under the proposed Sarajevo Air Pollution Control Project, for which additional Bank financing will be proposed. Naftagas has obtained additional local currency financing required for Phases I and II. The proposed change will be submitted to the Executive Directors for their consideration.

Loan 947 Kikinda Iron Foundry: US\$14.5 million Loan of November 30, 1973; Effective Date: May 28, 1974; Closing Date: March 31, 1978.

Effectiveness was delayed about five months due primarily to the extra time required for the ratification of the Guarantee Agreement by the Federal Assembly. Project implementation is about four months ahead of schedule. Total project costs now are about 13 percent (Din. 79.0 million, about US\$4.6 million equivalent) above appraisal estimates due to large increases in local costs. Financing of this cost overrun has been arranged with a local bank.

Loan 965 IMT Tractor Factory Expansion: US\$18.5 million Loan of February 22, 1974; Effective Date: June 11, 1974; Closing Date: December 31, 1977.

The factory was officially inaugurated on March 7, 1976. Completion work on minor portions of the project, however, is continuing.

Loan 966 FOB Iron Foundry: US\$15.0 million Loan of February 22, 1974; Effective Date: May 28, 1974; Closing Date: December 31, 1977.

There presently is a 3 month delay in project implementation but completion is expected to be on schedule. Local costs are about 27 percent (Din. 173 million, about US\$10.0 million equivalent) above appraisal estimates due to design changes and domestic inflation. Financing of this local cost overrun has been arranged with a local bank.

Loan 990 Sixth Highway: US\$30.0 million Loan of May 31, 1974; Effective Date: December 10, 1974; Closing Date: December 31, 1977.

Two out of six road sections are complete and the remainder should be completed by the end of 1976. Two requests for changes in road alignments have been agreed; both changes were requested to accommodate communities which would be better served by the realignments.

Loan 1012 Macedonia/Kosovo Industrial Credit: US\$28.0 million Loan of June 21, 1974; Effective Date: December 19, 1974; Closing Date: December 31, 1978.

It is expected that the loan would be fully committed by September 1976 and disbursed by end-1977, ahead of appraisal estimates. The reasons being: use of Bank funds to finance a greater than anticipated proportion of the foreign exchange requirements of projects financed by the banks; the suitability of Bank funds for investors' projects and the overall scarcity of investment resources in Yugoslavia; and the banks' ability to adapt quickly to the methodology proposed by IBRD for appraisal of projects submitted for Bank financing.

Loan 1013 Bosnia Herzegovina/Montenegro Industrial Credit: US\$22.0 million Loan of June 21, 1974; Effective Date: December 19, 1974; Closing Date: December 31, 1978.

The note under Loan 1012 above applies also to this loan.

Loan 1026 Fourth Railway: US\$93.0 million Loan of July 10, 1974; Effective Date: February 12, 1975; Closing Date: December 31, 1977.

The project consists of the 1974-76 slice of the railways' investment plan. After serious delays in 1974, project execution improved substantially in 1975 but remains somewhat below appraisal forecasts. Delays have been due principally to financial difficulties. Government and the Community of Railways are having difficulties in raising tariffs sufficient to cover inflationary costs and the Bank is currently reviewing this matter with the Government. There has been good progress on investment planning and project management.

Loan 1060 Port of Bar: US\$44.0 million Loan of December 11, 1974; Effective Date: June 13, 1975; Closing Date: June 30, 1978.

In general the Project is progressing well, but settlement of compensation to occupiers of expropriated land and construction of alternative housing must be accelerated to enable the construction of the railway marshalling yards serving the new port facilities in due time. The Bank contacted the Government of the Republic of Montenegro which has intervened in this matter.

Loan 1066 Dubrovnik Water Supply and Wastewater: US\$6.0 million Loan of December 24, 1974; Effective Date: June 26, 1975; Closing Date: December 31, 1978.

Preliminary works are underway, and services to the Bank financed Babin Kuk hotel complex (Loan 782-YU) will be finished in time for the initial operation of the hotel complex.

Loan 1129 Agricultural Credit: US\$50.0 million Loan of June 20, 1975; Effective Date: February 12, 1976; Closing Date: December 31, 1979.

Two sub-projects from the autonomous Province of Vojvodina have already been approved and more sub-project applications from the other Republics are presently being reviewed for approval.

Loan 1143 Seventh Highway: US\$40.0 million Loan of July 18, 1975; Effective Date: March 30, 1976; Closing Date: June 30, 1979.

This loan was declared effective on March 30, 1976.

Loan 1173 Naftovod Oil Pipeline: US\$49.0 million Loan of November 19, 1975; Closing Date: December 31, 1979.

Terminal date for declaring effectiveness is June 30, 1976.

YUGOSLAVIA: Sarajevo Water Supply and Sewerage Project

Loan and Project Summary

Borrower: Preduzece Vodovod i Kanalizacija Sarajevo
(the Sarajevo Water Supply and Sewerage Enterprise,
or Vodovod)

Guarantor: Socialist Federal Republic of Yugoslavia

Amount: US\$45.0, equivalent, in various currencies

Terms: Amortization in 25 years, including a five-year grace
period, with interest at 8-1/2 percent

Project
Description:

The project would provide the facilities needed to improve the water supply system and abate water pollution in the city. The water supply and sewerage systems would be rehabilitated and expanded and a sewage treatment plant would be constructed. Essential features of the project are:

(a) Water Supply:

- (i) Construction of an infiltration gallery, reservoirs and pumping stations, and expansion of existing reservoirs and pumping stations,
- (ii) Installation and replacement of water mains and distribution pipes, and replacement of obsolete service connections,
- (iii) Installation of a control system and master meters,
- (iv) Hydro-geological studies to prepare a water resources master plan,
- (v) Construction of headquarter's offices and supply of office equipment, and
- (vi) Engineering services for designs, supervision, project administration and training.

(b) Sewerage:

- (i) Construction of collectors and main sewers and replacement of worn-out sewer laterals and service connections,

- (ii) Construction of sewage treatment facilities (including a pilot plant for experimentation to attain optimal utilization of the main plant), sludge filters and facilities for disposal of sludge, and
- (iii) Engineering services for designs, supervision, project administration and training.

Estimated
Cost:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	Percent (of total project cost)
	----- (US\$ million) -----			
A. <u>Water Supply:</u>				
Infiltration Gallery	0.4	0.2	0.6	1
Pumping Stations	0.6	0.4	1.0	1
Reservoirs	2.6	1.1	3.7	4
Distribution System	3.0	1.9	4.9	5
Replacement Pipes	4.5	2.6	7.1	7
Telemetry System	0.4	1.1	1.5	2
Headquarters	1.3	0.7	2.0	2
Engineering Services	2.1	0.9	3.0	3
Physical Contingencies	2.2	1.4	3.6	4
Price Contingencies	<u>5.7</u>	<u>3.5</u>	<u>9.2</u>	<u>9</u>
Sub-Total	22.8	13.8	36.6	38
B. <u>Sewerage:</u>				
Collectors and Sewers	6.5	3.4	9.9	10
Reconstruction Sewers	1.0	0.4	1.4	2
Treatment Facilities	12.0	10.4	22.4	23
Sludge Disposal Site	1.0	0.6	1.6	2
Engineering Services	1.4	1.0	2.4	3
Physical Contingencies	3.3	2.3	5.6	6
Price Contingencies	<u>9.2</u>	<u>6.6</u>	<u>15.8</u>	<u>16</u>
Sub-Total	<u>34.4</u>	<u>24.7</u>	<u>59.1</u>	<u>62</u>
Total Project Cost	<u>57.2</u>	<u>38.5</u>	<u>95.7</u>	<u>100</u>
Interest During Construction	1.2	7.6	8.8	
Non-Project Capital Expenditures			<u>7.8</u>	
Total Financing Required During the Project Construction Period			<u>112.3</u>	

Financing Plan: (For the project construction period (1976-1980), including interest during construction, non-project capital expenditures and increases in net working capital).

	<u>Million US\$</u>	<u>Percent of Total</u>
IBRD	45.0	40
Internal Cash	34.7	30
Local Loans	8.5	8
Capital Contributions:		
Republic Water Fund	5.6	5
City Government	<u>18.5</u>	<u>17</u>
Total	112.3	100

Estimated
Disbursements:

<u>Calendar Year</u>	<u>Amount (US\$ Million)</u>	
	<u>Annual</u>	<u>Cumulative</u>
1976	1.0	1.0
1977	5.0	6.0
1978	14.0	20.0
1979	16.0	36.0
1980	8.0	44.0
1981	1.0	45.0

Procurement

Arrangements:

Materials and equipment contracts estimated to cost more than US\$200,000 would be let after international competitive bidding in accordance with the Bank Group's "Guidelines for Procurement". For the purpose of bid comparison, qualified domestic manufacturers would be given a margin of preference of 15 percent or customs duties, whichever is less. Civil works contracts estimated to cost more than US\$500,000 would be awarded after international competitive bidding in accordance with the Bank Group's "Guidelines for Procurement". The remaining materials and equipment, and civil works contracts would be awarded on the basis of competitive bidding advertised locally in accordance with the procedures of the Federal Government which are satisfactory. Vodovod will carry out by force account minor works, such as renovations and modifications to the existing water and sewer networks. The total value of such minor works is expected to be about US\$10 million. All equipment supply and civil works contracts are expected to be won by Yugoslav firms except those for the supply of equipment for the sewage treatment plant and other specialized equipment which are expected to be awarded to foreign contractors. Expenditure by the City Assembly and Vodovod for preparation of feasibility studies, final designs and

tender documents amounting to about US\$1.5 million is expected to be incurred prior to loan signature. Retroactive Bank financing of not more than US\$750,000 is proposed.

Technical Assistance and Engineering Services:

About 100 man-years for engineering services and technical assistance with feasibility studies, final designs, tender documents, supervision of construction and training and initial operation of sewage treatment plant, a substantial portion of which to be carried out by local consultants and design department of the borrower on a contract basis.

Rate of Return:

Water Supply: Internal economic rate of return based on current water tariff rates is 15.6 percent.

Sewerage: Benefits not quantifiable.

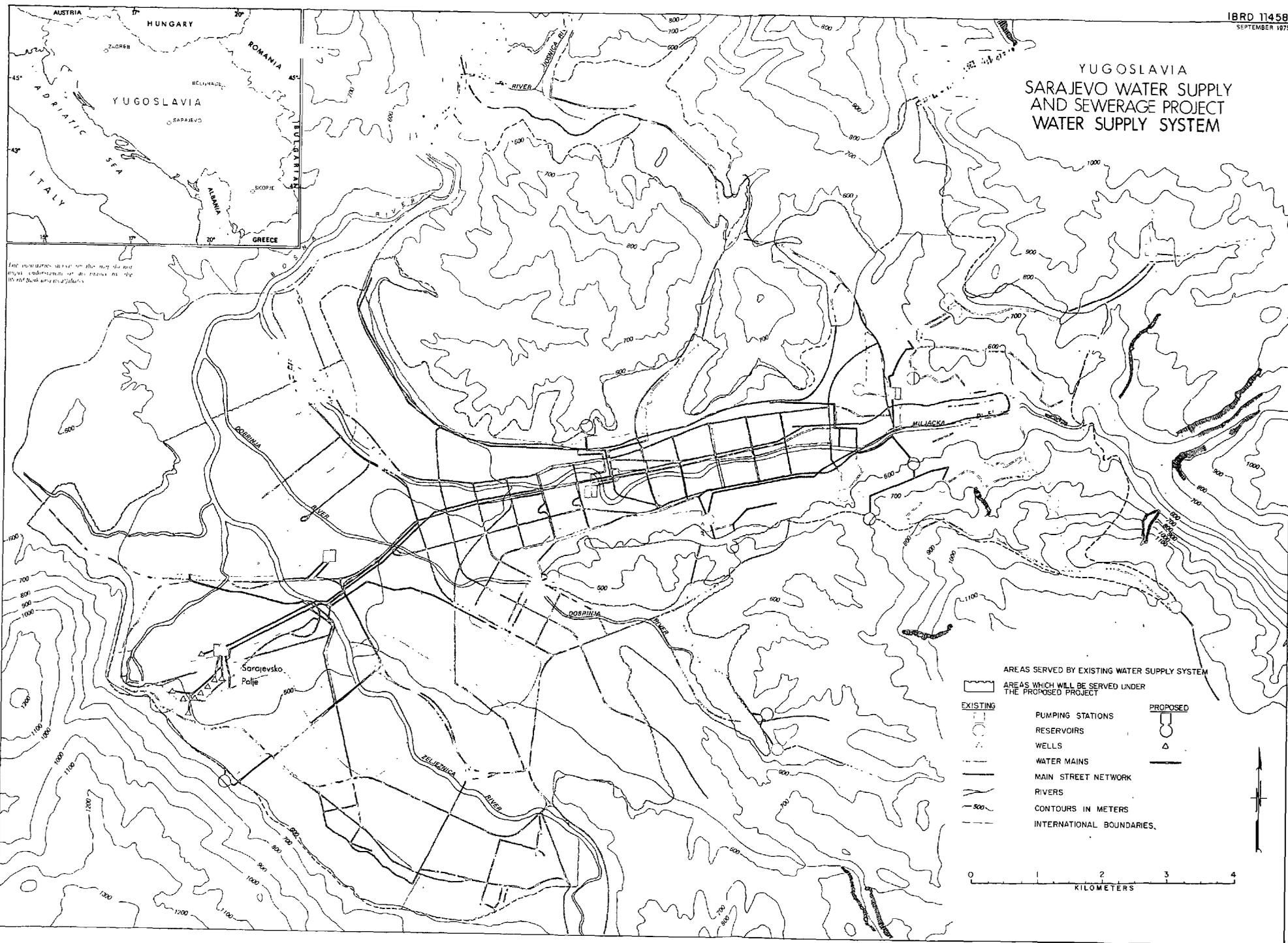
Estimated Project Completion Date:

December 31, 1980

Appraisal Report:

Report Number 1167-YU
Date: May 7, 1976
EMENA Projects Department

YUGOSLAVIA
SARAJEVO WATER SUPPLY
AND SEWERAGE PROJECT
WATER SUPPLY SYSTEM

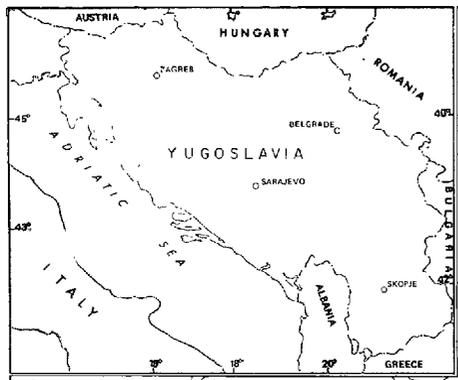


The contours shown on this map do not represent an endorsement of the accuracy of the 1:50,000 scale map on which they are based.

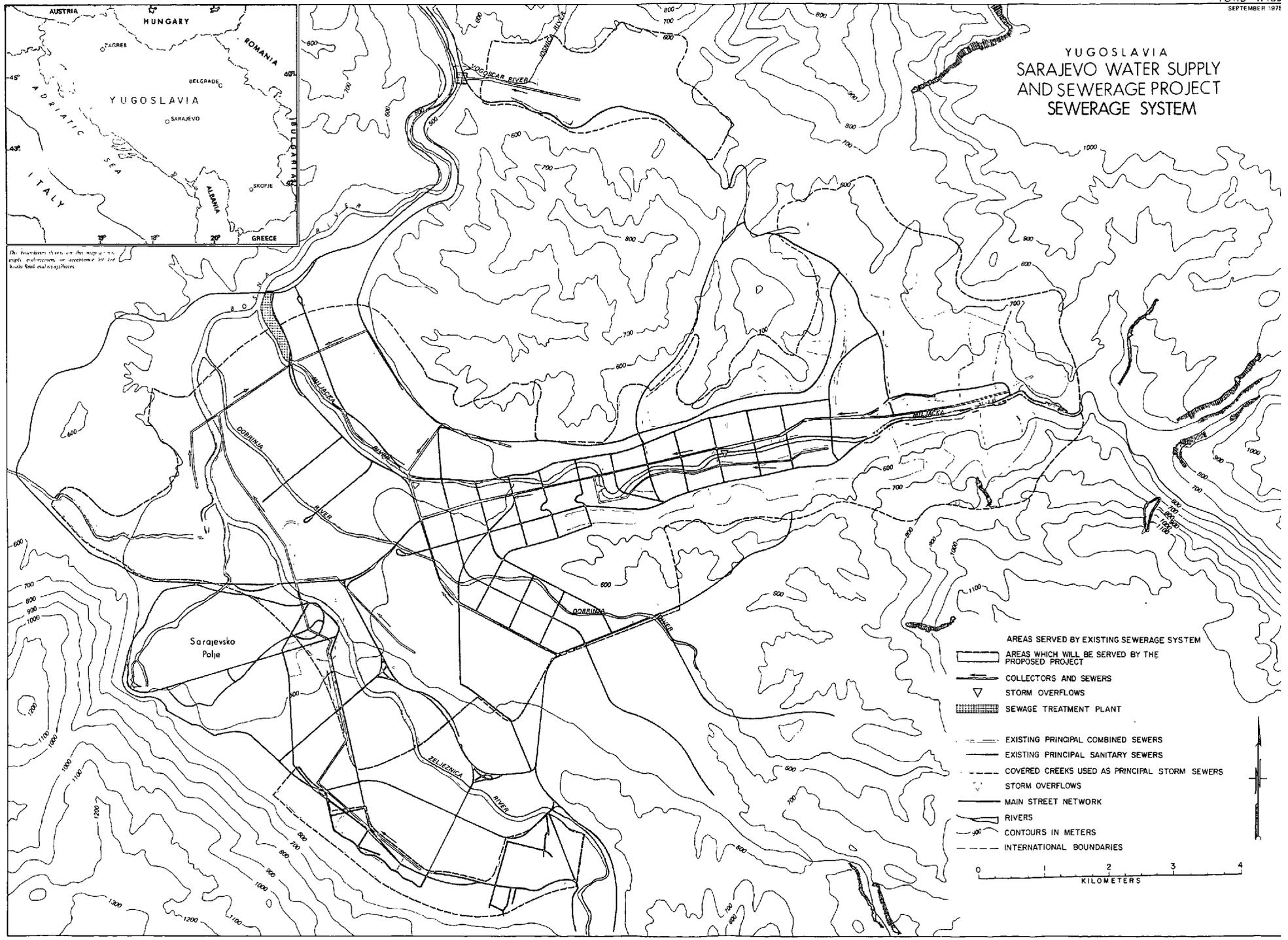
- AREAS SERVED BY EXISTING WATER SUPPLY SYSTEM
- AREAS WHICH WILL BE SERVED UNDER THE PROPOSED PROJECT
- EXISTING
- PROPOSED
- PUMPING STATIONS
- RESERVOIRS
- WELLS
- WATER MAINS
- MAIN STREET NETWORK
- RIVERS
- CONTOURS IN METERS
- INTERNATIONAL BOUNDARIES.



YUGOSLAVIA SARAJEVO WATER SUPPLY AND SEWERAGE PROJECT SEWERAGE SYSTEM



The boundaries shown on this map are not graph enlargements, or alterations by the World Bank and its affiliates.



- AREAS SERVED BY EXISTING SEWERAGE SYSTEM
- AREAS WHICH WILL BE SERVED BY THE PROPOSED PROJECT
- COLLECTORS AND SEWERS
- ▽ STORM OVERFLOWS
- ▨ SEWAGE TREATMENT PLANT
- EXISTING PRINCIPAL COMBINED SEWERS
- EXISTING PRINCIPAL SANITARY SEWERS
- - - COVERED CREEKS USED AS PRINCIPAL STORM SEWERS
- ▽ STORM OVERFLOWS
- MAIN STREET NETWORK
- RIVERS
- CONTOURS IN METERS
- - - INTERNATIONAL BOUNDARIES

