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PROJECT PERFORMANCE AUDIT REPORT

**YUGOSLAVIA - AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
(LOAN 1370-YU)**

December 26, 1985

Operations Evaluation Department

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ABBREVIATIONS

AEI	-	Agroeconomic Institute
AK	-	"13 July" Agrokombinat
BOAL	-	Basic Organization of Associated Labor
EMENA	-	Europe, Middle East and North Africa Regional Office of the World Bank
CP	-	FAO/World Bank Cooperative Program
ERR	-	Economic Rate of Return
FAO	-	Food and Agriculture Organization
IBT-UB	-	Investicciona Banka Titograd-Associated Bank
ICB	-	International Competitive Bidding
IFC	-	International Finance Corporation
OECD	-	Organization of Economic Cooperation and Development
PCR	-	Project Completion Report
PU	-	Project Unit
PY	-	Project Year
SRM	-	Socialist Republic of Montenegro
UNDP	-	United Nations Development Program
WO	-	Work Organization

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PROJECT PERFORMANCE AUDIT REPORT

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(LOAN 1370-YU)**

PREFACE

This is a performance audit of the Agriculture and Agricultural Industries Project in Montenegro, Yugoslavia, for which Loan 1370-YU in the amount of US\$26.0 million was approved in February 1977. The loan was closed as scheduled on June 30, 1983. Final disbursement took place on March 27, 1984, and an undisbursed balance of US\$15,224 was cancelled on March 30, 1984.

The audit report consists of an audit memorandum prepared by the Operations Evaluation Department (OED) and a project completion report (PCR) dated March 13, 1985. The PCR was prepared by the Bank's Europe, Middle East and North Africa Regional Office. Although not required under the Loan Agreement, the investor, 13 July Agrokombinat Titograd, with encouragement from Bank supervision missions, did prepare basic data tables in support of PCR preparation with the assistance of local consultants.

An OED mission visited Yugoslavia in May 1985. The mission held discussions with officials of Investiciona Banka Titograd, 13 July Agrokombinat Titograd, and with staff in the field. The information obtained during the mission was used to test the validity of the analysis and conclusions of the PCR.

The audit memorandum is based on these discussions, on interviews with Bank staff associated with the project, and on a review of the PCR, the Staff Appraisal Report (No. 1316a-YU) dated January 26, 1977, the President's Report (No. P-1943a-YU) dated February 7, 1977, the Loan Agreement of March 10, 1977, correspondence with the Borrower, and internal Bank memoranda on project issues as contained in relevant Bank files.

A copy of the draft report was sent to the Borrower on August 5, 1985 for comments. Comments received from Investiciona Banka Titograd are in Annex I and have been taken into account in finalizing the report.

The audit finds the PCR comprehensive and accurate with respect to the project's principal achievements and shortcomings and has no reason to question its conclusions. The audit memorandum primarily deals with problems and constraints related to construction of the project's cold store, to the sour cherries plantation, and the environmental impact. Issues given particular emphasis are the investor's financial situation, and Bank appraisal of the project.

PROJECT PERFORMANCE AUDIT REPORT

YUGOSLAVIA - AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
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BASIC DATA SHEET

KEY PROJECT DATA

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual or Estimated Actual</u>	<u>Actual as % of Appraisal Estimate</u>
Total Project Costs (US\$ million)	55.6	50.1	90
Loan Amount (US\$ million)	26.0	26.0	100
- Disbursed (US\$ million)	26.0	26.0/a	100/a
- Cancelled (US\$ million)	-	/a	-
Date Board Approval	-	02/22/77	-
Loan Agreement Date	-	03/10/77	-
Date Effectiveness	06/30/77	07/27/77	125 /b
Date Physical Components Completed	03/81	12/82	143 /b
Proportion Then Completed (%)	100	100	100
Closing Date	06/30/83	06/30/83	100 /b
Economic Rate of Return (%)	17	15	88
Financial Rates of Return (%)	13	5	38
- Vineyards and Winery	18	26	144
- Orchards and Cold Store	-	Satisfactory	-
Institutional Performance	-	Good	-
Technical Performance	-		

CUMULATIVE DISBURSEMENTS

	<u>FY77</u>	<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>
Appraisal Estimate (US\$ million)	0.2	3.4	10.4	17.6	21.9	26.0	-
Actual (US\$ million)	-	0.9	3.5	13.1	18.0	21.7	25.98
Actual as % of Appraisal Estimate	-	26	34	75	82	84	99
Date of Final Disbursement	March 27, 1984						

MISSION DATA

<u>Date (mo./yr.)</u>	<u>No. of Persons</u>	<u>Mandays in Field</u>	<u>Specializations Represented/c</u>	<u>Performance Rating/d</u>	<u>Trend/e</u>	<u>Types of Problems/f</u>
Identification	11/74	5	A, B, D, E, F			
Preparation/g	02/76	4	A, B, D, E			
Appraisal	05/76	6	A, B, C, D, E			
Sub-total		310				
Supervision I	04/77	3	A, C, D	1	2	-
Supervision II	09/77	2	A, C	1	2	-
Supervision III	04/78	2	A, D	1	3	-
Supervision IV	09/78	3	C, D, E	2	2	T, F
Supervision V	11/79	3	A, C, D	2	1	T, F
Supervision VI	10/80	1	A	1	2	-
Supervision VII	03/81	1	A	1	2	-
Supervision VIII	11/81	1	B	1	2	-
Supervision IX	09/82	1	A	1	2	-
Supervision X	05/83	3	A, B	2	2	F
Sub-total		89				

OTHER PROJECT DATA

Borrower: Investicions Banks Titograd-Udruzena Banks
 Guarantor: Socialist Federal Republic of Yugoslavia
 Executing Agency: "13 July" Agrokombinat
 Fiscal Year of Borrower: January 1 to December 31

Name of Currency (Abbreviation) Dinar (Din)

Currency Exchange Rate:

Appraisal Year Average:	US\$1.00 = Din 18.0
Intervening Years Average:	US\$1.00 = Din 35.8
Completion Year Average:	US\$1.00 = Din 124.4

Follow-on Project

Name: Montenegro Regional Development Project
 Loan Number: 2467-YU
 Loan Amount (US\$ million): 40.0
 Date of Board Approval: 07/31/84

/a An unspent balance of US\$15,224 or 0.06% of the loan amount, was cancelled on March 30, 1984.

/b Calculated in terms of months from date of Board approval.

/c A - Agriculturist; B - Economist; C - Financial Analyst; D - Irrigation Engineer; E - Agroindustry Specialist; and F - Hydrogeologist.

/d 1 - Problem Free or minor problems; 2 - Moderate problems; and 3 - Major problems.

/e 1 - Improving; 2 - Stationary; and 3 - Deteriorating.

/f T - Technical; F - Financial.

/g FAO/World Bank Cooperative Program.

PROJECT PERFORMANCE AUDIT REPORT

YUGOSLAVIA - AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
(LOAN 1370-YU)

EVALUATION SUMMARY

Introduction

The project was the fourth Bank loan for agriculture in Yugoslavia. It supported the Yugoslav efforts to accelerate development in the less developed regions. The project was prepared following many years of analysis. Its design was technically sound, compact and simple, in that it financed a single investor, the 13 July Agrokombinat (AK), to expand both primary production of irrigated grapes and deciduous fruits (2,000 ha total), and the capacity to process the incremental production into quality wine and fruit products in a fully integrated manner.

Objectives

The project aimed to help achieve the objectives of the Socialist Republic of Montenegro (SRM) to increase agricultural production both for the domestic market and for exports; to expand agroindustry processing capacity; to improve product quality and stabilize food supply; and to raise productivity and income. The project also aimed at strengthening the organization, appraisal and supervision capacity of the Borrower, Investicjona Banka Titograd-Udruzena Banka (IBT-UB).

Implementation Experience

The project was physically well executed but is in serious financial difficulty. Completion of some of its components slipped beyond the appraisal targets, and the overall completion delay was 43%; nevertheless, major civil works were essentially completed by end-December 1982, in line with the original appraisal estimate. Production from the wine grape vineyards to date has been satisfactory. Quality of the red wine, "Vranac", has been outstanding. Irrigated peach production exceeded the appraisal estimate, whereas sour cherries have produced below expectations due to slow growth and a disease causing premature fruit drop. The IBRD Operations Unit of IBT-UB was strengthened through the timely addition of technical staff, and an improved supervision and monitoring system (PPAM, para. 12; PCR, para. 7.01). The total cost of the project expressed in dinars was 76% above the appraisal estimate. However, in US dollar terms there was a 10% savings due to the dinar's depreciation against the dollar.

Results

The project is experiencing difficulty in achieving several of its main objectives, i.e. to increase exports and income of the investor. The investor's financial situation is precarious (PPAM, paras. 19-28; PCR, paras. 5.09-5.15). The re-estimated financial rate of return dropped to 5% for the vineyard-winery subproject, compared to the appraisal estimate of 13%, but is now calculated at 26% for the orchard-cold store subproject, compared to the appraisal estimate of 18%. The re-estimated economic rate of return is 15%, compared to 17% estimated at appraisal. Several positive actions, with support from the Bank, including training in financial controls and marketing and a review of marketing and commercial operations, are anticipated to help the investor overcome the financial difficulties.

Sustainability

With the exception of the sour cherries and plums plantations, the project's physical base is sound. However, considerable financial assistance will be needed for the next seven years, or even longer, to overcome the project's financial liquidity squeeze. The extent to which this and other problems will be overcome to a large extent depends on the success of the Action Program, expected to be prepared and implemented by AK later in 1985.

Findings and Lessons

The Project Unit performed well, and was disbanded at completion in a timely fashion (PPAM, para. 11; PCR, paras. 7.03-7.06). Relevant research preceded and was continued under the project, and improvements in project design concerning the irrigation system, the plantations and infrastructure were made during implementation (PPAM, paras. 13-14; PCR, paras. 3.02-3.08 and 3.14-3.15).

Poor contractor performance was responsible for completion delays and cost overruns in the construction of a cold store (PPAM, para. 15; PCR, paras. 3.12-3.13 and 4.17), and unsuitable planting material has caused severe production shortfalls in the sour cherries plantation (PPAM, para. 16; PCR, para. 4.06). Although potentially harmful, the project's environmental impact has not received much attention (PPAM, para. 17).

Weaknesses in the project's financial structure included excessive debt financing and excessive coverage of local costs through foreign borrowing. The World Bank is in the process of incorporating in its own policy framework lessons learned with respect to financial difficulties that can arise as a result of foreign denominated loans under conditions of exchange rate fluctuations (PPAM, para. 22; PCR, para. 3.32). Supervision missions failed to adequately deal with the investor's worsening financial situation (PPAM, paras. 25-26).

Shortcomings at project appraisal aggravated difficulties encountered during implementation and subsequently in the project's operating phase (PPAM, paras. 29-30; PCR, para. 7.13).

PROJECT PERFORMANCE AUDIT MEMORANDUM

YUGOSLAVIA - AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
(LOAN 1370-YU)

I. PROJECT SUMMARY^{1/}

1. The Socialist Republic of Montenegro (SRM) is one of the least developed areas of Yugoslavia, with a per capita income reaching only about 80% of the national average. Its agriculture sector grew at an average annual rate of 1.7% during the 1970s. Only 13% of the total area of the SRM is agricultural land; 85% is highly mountainous terrain. The principal agricultural area is the 19,000 ha Cemovsko Polje plain--mainly growing fruit and vegetables--which is the site for this project.

2. The project was the fourth in Yugoslavia receiving Bank support for agriculture, and the second supporting agro-industries.^{2/} Identification was based on studies sponsored by OECD and UNDP/FAO between 1971 and 1974, and on a 1975 report by the FAO/IBRD Cooperative Program (CP). Preparation was undertaken by a local team assisted by CP. Appraisal took place in June 1976, and a loan (1360-YU) in the amount of US\$26.0 million was approved in February 1977. The estimated project cost was US\$55.6 million, with a foreign exchange component of 36%. The loan became effective in July 1977, and was closed in June 1983, as expected. Final disbursement took place on March 27, 1984, and an unused balance of US\$15,224 was cancelled.

3. The objectives of the project were to increase agricultural production for the domestic and export markets, expand agroindustrial processing capacity, improve product quality, and raise productivity and income. The project also aimed at strengthening the organization and the appraisal and supervision capacity of the borrower. Specifically, the project included support for (a) the establishment of a 2,000 ha sprinkler irrigation system; (b) land preparation for and planting of 1,500 ha of vineyard; 500 ha of peaches and sour cherry plantations, and of 60 ha of windbreaks; (c) 14 km of farm roads, support facilities and research; (d) a winery; (e) a cold store; and (f) a collecting and input supply center for individual farmers. Construction was expected to be completed by December 1982, and full production to be achieved by 1986.

4. Physical implementation of the project was successful. Irrigation infrastructure for 2,014 ha, comprising a sprinkler system for 1,860 ha and

1/ Adapted from the PCR.

2/ The first such project was the Agricultural Industries Project (Loan 894-YU) in Macedonia. See OED Report No. 4490, dated May 13, 1983.

drip irrigation for 154 ha, was installed. The established plantations included 1,306 ha wine grapes, 186 ha table grapes, 214 ha peaches, 282 ha sour cherries and 25 ha Japanese plums, for a total area slightly exceeding appraisal estimates. Two major complementary facilities, a 15 million liter capacity (10 million liter as appraised) winery and a 3,000 ton capacity cold store, also were provided. Eleven kilometers of farm roads were constructed, partly to a higher standard but 3 km less in length than originally proposed. Farm centers were constructed as expected. Project related research produced a number of published reports.

5. Project start-up was generally rapid and initial construction progress of the major components rather close to the original schedule. Minor delaying factors included an unexpected land issue arising from the need to site public facilities unrelated to the project, and changes in project design. A major change was the elimination of Skadar lake water as a partial irrigation water source, and a switch to groundwater as the exclusive source for the entire project area. The issue of what type of irrigation to install also took several years to resolve, but approving sub-area systems in steps allowed orderly implementation to go forward. Other minor changes included the planting of 25 ha of plum trees not originally envisaged, and deletion of the 60 ha windbreaks, of a major bridge, and of farmer collection centers; the latter were established but not funded from the project. The only major construction problem, encountered with the cold store, resulted from poor performance of the contractor. Project construction after the first implementation year proceeded behind schedule, although most major components were completed within reasonable periods. However, because of delays with a few components, notably roads and the cold store, the project's overall completion delay was 43%. Actual project cost was US\$50.1 million, or 10% less than expected. The reduced cost in dollar terms resulted from rapid devaluation of the dinar. In local currency terms, there was a cost overrun of 76% due to high domestic inflation and upgrading of construction specifications for some project items.

6. The production impact is expected to be favorable although full development will be delayed by about two years. Production of grapes is projected to meet appraisal targets, and of peaches to exceed the targets. A serious problem has occurred with sour cherries where tree growth has been stunted and production curtailed because of disease problems. About 80% of the trees are affected, and a solution has not yet been found. Production has been disappointing to the extent that elimination of the plantation may have to be considered. Production from the plum trees also has been disappointing. The winery has been operating, together with a previously existing winery, and wine quality from these facilities has been good.

7. Institutionally, some achievements are worth noting. Investicciona Banka Titograd (IBT-UB), the borrower, was strengthened by the expansion of its IBRD Operations Unit and implementation of a supervision and monitoring system. The investor, 13 July Agrokombinat (AK), formed a Project Unit for purposes of implementing this project which was generally effective and which was disbanded in a timely fashion once the construction phase was completed.

8. However, major weaknesses in the AK's structure and operating system have come to light which have contributed to a serious financial problem. AK's marketing capability, specifically with respect to international sales of wine and fruit, appears to be inadequate, with adverse effect on revenues, particularly foreign exchange. Its accounting system and practices are not amenable to effective cost control. These aspects plus the devaluation of the dinar have precipitated a serious liquidity crisis for the enterprise. AK obtained additional external loans subsequent to approval of the World Bank loan which were partially applied to this project. Special measures, which continue in effect, had to be implemented to prevent the financial collapse of AK.

9. The re-estimated financial rate of return (FRR) to the project's vineyard and winery components is 5% (13% at appraisal). The main reasons for the decline in profitability are a high cost overrun and an input-output price disparity related to a weak market situation for wine. In sharp contrast to wine production, the re-estimated FRR for orchards and the cold store is 26% (18% at appraisal). This favorable result is due to unanticipated rental income from the cold store.

10. The re-estimated economic rate of return for the project is 15%, compared with 17% estimated at appraisal; it is 8% for the winery and 28% for the cold store. The employment impact is considered substantial.

II. AUDIT FINDINGS

A. General

11. Despite the current problems facing 13 July Agrokombinat, the project has a number of attractive features; it has been relatively well executed, and it has the basic ingredients necessary to succeed. Project organization contributed to the favorable performance. A Project Unit (PU) was created early in 1977 and adequately staffed (PCR, para. 7.03). In 1979/80 staff recruitment was accelerated in order to acquire candidates for training as operators of the plantations and processing facilities; this far-sighted personnel policy greatly helped the smooth transition from the construction to the operating phase. That transition was further assisted by the gradual transfer of regular PU staff to Work Organization (WO) Plantation, the AK entity responsible for operation. The PU was appropriately disbanded in 1984 after completion of construction under the project.

12. Another feature of an institutional/management nature was the strengthening of Investiciona Banka Titograd. Under the project, IBT-UB's existing IBRD Operations Unit was expanded, improving its expertise in the field of agricultural credit (PCR, para. 7.01). The groundwork also was laid for introducing a suitable monitoring system (in compliance with Section 3.03 of the Loan Agreement). Although performance of that system initially was

weak, it has been improving gradually with efforts under more recent Bank-assisted projects. However, a reserved attitude towards monitoring and evaluation still prevails within IBT-UB, and it is important that tangible results of demonstrable value are achieved soon to mitigate that attitude.

13. The project--and also individual farmers in Zone B of Cemovsko Polje--benefited significantly from research undertaken by AK. Research in the early 1960s was purpose-oriented and set on a scientific basis (PCR, para. 3.14). The project provided further support for research activities, and although it is difficult to attribute specific practical outcomes to these activities, there is no doubt that the favorable experience with the project's vineyard is in no small measure a result of extensive research work. It would be interesting to ascertain to what extent the unfavorable experience with sour cherries resulted from a lack of adequate research for this crop.

14. It is no small achievement that the project's irrigation facilities were fully operational in 1983, and the entire area of 2,014 ha was irrigated in 1984. Only a rapid operational start-up can assure that potential benefits are realized. Extensive deliberations and planning efforts preceded establishment of the irrigation system (PCR, paras. 3.02-3.08). One issue concerned the source of irrigation water, and adequate investigations demonstrated that groundwater could serve the entire project area instead of being used as a supplement to water from Lake Skadar. The other issue dealt with the type of field equipment to be installed. At the Bank's insistence, various alternatives were evaluated, and a sprinkler system was found superior and was installed. That system may have to be changed at the end of its useful life due to the labor-intensive nature of that system and adverse experience with employee management. But the sequence of events regarding establishment of the irrigation system shows diligence on the part of the Bank and the Borrower in striving for optimal technical and economic solutions under the project.

B. Problems and Constraints

15. Cold Store Construction. Clearly the most troublesome component was the cold store (PCR, paras. 3.12-3.13 and 4.17). It was completed late, suffered a 61% cost overrun, and spawned court action because of the contractor's deviation from specifications and poor workmanship. The problems started during procurement. Because of what were considered high bids, the contract was re-tendered; the winning bid in the second round was 22% below the average of four bids received in the first. A causal relationship is difficult to prove, but obtaining such a relatively low bid may have presaged substandard execution. The resulting additional cost to the investor is likely to be around 100 million dinar. An open question in this regard is whether cost considerations weren't given too much weight, and other relevant criteria too little, at bid evaluation. There are also indications that supervision of the contractor by the investor was inadequate, and that the investor was too anxious to bring the facility into operation. However, once the defects were discovered the course of action taken by the investor to

obtain remedies was entirely appropriate. It will reduce the additional financial burden on the investor and serve as a deterring example to the contractor community. Using the facility, rather than awaiting resolution of the legal issue and repair of defects, has helped to minimize economic losses.

16. Sour Cherries Plantation. The most serious technical problems are those encountered in the sour cherries plantation (PCR, para. 4.06). Diseased planting stock and bacterial infection are suspected to be causing retarded tree growth and premature "fruit drop". No therapeutic remedy has yet been discovered. In retrospect, two factors are likely to have aggravated, if not necessarily caused the problem. Unlike with grape vines, adaptive research for sour cherries has been minimal in the project area, and pilot work inadequate. The other factor relates to the pressure for timely implementation which has led project authorities to be lax in the selection and prophylactic treatment of seedlings. Similar pressure was responsible for the planting of far more varieties than necessary for staggered harvesting - over 20 - of peaches, but the consequence there is mainly one of operational inconvenience rather than impaired production.

17. Environmental Impact. The project is extremely agro-chemical intensive. Plant nutrients have been applied at an annual rate of 718 tons over the 2,014 ha area, i.e., averaging 356 kg/ha. Over 20 different plant protection materials are used in nine applications for grapes and eleven applications for peaches per year. It is clear that sprinkler irrigation and the sandy soils promote quick percolation of chemical residues into the groundwater, the principal source for domestic use in the Titograd area. The audit feels that the environmental implications of usage of these chemicals has not been adequately addressed.

18. Miscellaneous. A minor concern is the deletion of windbreaks. The audit feels that the reason for deleting windbreaks given by the investor did not have an adequate empirical or scientific basis. Only time--and further experimental work--can tell whether the decision was justified. Insufficient explanation also has been given as to why a winery with a 15 million liter capacity was established, with the Bank's concurrence, when only a 10 million liter capacity facility was envisaged at appraisal. This decision is the more questionable in the light of the poor re-estimated financial and economic rates of return (5% and 8%, respectively) to the vineyard/winery component.

C. Main Issues

19. The Investor's Financial Situation. The most important issue arising out of this project is the financial impact on the investor, 13 July Agrokombinat. The financial performance of the project is poor (PCR, paras. 5.09-5.15). There is inadequate cash generation to service the debt, and liquidity problems are projected into the early 1990s. The problem is less one of financial returns on investment (the average FRR is estimated between 10% and 11%) than of liquidity. The liquidity problem is due mainly to

excessive debt financing, implementation delays, local currency cost overruns, the long gestation period of the investments, and an adverse foreign exchange effect, aggravated by institutional weaknesses on the part of the investor.

20. The cost overrun in terms of local currency was 76%, caused mainly by an increase in quantities (for technical reasons and due to design oversizing), small contracts, little competition, and high domestic inflation. Unit costs were relatively high, averaging US\$18,130 per ha, excluding the winery and cold store. IBT-UB borrowed US\$22.0 million from the Bank of America in 1979 and US\$1.0 million from the Kuwait Fund in 1981, about US\$17.3 million of which was on-lent to the investor; most of these funds were applied to this project. Since the investor carries the foreign exchange risk on all foreign borrowings, the rapid devaluation of the dinar has increased the investor's debt service burden. When debt service payments for the World Bank loan were due in 1983 it became evident that the investor was unable to meet these obligations, and a rescue package, involving Federal and SRM funds, was conceived. Additional funds were made available in 1984, and the immediate future is still in doubt (PCR, paras. 3.28-3.32).^{3/}

21. The debt service burden deriving from the over US\$43 million in foreign loans certainly is formidable, and cash flow projections leave some doubt as to whether this debt could have been serviced even had the problem of adverse foreign exchange rates not arisen. As it developed, the exchange rate changed from dinar 18 per US dollar at appraisal to about dinar 124 per US dollar at completion and to dinar 260 per US dollar at the time of the audit. There has been no concomitant growth in WO Plantation's operational surplus in dinars that would allow it to acquire the necessary foreign exchange at prevailing unfavorable exchange rates for meeting scheduled debt service payments. This is the main reason why Federal and SRM aid to AK became necessary immediately when payments on the World Bank loan were scheduled to begin. Actually, US\$10.83 million had already been repaid to the Bank as of April 30, 1985. At that date, of the balance of US\$15.15 million held by the Bank (as valued at the time of loan commitment), the Borrower's obligation was only US\$11.3 million as foreign exchange adjustments (on portions of the loan repayable in currencies other than US dollars) had resulted in savings to the Borrower of US\$3.85 million. Hence the currency fluctuations are producing a mixed effect for the borrower/investor: rising current payments in dinar terms, and savings in dollar terms in the overall loan principal to be repaid.

22. In retrospect, the project's financial structure cannot be considered to have been sound. AK's equity financing amounted only to 2% of total project financing requirements, and 98% constituted loan financing. About 63% of total financing requirements were met from external sources, even though only about 33% represented foreign exchange costs (41% estimated at

^{3/} Borrower comments focus especially on the wider effects of high domestic inflation and local currency devaluation (Annex I).

appraisal, including interest during construction). These figures imply that external financing covered 100% of the foreign exchange cost plus 44% of local costs. The two major high-risk weaknesses in the project's financial structure thus clearly were excessive debt financing and excessive coverage of local costs through foreign borrowing. In view of the undercapitalization of AK, it is questionable whether the Bank was justified in encouraging the borrower to mobilize additional foreign resources during the period 1977-79 (para. 25 below). In retrospect, the Bank overemphasized the technical and physical implementation of the project and paid insufficient attention to analysis of the financial implications of AK's financing decisions.

23. The investor's overall financial position is better than that of the project subaccount, i.e., of WO Vinoprodukt and WO Plantation. In 1983, project assets accounted for 44% of AK's total assets, but project revenues accounted for only 5%.^{4/} While for the project current liabilities exceeded current assets by 79%, for AK as a whole current liabilities were covered by 157%. An unfavorable current financial ratio in the start-up phase of an enterprise dealing with perennial crops is not unexpected, and indeed was highlighted at appraisal. What is striking is the degree of underestimation of the problem, or conversely, the deviation in an adverse direction from original estimates of the crucial parameters in the picture.

24. The Bank was aware of costly design upgradings (e.g., transformers, length of buried networks, diameter of pipes, etc.), but was unable to assert itself in matters of cost containment. Completion delays, where such occurred, also were closely monitored by the Bank, and due warnings were issued to the Borrower. However, inadequate attention was paid all along to questions of internal efficiency of AK, particularly in the areas of cost accounting and marketing. Although preparation and appraisal recognized the need to strengthen AK's marketing, no technical assistance or training was included under the project. Weaknesses in cost accounting were only recently identified in connection with the appraisal of the Montenegro Regional Development Project (Loan 2467-YU), approved in July 1984, and a special Bank review of AK undertaken in December 1984.

25. Supervision also failed to deal adequately with the investor's financial situation. The second supervision mission, in September 1977, reported that the Bank had been informed--not by the Borrower, but through IFC--that IBT-UB was seeking co-financing from external sources to re-finance its own contribution to the project. The Bank reacted by informing the Borrower that it supported additional mobilization of resources, i.e. from external sources, but that it wanted to be kept informed. IBT-UB mentioned to the Bank that they were negotiating a foreign bank loan in a June 1978 request for permission to release the appraisal report and loan agreement to prospective lenders; no details were disclosed. The Bank had no objection to the release of these documents, and requested only information on the terms

4/ These calculations include an undetermined but small portion of non-project elements.

of the new loan. There was no formal follow-up on this matter. An informal feedback is recorded in June 1978, when a Bank staff member reported to management that IBT-UB had obtained a loan from the Bank of America, and that they were interested in Bank assistance to obtain additional cofinancing at more favorable terms, partly to refinance the recent, more expensive Bank of America loan. The Borrower at that time had received informal assurance of such assistance but, again, there was no follow-up.

26. In retrospect, the Borrower never informed the Bank of any foreign borrowings related to this project, or of onlending of such funds to the investor, and Bank supervision missions never covered the subject, except the one in September 1977. It was only during the last supervision mission in June 1983 (which also undertook the appraisal of the Montenegro Regional Development Project - Loan 2467-YU) that the investor's financial problems, including the SRM effort to assist, were brought up. The mission merely conveyed the information from AK to Bank management, without apparently being able during the three days devoted to project supervision to investigate or undertake any analysis. It merely suggested that these matters needed to be followed up by the PCR mission, which at that time was planned for December 1983. The last supervision summary (Form No. 590) shows an almost perfect rating of the project's implementation status, and since operational performance is not one of the reporting requirements the deteriorating financial situation was not adequately reflected.

27. Follow-up and action on an important matter like financing of project operations should not be deferred to the next routine mission, especially the PCR mission, which in this case took place not six months, as planned, but 17 months later. It should be expected, rather, that swift, project-specific measures be applied. In this case, a more sweeping but time consuming approach was followed. The appraisal mission for the Montenegro Regional Development Project, which visited Yugoslavia in June 1983, covered some aspects pertaining to social sector organizations. It identified three major weaknesses in the investing enterprises, namely organizational inefficiencies, lack of proper financial controls, and inadequate marketing skills. Measures to alleviate these problems were included in that project and reinforced by the outcome of a Country Implementation Review (CIR) in December 1984. There is no evidence, however, that AK's WO Plantation was singled out for special attention by the appraisal mission. It was only during a February 1985 follow-up mission that terms of reference for the whole of AK's operations were agreed upon. Twenty months had thus elapsed between the first reporting of WO Plantation's financial malaise and the decision to undertake investigative action (i.e., a comprehensive review of specific AK practices); remedial action is expected to follow at some future date (currently envisaged some time following finalization of an "Action Plan", scheduled for end-July 1985). If this turns out to be a workable approach, then it should have immediately followed the June 1983 supervision mission. It should also be mentioned that the Bank made no input in formulating the stabilization

program that WO Plantation was obliged to prepare by the Federal Government in 1983/84.^{5/}

28. In conclusion, this is a physically well-executed project in serious financial difficulty.^{6/} Existing problems in part relate to the country's general economic situation, and in part to the investor's own weaknesses. Experience with the project demonstrates the importance of the general country environment as a determinant of a project's success or failure, and by implication of the Bank's work aimed at analyzing and improving that environment. Of even greater importance, because of the Bank's constructive influence, is the immediate environment within the enterprise undertaking the project.^{7/} Experience at hand shows a tendency on the Bank's side to ignore that environment if the enterprise is very large and the project constitutes only a relatively small portion of the enterprise's total operations. A major lesson from this project is that the Bank should insist on a clear separation of project activities/accounts, and should be concerned about the enterprise's policies, organization and management, even when these aspects go beyond the scope of the project.

29. Project Appraisal. A Bank appraisal mission, consisting of six members, visited Yugoslavia in May/June 1976, and Board approval for the loan was obtained about seven months later, in early February 1977. The voluminous appraisal report, covering not only this but also a similar project in Macedonia (Loan 1371-YU), therefore was prepared in a relatively short span of time. Since then, some deficiencies in the appraisal have become apparent (PCR, para. 7.13). On the technical side, the previously existing winery was not taken into account in planning the new winery. It also omitted the implications of letting wine mature at least one year, and of the practice to blend wine from the old vineyards with wine from new vineyards in order to obtain a more consistently tasting quality wine. The most serious appraisal shortcoming was the lack of analysis, and of measures to strengthen, AK's marketing capabilities, especially of export marketing as too much reliance was placed on the absorptive capacity of the domestic market. Inadequate expertise in this area has only recently been identified as being in large measure responsible for AK's depressed revenues from sales in general and for

^{5/} Between the time of the last supervision (6/83) and the PCR mission (10/84), the Bank (IDF Division and the Agriculture III Division) were addressing the problems facing IBT's entire loan portfolio which included some 18 enterprises in arrears of which AK was one. Remedial measures were thereby included in the follow-up Montenegro Regional Development Project.

^{6/} The Borrower agrees with this assessment (Annex I).

^{7/} Growing awareness in the Bank of the need to confront the problem of poorly performing enterprises in Yugoslavia is reflected in World Bank Staff Working Paper No. 705, Financial Discipline and Structural Adjustment in Yugoslavia, Rehabilitation and Bankruptcy of Loss-Making Enterprises, Washington, D. C., 1984.

a shortfall of expected earnings of foreign exchange from exports. The Bank also did not become aware at appraisal that AK's accounting practices are failing to function as an early warning system for impending financial problems.

30. Also on the financial side, project costing was flawed. Base costs of some components were underestimated. For the irrigation system, operation and maintenance costs during the five-year plantation establishment period were not included. The planned investor contribution of 5% of total financing requirements was on the low side, and the projected phasing of revenue generation too optimistic. The implications of AK assuming the foreign exchange risk were not assessed and no contingency measures had been provided in the event serious debt service problems arose from the kind of large, unexpected dinar devaluation that actually occurred (para. 21).^{8/} All these factors resulted in the large cash flow problems that have been projected at project completion. In retrospect, the decision to appraise two projects within a time period which was shorter than is customarily needed for a single project appraisal created a false sense of appraisal efficiency at the time to the detriment of project quality. Regarding the consequences of appraisal deficiencies, with the exception of cost overruns, supervision missions failed to pay timely and adequate attention to these aspects. It is conceivable that with appropriate measures, such as simplifying design rather than making it more costly, a reduction in scope (particularly of the vineyard/winery component), aggressive market development, more appropriate financing, etc., the project's impact on the investor's financial situation would have been more favorable.

D. Sustainability of Benefits

31. With the exception of the sour cherries and plums plantations, the project's physical base is sound. However, considerable financial assistance will be needed for the next seven years, or even longer, to overcome the project's financial liquidity squeeze. The extent to which this and other problems will be overcome to a large extent depends on the success of the Action Program, expected to be prepared and implemented by AK later in 1985. Having a mixed effect, it is likely that country-external factors, such as currency exchange rates, will follow a more favorable trend than in the past which would ease the debt service problem but reduce the comparative advantage of project output in international markets. It also is to be hoped that the parity squeeze in domestic input/output prices has come to a halt and will be partially reversed. Finally, the project impact on groundwater levels and quality must be closely monitored in the future.

8/ OPS observe that the risk of foreign denominated loans is a major issue for many larger agricultural enterprises, and comment that "On this basis, much of the recent lending in Yugoslavia will prove to have had an adverse financial impact on the entities concerned. This aspect of our appraisal work has not received enough attention, and the forthcoming policy paper on Rural Financial Markets will suggest ways in which this might be rectified."

Comments Received from Investicione Sanksa Titograd

WORLDBANK MS SYSTEM

ZCZC MA3P0639 JWS0046

EM1DB EMPA3

REF : TCP OMR

JWS0046 ZJR409 IN 15/14:31 OUT 15/14:53

61118 YU IBANKA RBT 19.036 15.11 1985

TO INTBAFRAD WASHINGTON

RE: COMPLETION PROJECTS REPORT FOR AGRICULTURE AND AGRICULTURAL
PROJECT IN MONTENEGRO LOAN 1370-YU/

AFTER REVIEWING PROJECT PERFORMANCE AUDIT REPORT AND CPR OF AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT / MONTENEGRO/ / LOAN 1370-YU/ WE WANT TO UNDERLINE THAT THE ABOVE TWO REPORTS WORKED OUT THOROUGH AND QUALITATIVELY ONE VERY COMPLEX ISSUE, HAVING, IN MIND SPECFIEE SPECIFICITY OF THE PROJECT ITSELF, THAT HAS BEEN IMPLEMENTED WITHIN LONGER PERIOD OF TIME INVOLVING A NUMBER OF TECHNOLOGIC SPECIFICITIES. THE VERY TASK IN WORKING OUT THIS REPORT WAS ESPECIALLY DIFFICULT DUE TO GREAT ECONOMIC DISTURBANCES IN THE COUNTRY DURING REALIZATION OF INVESTMENTS AND AFTERWARDS, PARTICULARLY TROUGH HIGH INFLATION RATE AND ALTERATION OF EXCHANGE RATE OF DIN. WHICH HAD AGREAT NEGATIVE INFLUENCES AT THE PROJECT SUCCES/INVESTMENT OUVERRUNS AND INCREASE OF DEBT SERVIE LIABILITIES/.

WE FEEL THAT NOT ENOUGH ATTENTION WAS PAID TO THIS ISSUE / INFLATION - DEVALUATION/ IN THIS REPORT.

FOR THIS REASON, BASIC CAUSE OF LOWER RATE OF RETURN WITH COMPONENT VINEYARD/WINARY WAS NIGLECTED COMPARED TO HOW IMPORTAN T INFLUENCE IT HAD ON BUSINESS RESULTS/ OPERATING COSTS,DEBT SERVICES AND CASH FLOW/. THE SAME WAY WAS RELETED THE INFLUNCE OF DELAY IN INVESTMENT COMPLETION TO OPERATIVE PROJECT RESULTS. INTEGRATION OF COMPLETED FACILITIES INTO LO PLANTATIONS HINDERED PROVISION OF RELEVANT DATA FBR CARRYING OUT INDIVIDUAL ANALYSIS OF THIS INVESTMENT EFFECTS,BUT IT WAS NOT RESONOABLE TO ESTABLISH SEPARATE UNIT FOR EXMPOLITING THIS FACILITY IN CEMOVISKO P FIELD, IN ADDITON TO EXISTING ORGANIZATION DEALING WITH SAME OPERATIONS.

ORGINALLY,AK USE TO HAVE THIS SEPARATELY AGREEE ORGANIZED / PERIOD 1979/80/ BUT IT TURNED TO BE IRRATIONAL AND THAT SUCH ORGANIZATION REFLECTS MANY NEGATIVE CONSEQUENCES IN SUPPLYING RECYLICING MATERIAL, PROVISION OF LABOUR/ PARTICULARLY QUALIFIED LABOUR AN ENGINEERS/ IN SELDING AND UTILIZATION OF PROCESSING CAPICITIES AND SO ON.

COMMON OPINION OF INVESTOR AND BORROWER IS THAT STATEMENT ON DUBLING OF FUNCTIONS OF BOAL 'S AND LOS IS WRONG FOR THE FUNCTIONS AND WORK TASKS MENTIONED ARE ONLY ADEQUATELY DEVIDED ■ WITHIN THE SAME FUNCTIONS.

IN THE SECTION VIII RELATED TO CONCLUSIONS AND RECOMMENEE RECOMMANDATIONS WE HAVE THE FOLLOWING RECCOMANDATION AND VIEWS:

8.02. WE ACCEPT THE FIRST PART OF THIS STATEMENT CONSERING THE ORGANIZATION NOT HAVING DEVELOPET IN DETAILS MARKETING STERETEGY BUT WE CANNOT AGREE WITH FORMULATION ON WEAK FINACE PLANNING AND CONTROL ON THE INVEATOR'S PART.WORKING OUT OF MARKETING PROGRAM IS IN PROCESS WHEREBY THIS OMISSION OF THE INVESTOR WILL BE OVERCOME.

8.07. ACCORDING TO APPRAISEL, CLASH BETWEEN INCOME AND LIBILITIES OF DEBIT SERVICE IS ENVISAGED TO EXIST UNTIL 1987 WHAT SHOULD BE INCLUDED UNDER THIS POINT- 8.07 AND CONNET EE CONNECTED WITH

POINT 8.10. IN ADDITION, DURING CONSTRUCTION PERIOD AND AFTERWARDS, CONDITIONS ON THE MARKET HAVE BEEN COSIDERABLY CHANGED AS WELL AS IN FINANCING CONSTRUCTION DUE TO UNFAVOURABLE TERMS OF LOAND PURPOSED FOR COVERING INVESTMENT OVERRUNS.CERTAIN MEAURES THAT HAVE BEEN TAKEN ON WIDER BASIS IN SOLVING PROBLEMS IN THE PERIOD BEFOR 1984 WILL HELP FASTER OVERCOMMING FINANCIAL DIFFICULTIES ON THIS PROJECT.

8.08/I/ AND /II/ SHOULD BE JOINED TO THE OBJECTION IN POINT 8.02.

8.09 THE STATEMENT ON INAPPROPRIATE FINANCIAL CONTROL AND ~~■■■■■~~ WEAK MONTIRING CARRIED OUT BY THE BORRWER CANNOT BE ACCEPTED THE MEASURES HAVE BEEN ALREADY TAKEN BY THE INVESTOR AND THE BORRWER IN WORKING OUT THE STADY FROM POINT 8.08.AND THEY WILL BE ESPACIALLY TAKEN AFTER COMPLETION OF THE STUDY FROM POINT 8.08.

8.10 THA LAST SENTENCE CANNOT BE ACCPTED FOR THE INVESTOR NEW THAT SRM HAD GREAT DIFFICULIES IN PROVIDING FUNDS FOR THESE PORUPUSES AND AS IT IS KNOWN REPUBLIC FULFILLED ONLY A SMALL PART OF IT.

8.11 WE CONSIDER THIS POINT SHOULD BE OMITTED IN THIS STAGE AND
ONCE THE ANALYSIS FROM POINT 8.08 IS COMPLETED THIS ISSUE CAN BE
BETTER MORE DEFINED, ON COURSE IF THIS POINT RELATES TO CEMOVSKO
POLJE PROJECT, AS WE UNDERSTOOD.

WE SUGGEST ONE MORE POINT TO BE ADDED AS FOLLOWS:

ACCORDING TO THIS REPORT IT MAY BE STATED THAT THE PROJECT
WAS PHYSICALLY SUCCESSFULLY IMPLEMENTED WITHIN
SCHEDULED DEADLINES BUT IN ITS REALIZATION AFTER COMPLETION, IT CAME
TO FINANCIAL FIVE DIFFICULTIES BECAUSE OF MARKET
~~BESIRMX~~ DISTURBANCES, INFLATION AND DEVALUATION OF DINAR,
UNFAVOURABLE LOANS FOR COVERING OVERUN COSTS ON INVESTMENTS
RESULTING IN HIGH FOREIGN EXCHANGE RISKS/ FOR FOREIGN LOAN WAS
USED/INSUFFICIENT SUPPORT BY SRM IN COVERING PLANNED DEFICIT TILL
1987 AS WELL AS CERTAIN INVESTOR'S WEAKNESSES IN THE MARKETING
FIELD.

THESE COMMENTS WERE FORMULATED TOGETHER WITH INVESTOR.

WITH BEST REGARDS

IBANKA TITOGRAD-UDRUZENA BANKA
VESELIN BABIC
DEPUTY DIRECTOR OF MANAGING BOARD

61118 YU IBANKA DEPUTY DIRECTOR OF MANAGING BOARD

61118 YU IBANKA

=11151544

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- 14 -

Yours sincerely
John H. Moore

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

March 13, 1985

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I. INTRODUCTION

Agricultural Sector in Montenegro

1.01 The Socialist Republic of Montenegro (SRM) is one of the least developed areas of Yugoslavia, and in the mid-1970s the estimated per capita income was approximately 70% of the national average. In 1982, per capita income was US\$2,270, about 80% of the national average. The agricultural population in Montenegro has decreased from 185,000 in 1971 to 158,000 in 1981 (about 30% of the total population). Rapid rural migration has caused serious bottlenecks and labor shortages in certain rural areas of the Republic despite high overall unemployment in Montenegro. During 1971-1981, the Republic's agricultural sector grew annually at about 1.7%. Montenegro accounts for less than 5% of Yugoslavia's total agricultural land, and it contributed only about 1.4% of its agricultural social product during this period.

1.02 The SRM is distinguished by highly mountainous terrain representing about 85% of its land area. Only 13% of the total land area is agricultural land, while forests account for 41% and natural grassland for 24%. Individual farmers own about 94% of the agricultural land, 46% of the grassland and 34% of the forests. The principal agricultural production area, still with a sizeable untapped potential, is the Cemovsko Polje plain--mainly growing fruits and vegetables. It is the project site for the Agriculture and Agricultural Industries Project - Montenegro--the subject of this PCR.

1.03 By 1977, the Bank had made 40 loans to Yugoslavia totalling about US\$1,367 million. Bank lending was generally concentrated on infrastructure projects, including transportation (14 loans), power (three loans), telecommunications (one loan), water supply and sewerage (two loans), and five multipurpose projects, which included substantial agricultural components for irrigation and agricultural credit. Ten loans had been made for industry and two for tourism and one for air pollution control. Two loans, totalling US\$81.0 million, had also been made for agriculture and agroindustries.

1.04 The Agriculture and Agricultural Industries Project - Montenegro represented the fourth Bank loan for agriculture in Yugoslavia, following the first Agro-Industries Project in Macedonia (Loan 894-YU) in 1973 (primarily involved with the social sector), the first Agriculture Credit Project (Loan 1129-YU) in 1975 (about 30% involved with the individual sector), and the Metohija Multipurpose Project (Loan 1360-YU) in 1976 (primarily involved with the individual sector). The Agriculture and Agricultural Industries Project - Montenegro supported the Yugoslav efforts to accelerate development in the less developed regions. More specifically, it helped to achieve the objectives of the SRM to increase agricultural production both for the domestic market and for exports, to expand agroindustry processing capacity and to improve product quality and to stabilize food supply. The project addressed two major constraints; namely, lack of capital for large investments in land development, irrigation, and food processing in the social sector and lack of market outlets for the individual sector.

1.05 In terms of the agricultural development alternatives available at the time in the SRM, expansion of the social sector's processing and marketing facilities was seen as one of the most important means for expanding agricultural production in general and indirectly increasing the productivity and incomes of the individual sector in particular. Another serious

constraint to agricultural development, which was recognized at the time; namely, lack of credit for on-farm investments in the individual sector was addressed by other Bank financed projects, as described in the preceding paragraph.

II. PROJECT FORMULATION AND PROCESSING

A. Background and Setting

2.01 Cemovsko Polje - the site of the project area - is the largest flat area (19,000 ha) within the SRM (Map No. IBRD 18663 (PCR)). The plain, bordered by hilly and mountainous limestone formations, slopes gently from Titograd toward Lake Skadar in a north-south direction. The Moraca river flows southward along the western boundaries of the area and its tributary, the Cijevna river, traverses the upper part of the plain. The Cemovsko Polje is divided into three zones. Zone C (4,200 ha) lies on the upper part of the plain, of which about 3,000 ha is owned by "13 July" Agrokombinat (AK). The project falls within this Zone, and prior to the project it was not farmed. The area is covered by a gravelly fluvio-glacial layer, and the soils are gravelly brown loams. The gravel content of the soil is between 50% and 80% at a depth of 20 cm in about 70% of the area. Therefore, drainage is very good. The phosphoric acid content of the soil is reasonable, while that of potassium is low. The salt content is negligible, and the organic matter content is between 2% and 3%. Zone B (4,500 ha) covers the middle part of the plain and is owned by about 2,500 individual farmers practicing mixed agriculture on fragmented plots with specialization in vegetable growing under irrigation from shallow wells. Zone A (10,000 ha), which is in the lower part of the plain, is periodically inundated by Lake Skadar and is used mainly for seasonal grazing of livestock.

2.02 The climate is Mediterranean with a strong continental influence as shown by the marked variation between summer and winter temperatures. The annual mean temperature is 15.5°C, while absolute maximum and minimum temperatures are 41.2°C in August and -15.6°C in January, respectively. Average annual rainfall is 1,630 mm; however, during the summer growing season (April-September) precipitation only averages 467 mm. The combined influence of high temperature, winds and low relative humidity results in high evapotranspiration in summer, making irrigation essential for agricultural production.

2.03 Surface water is available from three sources as follows: (i) the Cijevna river, which does not ensure enough water for the whole project area; (ii) the Moraca river, which has more than adequate discharge for total project purposes but with high risk of pollution; and (iii) Lake Skadar, which has limitless water and is about 4 km from the project area at its nearest point. As for groundwater, hydrogeological studies carried out in the early 1970s identified two aquifers with probable water interchanges between them. The watertable is widespread under the whole plain at a depth ranging from 20 m to 40 m below the ground level in the upper parts of Zone C, and from 2 m to 3 m in the lower areas of Zone B. Several tube-wells had been drilled into the aquifer, both for water supply (Titograd and small towns) and for irrigation (AK trial plot for vineyards) prior to the project. The well discharge varied from 80 to 166 l/sec for drawdown less than 1.50 m. Laboratory tests confirmed the good water quality for all uses. The safe yield from the upper aquifer was conservatively estimated at 80 million m³ per year.

B. Origin

2.04 Because the Cemovsko Polje represents one third of Montenegro's total flat cultivable land, it had received the attention of Republic authorities and agriculture investigators and planners for many decades: all of which culminated in a series of feasibility studies and development proposals sponsored by the OECD and UNDP/FAO between 1971 and 1974, for which AK was the counterpart agency. The Bank was kept informed about these studies. Their first mention appears in the project file in December 1972, when the Bank concluded that the OECD financed feasibility study had not defined the subprojects in sufficient detail for financing by an international lending agency. About 18 months later and in response to a request from the Government of the SRM for assistance in financing an agricultural development project on the Cemovsko Polje, a Bank reconnaissance mission visited the area in June 1974. As a result, the Bank asked the FAO/World Bank Cooperative Program (CP) to assist the Montenegrins in the preparation of a project for the Cemovsko Polje. A CP identification mission visited the area in November 1974 to review the project that AK had identified, which was based on slightly modified proposals generated by the earlier OECD and UNDP/FAO studies. AK's project proposal included all three Zones in the Cemovsko Polje.

2.05 The CP Identification Report, which was submitted to the Bank in March 1975, agreed with AK's proposal for Zone C consisting of the establishment of 1,700 ha of vineyards for wine, 300 ha for table grapes, 500 ha of peaches, and 500 ha of sour cherries (total 3,000 ha) plus 100 ha of windbreaks. The orchards and vineyards were to be irrigated by a sprinkler irrigation system drawing water from the rivers and from the ground. For Zone B, the identification mission did not support the proposed collective irrigation project because of the impracticability of achieving the required land consolidation involving some 2,000 individual small landholders. The mission concluded that farming efficiency in Zone B could be better improved by expanding AK's services to the farmers in marketing and improved extension in agricultural production and animal husbandry. The mission also discarded the land reclamation proposal for Zone A, because of its high investment cost. The mission did, however, concur with the proposal for processing facilities involving a winery with an annual capacity of 16.7 million liters and a packing and cold store plant for peaches, grapes, tomatoes and green peppers. It also identified a component to strengthen applied research and a marketing intelligence and monitoring service. However, in view of the marginal rate of return (between 4% and 8%), based on economic prices and the heavy emphasis on food processing, the Report did not recommend proceeding further with project preparation until the results of a comprehensive marketing study being conducted by consultants under Agricultural Industries Project - Macedonia (Loan 894-YU) were known, so as to clarify some of the market and price issues. Because of the low rate of return, the CP proposed an alternative use for Zone C based on milk, wheat and tangerine production with estimated rates of return varying from 9% to 13%.

2.06 The Bank supported the conclusions of the CP and in late March 1975 the Bank notified the Secretary of Agriculture of SRM that, although additional time was needed by the Bank to review the project in more detail, it seemed unlikely that the project would qualify as a Bank irrigation project. Subsequently, in response to an immediate reply from the Secretary of Agriculture, in which the Secretary expressed reservations about the

validity of the analysis presented in the CP Identification Report, the CP at the request of the Bank visited Titograd again in June 1975 to review the Report with the Montenegrins. This was a crucial point in the project processing cycle, since as a result of this joint review the following was agreed: (i) due to the soil conditions the annual crop alternatives, as suggested by the CP, were not suitable for Zone C and that fruit trees and vineyards, as originally proposed, were more appropriate; (ii) based on new evidence from AK's plot trials it seemed reasonable to expect higher grape yields (18 t/ha at full development) than previously forecast (13 t/ha); (iii) the crucial factor governing the economic viability of a vineyard/wine production subproject in Zone C was the quality of the "Vranac" wine and the price at which it could be sold; and (iv) the CP would engage a wine marketing specialist to assess "Vranac" wine.

2.07 The report of the wine consultant, which visited Titograd for two weeks in July 1975, confirmed a number of important aspects, such as: (i) the soil, climate and "Vranac" grape variety appeared to be well suited to each other, and to the production of quality wine; (ii) the "Vranac" grape, indigenous to the area, was very good raw material for making wine in Montenegro, of a type seldom found elsewhere; and (iii) "Vranac" wine, because of its special characteristics, should find a place on the world markets, as well as within Yugoslavia at a premium price, particularly after it was granted the "appellation controlée", which was expected in 1976. 1/ In conclusion, the results of this study suggested more favorable aspects for an economically viable project than previously envisaged. With this additional supportive information, the Bank on October 13, 1975 gave the green light to the Montenegrins to continue with project preparation, and requested the CP to assist in this effort.

C. Preparation

2.08 A CP preparation mission visited Titograd in February 1976 to review the work of the local preparation team, which was under the direction of the Agroeconomic Institute (AEI) of AK. The result was the preparation of a project, as presented in a two-volume report dated April 22, 1976, to be implemented by AK consisting of the following: (i) establishment of 2,000 ha (1st alternative) or 3,000 ha (2nd alternative) of irrigated grapes and deciduous fruits in Zone C using a combination of ground water and Lake Skadar as a source of water. The Moraca river was eliminated as a source of water because of pollution threat and the cool temperature of the water, which could adversely affect plant growth; (ii) provision of extension and marketing services to individual farmers in Zone B; (iii) construction of a wine processing plant (10 million liters annually for the 1st alternative and 15 million liters annually for the second alternative), a fruit packing station (4,700 tons annually), cold store for fresh products (1,100 tons annually) and for frozen products (4,000 tons annually), and processing lines for frozen cherries and for green peppers and carrots in frozen and canned forms (7,600 tons total annually); (iv) research on new varieties of fruit trees on 30 ha; and (v) provision for necessary staff for project management.

1/ It was subsequently granted in 1976.

D. Appraisal

2.09 Appraisal of the project was carried out by the Bank in May/June 1976 in conjunction with the appraisal of Agriculture and Agro-industries II Project - Macedonia (Loan 1371-YU). The basis for appraisal of the Montenegrin project was the two-volume report mentioned in para 2.08. Project size was an issue. The Montenegrins desired a project comprising 3,000 ha of sprinkler irrigated plantations of grapes and deciduous fruits. However, in view of possible market limitations, particularly for wine, a smaller project including 2,000 ha of irrigated plantations, of which 1,300 ha was for wine grapes, and accordingly reduced capacities for the winery and other processing facilities was considered as being a viable alternative by the appraisal mission. Nevertheless, in view of limited loan funds originally allocated to the project (US\$15 million) and the Bank's policy of only financing the foreign exchange costs, the appraisal mission further reduced the project's plantation component to 1,300 ha of wine grapes only, in spite of strong resistance by the proposed investor (AK). As a result of a revision of the FY77 lending program, it was possible to allocate additional Bank financing for the project, and Bank management approved an increase back up to the 2,000 ha alternative, which appraisal had found to be fully justified on technical and economic grounds. An increase in the amount of the proposed Bank loan to US\$20 million was deemed fully justified on the basis of covering the full foreign exchange costs for a project size of 2,000 ha. Because of both the short maturity and grace period of the proposed Bank loan (term of 15 years including a three year grace period) relative to the project's gestation period and the method of loan amortization (level repayments of principal), financing of interest during construction was added, which increased the final amount of the loan to US\$26 million.

2.10 After reviewing the preliminary drawings for the irrigation system, the appraisal mission suggested modifications for a simpler and less capital-intensive design, whereby, water from lake Skadar would be pumped into a reservoir from where it would serve the distribution system by gravity, instead of being pumped directly to the sprinkler network from the lake. Also, the distribution equipment would consist of portable aluminum pipes and sprinklers, instead of heavy "boom-o-rain" equipment.

2.11 The appropriate formula for establishing the on-lending interest rates under the project was an issue within the Bank. The appraisal mission in the Issues Paper dated June 16, 1976 recommended a uniform on-lending interest rate, which would apply both to on-lending of Bank funds, as well as of local funds: a procedure which had been applied in an earlier Bank project in Yugoslavia - the First Agro-Industries Project in Macedonia (Loan No. 894-YU, dated May 25, 1973). On the other hand, the Decision Memorandum, dated July 16, 1976, expressed the view that the precedent established in the more recently approved First Agricultural Credit Project (Loan 1129-YU, dated June 20, 1975) and three Industrial Credit Projects approved in FYs 74, 75 and 76 (Loans 1012-YU, 1013-YU, and 1277-YU) should be applied, in which an appropriate rate would be stipulated only for the on-lending of Bank funds. In effect, this results in a multiple rate system, since the on-lending rates for Bank and local funds are different. The two varying Bank views centered around the subject of the role of interest rates in the allocation of resources in Yugoslavia's economic system. At a special meeting of the Loan Committee on August 3, 1976, it was decided to postpone the final decision pending the findings of the study on the role of interest rates in agriculture that was undertaken by Yugoslav consultants under the First Agricultural

Credit Project (Loan 1129-YU), and which was to be available by October 15, 1976 (postponed from June 20, 1976). When it became apparent that submission of this study was going to be further delayed, it was decided to proceed on the basis of a multiple interest rate system for this project, in accordance with the then current Yugoslav practice. During the same August 3, 1976 meeting, the Loan Committee also ruled that there would be two loan agreements, two guarantee agreements and a single appraisal and President's Report for the Montenegro and Macedonia projects, which previously had been carried along together for processing (para 2.09).

E. Negotiations

2.12 Negotiations started on December 6, 1976 and were completed on December 10, 1976. The main issues were on-lending interest rate and financing plan. Concerning the interest rate, the Bank's position was to stipulate an appropriate rate only for the on-lending of Bank funds and to set this rate at a level which would approximate current market costs of foreign borrowings to Yugoslav investors including loans from IFC, and which would also provide an adequate spread for the Borrower. Therefore, the Bank recommended an interest rate of 12% on Bank funds, or a lower rate, if the Borrower would provide assurances that part of their costs would be covered by the spread on the interest rates charged on their local funds. Since the Borrower intended to charge a spread of one percent on its funds received from the Federal Fund for Less-Developed Republics and 0.25 percent spread on its own bank funds, a rate of 11 percent on Bank funds was considered sufficient. The Montenegrin delegation, on the grounds that their project was not a line of credit (all Bank funds going to a single sub-borrower - AK) made strong arguments that the large spread, which was well above the maximum allowable under their policy of lending to a single sub-borrower, was not acceptable. However, they did finally agree to a proposal to achieve an effective rate of 11% by charging an on-lending interest rate of nine percent on Bank funds plus an additional fee of two percent per annum for guarantee and other operations performed by the Borrower (Loan Agreement, Schedule 4, para 3B).

2.13 To ensure adequate availability of financing for completing the project and meeting obligations including debt service, the Bank obtained an assurance from the SRM to provide the necessary funds to AK, through the Borrower, in order to cover any financial deficits that may occur, since it was apparent that AK would confront a tight financial squeeze during the initial years of project operation due to the long gestation period of the investments involved and, therefore, a slow cash flow build-up (Loan Agreement Recital C and Section 7.01 d). During negotiations a significant improvement in the terms of the local financing was also obtained, whereby, the Borrower agreed to on-lend local funds on the basis of a "staggered" maturity and grace periods; that is, counting the full grace period and maturity period from the time of disbursement (Loan Agreement, Schedule 4, para 3C).

F. Board Presentation and Effectiveness

2.14 The Board approved a loan of US\$26 million on February 22, 1977 without discussion, and loan documents were signed on March 10, 1977. Special conditions of effectiveness included the following: (i) establishment of a Project Unit within AK; (ii) ratification of a Project Agreement by AK; (iii) execution and ratification of a Subsidiary Loan Agreement between AK and IBT; and (iv) decision by SRM to undertake the financing obligation for the project. Evidence of fulfillment of these conditions precedent to effectiveness of the loan was received about one month beyond the stipulated period, and the loan was declared effective on July 27, 1977.

G. Project Objectives and Description

2.15 The project was designed to help achieve the Republic's agricultural development objectives to: (i) increase agricultural production for the domestic market and exports; (ii) expand agroindustrial processing capacity; (iii) improve product quality; and (iv) stabilize food supply and raise productivity and income. The project also aimed at strengthening the organization, appraisal and supervision capacity of the Borrower. The project provided for: (i) the establishment of a 2,000 ha sprinkler irrigation system in Zone C of the Cemovsko Polje plain, owned by AK and located south of Titograd, using groundwater and Lake Skadar water; (ii) land preparation for and planting of 1,300 ha of vineyards with wine grapes and 200 ha of vineyards with table grapes, 200 ha of peach and 300 ha of sour cherry plantations, and 60 ha of windbreaks; (iii) 14 km of farm roads, equipment sheds and supporting facilities and experimental research on new fruit tree varieties (30 ha); (iv) a winery with an annual capacity of 10 million liters, including byproduct processing facilities; (v) a 3,000 ton cold store with blast freezing, grading and packing facilities for fruits and vegetables; and (vi) a collecting and input supply center for individual farmers with a total of 500 m² of collecting and storage space in the neighboring area of Zone B.

III. IMPLEMENTATION

A. Start-up

3.01 Legal establishment of the Project Unit (PU) and appointment of its Director occurred prior to loan signing in January 1977. This was followed by the expedient hiring of the required number of specialists in diverse fields, which resulted in a rapid project start-up. AK, with Bank approval, contracted the services of an experienced Yugoslav consulting firm in March 1977 to assist in project planning, management, and monitoring, and procurement. Preparation of the detailed designs and technical specifications related to the irrigation works was entrusted to another Yugoslav firm contracted by AK in June 1977 with Bank approval. The firm had wide international as well as local experience in large and small scale irrigation projects. The first supervision mission (April 1977) reported that progress in establishing the organization for carrying out the project was satisfactory and in accordance with the established implementation schedule. Physical implementation of the project also began on schedule with delivery of the first 170 HP tractor in March 1977, thus enabling land preparation to commence the following month for the first 200 ha of vineyards, which were scheduled to be established between late 1977 and early 1978. Just about the time the project became effective in July 1977, a question arose concerning the exact boundaries of the project area because of the Municipality of Titograd's interest in claiming a sizeable portion of land in Zone C (the project area) for constructing a new railroad station and warehouses. This caused some delay in finalizing the preliminary design of the irrigation system. However, by early 1978 agreement was reached whereby only 180 ha was claimed by Titograd, and a comparable tract of land was transferred to AK from the adjacent Zone B.

B. Revisions

Irrigation System

3.02 As a result of hydrological studies carried out in 1971 in the Cemovsko Polje plain under the OECD project, appraisal had limited the use of groundwater to 0.6 m³/sec on 700 ha in order to leave sufficient safety margin against possible conflicts with the existing water demands, in view of some uncertainty as to the total quantity of groundwater available. Appraisal had recommended pumping water from nearby Lake Skadar to meet the balance requirements of about 0.8 m³/sec on the remaining 1,300 ha. However, upon the completion of the first two wells for the first 200 ha of vineyards in April 1978, it became apparent that the wells exhibited excellent hydrodynamic features. In addition, the good characteristics of the Cemovsko "olje aquifer were confirmed, thereby indicating the favorable prospects for tapping the groundwater potential in the rest of the project area. Consequently, the Borrower requested that the proposed facilities for pumping water from Lake Skadar be eliminated from the project. A detailed study was conducted by the consultant involving 14 man-months of reviewing and analyzing more than 20 hydrological studies, drilling reports and pump tests. Based on this additional information, not available at the time of appraisal, it was concluded that sufficient groundwater was, in fact, available to sprinkle irrigate the total project area of 2,000 ha. Based on the Bank's review of the consultant's report and with the concurrence of the Montenegrin Water Management Authority on June 25, 1979, the Bank agreed on July 23, 1979 to accept the consultant's recommendation of relying exclusively on groundwater for the total project requirement of 1.4 m³/sec.

3.03 Although appraisal concluded that a portable sprinkler irrigation system was the most suitable method for the project, the Loan Agreement (Schedule 2, Part A) indicates that other irrigation equipment could be accepted if the Bank agreed. During appraisal, the boom-type sprinkler system was found to be uneconomical and unsuitable for the project, therefore, the portable sprinkler system was selected as the best solution. As early as 1977, AK had begun conducting small scale field trials in existing plantations on three types of irrigation methods - portable sprinkler, boom-type sprinkler, and drip irrigation. In September 1977, AK informed the Bank that the consultant and AK were considering boom-type sprinkler and drip irrigation as alternatives to portable sprinklers in arriving at the final design for the project area, in view of the cumbersome and labor intensive task of moving the lateral sprinkler lines in trellised vineyards. In reply, the Bank informed AK that unless there was additional information to justify a boom-type system, the final choice would have to be between portable sprinkler and drip irrigation systems. In addition, the Bank advised AK and IBT-UB to carry out a technical, as well as financial and economic analyses to compare sprinkler and drip systems before recommending its case to the Bank. It provided the investor with a detailed outline for the study. In the meantime, the Bank approved the portable irrigation system for another 500 ha.

3.04 The consultants were commissioned to conduct the detailed study, which was not submitted to the Bank until February 1979, followed by a request from AK and IBT-UB in April 1979 proposing to install the drip system on the remaining project area of 1,260 ha, provided the Bank would finance the increased cost of the drip system over sprinkler (82% more expensive). In reviewing the study, the Bank found it to be inconclusive, as the economic analysis, yield assumptions, and rate of return calculations were not

included. Also, it was noted that the installation cost of the drip system was not included in the investment costs and that the O&M costs seemed to be underestimated. Consequently, the Bank did not agree with the request to install drip irrigation on 1,260 ha. Instead, it approved the sprinkler system for the next tranche of 700 ha and advised the Borrower that the drip system should not be considered even for the remaining 560 ha unless: (1) it could be proven that the drip system was economically attractive, and (2) the Borrower was willing to invest additional high capital costs from its own resources. In July 1979 and in response to a request from the Borrower, the Bank agreed to the installation of drip irrigation, on a pilot basis, on 150 ha of the project area provided the sprinkler method was used on the remainder of the project area. Subsequently, in the fall of 1980 the Bank agreed to alter the specifications for the 150 ha drip irrigation to serve 130 ha of fruit trees with a modified drip system consisting of microjet sprinklers and 20 ha of vineyards with standard drip irrigation.

Plantations

3.05 About 25 ha of plum trees, comprising seven different varieties, were included as an additional fruit species to the peaches and sour cherries originally envisioned by appraisal, in order to compensate for a shortage of sour cherry seedlings due to frost damage in the supplying nurseries and also for the purpose of experimentation. The Bank approved this slight modification in plantation design.

3.06 At the request of IBT-UB and AK, the Bank on February 11, 1982 approved the deletion of the 60 ha of windbreaks from the project. By late 1981, AK found that non-project vineyards in their third and fourth year of growth were doing equally well in unprotected areas as those planted in areas with pilot windbreaks, which had been established before the start of the project. The strongest winds occur in winter when the vines have no vegetation. Neither had any surface erosion been noted which might otherwise cause physical damage to foliage and fruit during the growing season. Also, the appropriate seedlings were reported as scarce and expensive. In addition, the inclusion of windbreaks takes land away from the plantation. In the final analysis, their inclusion was not considered to be cost effective.

Infrastructure

3.07 Construction of a bridge on the Cijevna river, which transects the project area, was originally included in the project (Loan Agreement, Schedule 2, Part C). When the project was prepared and appraised, the Republic authorities had not yet elaborated a zoning plan or road network scheme for the Cemovsko Polje region. In mid-1979, AK indicated to the Bank that it was delaying a decision on bridge construction pending official notification of plans for upgrading the total road network in the region. Eventually in 1982, the General Assembly of Titograd approved a road improvement program that did not include any new roads on the right bank of the Cijevna River, and therefore the bridge was rendered pointless. Communication and ease of transport of produce in the project area has been enhanced by the improved road network since project appraisal. The Bank approved deletion of the bridge on May 13, 1983.

3.08 The project also provided for the construction of a collecting center of about 500 m² for the collection and packing of fresh vegetables produced by individual farmers in Zone B of Cemovsko Polje and for supplying farm

inputs to farmers (Loan Agreement, Schedule 2, Part F). In late 1979, the Bank concurred with AK to delay construction of this center pending the results of the activities of the newly formed Work Organization (WO) Cooperation in July 1979. The need for the center diminished since WO Cooperation constructed five collection centers during 1980 in Zone B, with a total capacity of 2,100 m² using its own resources. The WO Cooperation comprises four Basic Organizations of Cooperative Farmers, two of which are in Zone B (para 7.09). By 1982, the centers in Zone B were handling 1,750 tons of fresh vegetables, 8,500 hl of milk, and 160 tons of medicinal herbs. Consequently, the Bank formally agreed to the Borrower's request to delete this component from the project on January 18, 1983.

C. Physical Implementation

3.09 Physical implementation of the project is shown graphically in Chart 1, in which actual performance is compared to appraisal's schedule for each major component. The overall project works were successfully completed by the originally established date of December 31, 1982. Details by project component are described in the following paragraphs.

Irrigation System, Land Development and Plantations

3.10 As mentioned in para 3.02, the Bank agreed to a major change in the design of the irrigation system, whereby, the source of water for the total 2,000 ha was exclusively from groundwater rather than dividing the source between groundwater and Lake Skadar. On this basis, the works for drilling wells and installing the pipe network were divided into five phases, including improvements on two existing wells, with the following completion dates:

Phase	Well Construction		
	No. of Wells	Ha	Completion Date
I /1	3	201	April 23, 1978
II	5	518	May 15, 1979
III	7	784	May 25, 1980
IV	3	329	December 20, 1980
V /2	2	182	December 20, 1980
Total	20	2,014	

/1 Includes one existing well covering 40 ha.

/2 Includes one existing well covering 28 ha.

Final construction of 130 ha of micro-jet and 20 ha of drip irrigation was completed by end-1980, about three months behind the appraisal estimate for completion of the irrigation system as originally designed. Details on the characteristics of the 20 wells are given in Annex 1. Land development was accomplished on schedule, and the vineyards and orchards were established as shown in Annex 2 and summarized below.

Plantation Establishment - Accumulative Total by Years					
1977	1978	1979	1980	1981	1982
ha					

Appraisal	-	200	700	1,400	2,000	-
Actual	40	240	688	1,287	1,960	2,014

In July 1977, the Bank approved the request of AK to include 40 ha of vineyards in the project, which had been established prior to the project between late 1976 and early 1977 and were irrigated from an existing well of AK. In accordance with the Loan Agreement (Schedule 1, para 4), the Bank approved retroactive financing only for the purchase of rootstocks for these 40 ha and not the other expenses incurred in establishing the pre-project vineyards. As can be seen from the above summary, the actual planting schedule very closely followed the appraisal targets for each year, although establishment of the final 54 ha of vineyards carried over to early 1982. All of the required trellising for the vineyards was completed on schedule.

Infrastructure

3.11 The infrastructure component, after the revisions referred to in paras 3.07 and 3.08, consisted of farm roads and farm centers. The construction of farm roads experienced delays. The project provided financing for 14 km of farm roads. The main reason for delay in farm road construction was due to prolonged discussions between AK and the Communal Road Department over the sharing of expenses for asphalting a portion of the roads. When these negotiations broke down in early-1982, AK proceeded to implement a revised plan for asphalting two shorter stretches of road (1 km total) leading to the central farm yard. In addition, construction and reconstruction of hard packed gravel-surfaced farm roads (10 km total) were completed by end-December 1982, with the use of the same heavy machinery used previously for land preparation. The construction of the farm centers also experienced delays, particularly the main center, as explained in para 3.20. Although the main center ($41,000 \text{ m}^2$) was not finally completed until June 1982, the machinery sheds, workshop, barracks and cafeteria were completed by end-1979 and served their useful function in a timely manner, as did the smaller farm centers (about $8,000 \text{ m}^2$ each) which were completed by end-1982.

Winery and Cold Store

3.12 Construction of the winery was achieved just 20 months after signing the turnkey contract; the plant was inaugurated in September 1980 and operated on a trial basis during the fall of the same year. During 1981, major attention was given to adjustments in the automated bottling line, which were fully completed in time for the 1981 season. The adjacent winery administration building was completed in mid-1982.

3.13 The most difficult contract proved to be the cold store. The initial target completion date of September 1980 was not achieved because, according to the contractor, there was a serious shortage of labor, cement and steel due to the priority for rehabilitation works in the Republic as a result of the 1979 earthquake and flood. Although equipment for the plant was on site by early 1981, delays in civil works persisted, necessitating serious consideration by the investor of bringing legal action against the contractor. Eventually, the two parties reached agreement and the facility was completed in August 1982. However, the facilities still have not been officially received by the investor due to some construction defects, which the contractor has refused to rectify. The case is under review by the courts, and a decision is expected in early 1985. The most serious defects are as follows: (i) the roof is flat therefore rain water cannot drain off properly and consequently it seeps through the roof and into the interior of the chambers; (ii) the panels are not well joined resulting in poor insulation

and inefficient use of energy; (iii) the pallets used to hold the stored material are poorly constructed and cannot be stacked properly causing under-utilization of the available space; and (iv) the packing/processing line does not have a calibrator for cherries so they must be frozen with stones, which reduces selling price by more than 50%. Despite these difficulties the cold store has been operating partially since 1982 (para 4.17).

Research

3.14 As early as the late 1960s, AK had begun field trials in Cemovsko Polje through joint programs with Yugoslav and foreign scientific institutions. The project supported an expanded research effort on about 30 ha. The first report of this activity was submitted to the Bank in March 1981. The program included four main aspects which are summarized as follows:

- (i) determining the best irrigation methods and practices for vineyards and orchards;
- (ii) testing and selecting the most suitable varieties and rootstocks of table and wine grapes;
- (iii) ascertaining the possibilities of growing Japanese plums;
- (iv) determining the optimum fertilization and methods of fertilizer application on grapes; and
- (v) testing the use of herbicides on vineyards.

3.15 In 1983 and 1984 the research program was expanded to include more elaborate studies on: (i) weed control in orchards and vineyards; (ii) foliar application of macro and micro elements on "Vranac" wine grape; and (iii) methods and rates of applying irrigation water. Research progress is summarized in annual reports, and the more significant results are published in Yugoslav journals and presented at scientific meetings. Information generated by the research program not only provides AK with the most appropriate technology for its own use, but it also is the basis for recommendations to farmers by the advisory service of WO Cooperation. Field demonstrations and periodic seminars between researchers and advisors help to achieve this last objective.

D. Quality of Project Works

3.16 From the beginning, supervision missions reported favorably on the quality of land preparation, well construction, pipe network installation and plantation establishment. On several occasions it was necessary to impress upon the PU and the irrigation consultants to give special attention to the field supervision of works. Vineyards and orchards were reported as being in a healthy and vigorous condition by all supervision missions, except for some varieties of sour cherries and plums. Construction quality of the winery was very good and that of the cold store was less than satisfactory, as described in para 3.13. AK has been satisfied with the installed equipment in both of these processing facilities with the exception of the line for sour cherries (para 3.13).

E. Irrigation Water Demand and Quality

3.17 The water requirements were calculated by means of the Blaney-Criddle methods as modified in the FAO Irrigation and Drainage Paper No. 24 "Crop Water Requirements". Based on the analysis of crop water requirements, irrigation was deemed necessary in general from June to August. However, it was anticipated that in particularly dry years water applications would start in May. It was estimated that the peak requirement would occur in July with a demand of 0.61 l/sec/ha, which has proven to be the case. However, since the system would operate 20 hours per day, it was sized for a capacity of 0.73 l/sec/ha. To meet the gross crop water requirements at full development, the irrigation system was designed to supply the annual average water requirement of 4,230 m³ per net hectare (for 75% overall efficiency), including a peak demand of 0.73 l/sec/ha for a daily operation of 20 hours. The actual plantation cropping pattern has closely followed appraisal's estimate and the water demand anticipated at appraisal is expected to materialize at full plantation development in 1988-89. Laboratory tests confirmed the good water quality for all uses, the total dissolved solids being about 230 ppm. From May to September the temperature of the groundwater ranges between 15°C and 18°C. The Cemosko Polje ground water has proven to be a reliable source of water, both in terms of quantity of flow and quality. No problems are anticipated regarding water availability and supply capacity.

F. Procurement

3.18 All procurement was carried out in accordance with Schedule 1 of the Project Agreement. The winery and cold store were procured under international competitive bidding (ICB) procedures and constructed through turnkey contracts, since the civil works needed to be closely integrated with the electrical-mechanical equipment. Both contracts were won by Yugoslav firms, and the supply of the equipment for the winery was sub-contracted to an Italian company. The equipment and civil works for the irrigation system and civil works for the infrastructure investments (farm centers and roads) were procured following local competitive bidding procedures (LCB), for which the Bank reviewed the preliminary designs, contracts and bid evaluation reports. Procurement of the drip and micro-jet irrigation equipment was through ICB at the Bank's request. Items for plantation establishment, such as agricultural equipment, fertilizer and planting materials costing less than US\$50,000 were procured directly through negotiated purchases. Such items exceeding US\$50,000 were procured through LCB procedures for which the Bank reviewed the technical specifications before bids were invited. The Bank received two conformed copies of all the executed contracts, regardless of their value as summarized below:

Procurement Summary

<u>Component</u>	<u>No. of Contracts</u>	<u>Type of Procurement</u>
Winery	1	ICB Turnkey
Cold Store	1	ICB Turnkey
Drip and Micro-Jet Irrig.	1	ICB
Irrigation System	26	LCB
Plantations	38	LCB and DNP /1
Infrastructure and Research	25	LCB
Agricultural Equipment	15	LCB and DNP /1

/1 DNP means direct negotiated purchase.

3.19 The bid evaluation for the cold store revealed that all four bids were considerably above (average of 40%) the appraisal estimates. Consequently, AK proposed and the Bank accepted to reject all bids; redesign the project, which according to AK's consultants could reduce the cost by about 20%; and invite the same bidders, on the basis of limited tendering. By following this procedure, the lowest evaluated bidder quoted a price just nine percent above appraisal's estimate.

3.20 The project made no provision for housing of seasonal labor, because AK had planned on hiring local labor, particularly during the planting season. With the first 200 ha of vineyards in the 1977/78 season AK was obliged to employ 150 people from neighbouring Serbia for the planting season. Housing became a serious problem. Consequently, after a review of the estimated seasonal labor requirements for the project over time and of the design and cost estimates, the Bank financed the construction of five simple barracks and sanitary and cooking facilities for 500 seasonal laborers under Schedule 2, Part C of the Loan Agreement. Construction of the main farm center experienced difficulties because of repeated delays in construction. Finally, AK severed its contract with the original contractor in accordance with local legal procedures. Subsequently, in March 1981, the Bank approved AK's rebidding for the completion of the remaining works, which included the construction of the administration building and fuel depot.

3.21 All of the required agricultural equipment was acquired on schedule and in accordance with the needs of the project. Annex 3 compares the equipment actually acquired with the appraisal estimate of requirement. The Bank reviewed AK's requests for the addition of equipment not envisioned by appraisal, and upon Bank's approval the following main additional items were purchased: mobile workshop (at Bank's suggestion); two buses for transporting field workers; van for food distribution to field workers; and a machine for harvesting grapes.

G. Project Costs

3.22 The following table compares the appraisal mission's cost estimate with the actual costs. Breakdown by component and year is presented in Annex 4, Tables 1 through 5.

Total Project Cost

<u>Component</u>	<u>Appraisal Estimate /1 '000 Din</u>	<u>% of Total Estimated Project Cost</u>	<u>Actual '000 Din</u>	<u>% of Total Actual Project Cost</u>	<u>Cost Overrun %2</u>
Irrigation System	157,427.5	16	192,615	11	22
Plantations	439,487.7	44	939,586	53	114
Agricultural Equipment	31,317.2	3	45,769	3	46
Infrastructure	34,213.0	3	107,537	6	214
Winery	251,820.0	25	339,665	19	35
Cold Store	<u>86,949.0</u>	<u>9</u>	<u>140,029</u>	<u>8</u>	<u>61</u>
Total	<u>1,001,214.4</u>	<u>100</u>	<u>1,765,201</u>	<u>100</u>	<u>76</u>
US\$ Equivalent ('000s) /2	55,600		50,100		(-10)

/1 Cost estimate of each component includes physical and price contingencies; working capital; and engineering, supervision, administration and overhead expenses.

/2 Appraisal Exchange Rate was US\$1 = 18 Din. The actual average rates during project implementation were as follows:

US\$1 to Dinars

1977	18.28
1978	18.49
1979	19.06
1980	23.22
1981	33.19
1982	47.43
1983	90.84
1984	124.39

3.23 The total project cost in current Dinars increased by 76% compared to the appraisal estimate. However, in US dollars there was a 10% savings due to the Dinar's depreciation/devaluation during the eight years of project implementation. The reasons for such a large cost overrun in local terms are primarily the high rate of domestic inflation during the period after 1980; unforeseen additional procurements; and changes in the design of a given component. A cost overrun of 114% for the plantation establishment component was particularly significant since this component accounted for the single largest proportion of total project cost (53%). One reason for the large discrepancy with the appraisal estimate is the appraisal's inadvertent omission of irrigation operation and maintenance costs during the five year plantation establishment period, which was intended to be included. 1/ Another reason was the necessity for higher quantities of fertilizer and pesticides than were anticipated at appraisal. The infrastructure component (6% of total project cost) had an overrun of 214% because much of the work was carried out in later years when domestic inflation was particularly severe. Construction of the cold storage also experienced problems as described in para 3.13 which caused delays, and ultimately a 61% cost overrun. The winery had the second lowest cost overrun because 75% of the construction was completed by 1981 (before the more rapid rise in inflation) and because there were only minor changes in the design of the winery.

3.24 At appraisal, it was projected that the implementation rate during the first three years (actually two and a half) would be 65% of total investment costs, while the actual investment rate was only 20% for the same time period as seen in the following table.

1/ It is difficult to estimate the precise cost attributed to irrigation O&M during those five years because the WO Plantation accounting system does not separate the O&M costs from total investment costs for plantation establishment.

Comparative Investment and Inflation Rates

<u>Investment</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percent of Total Annual Investment Planned at APR	3.5	22.2	38.7	19.9	15.4	0.3	0	0
Percent of Total Annual Investment Realized	1.3	3.8	14.7	26.0	20.0	15.2	10.6	8.4
<u>Inflation</u>								
Actual Domestic Inflation % <u>1/</u>	15.9	12.5	20.0	31.5	42.1	31.5	40.8	53.8
Estimated Domestic Inflation at the Time of Appraisal	12.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0
Actual International Inflation <u>2/</u>	8.2	17.6	11.2	8.3	(4.2)	(1.8)	(3.0)	3.5
Estimated International Inflation at the Time of Appraisal	10.0	10.0	10.0	8.5	8.5	8.5	8.5	8.5

1/ Cost of Living Index

2/ EPD price forecasts: July 1984, MUV Index

The slower implementation rate in the first three years was due to delays in beginning construction of the winery and cold store, as well as the irrigation system because of a fundamental change in its design. The period from 1980 to 1982 represents 60% of total actual investment costs and coincides with three consecutive years of rapid domestic inflation. The cost overruns, which occurred particularly during the heaviest investment period (1980-1982), significantly altered the original financing plan.

H. Financial Sources

Financing Plan

3.25 The original financing plan is more complicated than it initially appears, because the project's estimated financial cash flow was very sensitive to even minor cost/revenue changes. For this reason, the financing plan received considerable attention in both the appraisal report and the loan documents. The cash flow prepared at the time of appraisal showed that AK would not be able to service its debts during the early years of the project even with interest during construction of US\$5.9 million included in the Bank loan, and three years grace period with interest capitalized during those three years.

3.26 The appraisal report pointed out that a deficit in funds for debt repayment of US\$18 million was projected for the years 1982-1987. The appraisal report made clear that AK would require additional financing with terms similar to those for Federal Funds (which were the most concessionary of all sources: 5.0% interest and 20 years repayment including three years grace). Provision was thus included in the Loan Agreement pursuant to which IBT-UB would obtain from SRM sufficient funds to enable AK to meet its financial obligations--under terms satisfactory to the Bank and Borrower (Loan Agreement Recital C of Preamble, Section 5.01b, 6.01d, and 7.01d).

3.27 The following table compares the original plan to the actual plan for financing project costs.

Financing Plan

Appraisal Estimate				
Total Project Cost	Interest During Construction	Total Project Financing Requirement	Percentage Share of Total Funds Required	

1. Funds Required

Dinar Million	1,001.3	138.6	1,139.4	100
US\$ Million *	(55.6)	(7.7)	(63.3)	

1. Funds Required

Dinar Million	1,765.2	247.9	2,013.1	100
US\$ Million *	(50.1)	(7.0)	(57.1)	

2. Funding Sources
(Dinar Millions)

(i) IIRD	361.8	106.2	468.0	41
(ii) IBT-US	352.8	32.4	385.2	34
(iii) Federal Funds	232.2	-	232.2	20
(iv) AK July 13	54.0	-	54.0	5
TOTAL**	1,000.8	138.6	1,139.4	100

2. Funding Sources
(Dinar Million) *

(i) IIRD	757.3	163.6	920.9	46
(ii) IBT-US	389.7	84.3	474.0	-
(Cost overrun cr.) **	305.3	-	305.3	-
(Kuwait Fund) **	45.3	-	45.3	-
IBT-US Subtotal	740.3	-	824.6	41
(iii) Federal Funds	200.0	-	200.0	10
(iv) AK July 13	50.2	-	50.2	2
(v) SIZ Municipal Services	5.0	-	5.0	-
(vi) Suppliers Credit	12.4	-	12.4	1
TOTAL	1,765.2	247.9	2,013.1	100

*Average ER: US\$1=18 Dinars

at appraisal

**Slight discrepancies
due to rounding

Average ER from 1977-1984: US\$1=35.23 Dinars

**Both of these loans were foreign credits

The on-lending terms for each one of the funding sources is shown in Annex 5, Table 1. In the original financing plan, the Bank loan covered 100% of foreign exchange costs with local costs financed through IBT-UB, Federal Funds and a small amount from the investor. The 76% cost overrun caused significant changes in the actual percentage share of project costs covered by the different sources. The investor and the Federal Funds accounted for a lower percentage and less actual sums than originally anticipated in the plan, while IBT-UB accounted for a much higher percentage and amount 1/.

3.28 The first indication of possible project financing difficulties for IBT-UB arose just before the first supervision mission after loan effectiveness in July 1977. The Bank learned through the IFC that IBT-UB was exploring the possibility of foreign borrowing to refinance its portion of project costs (US\$22 million). The reason IBT-UB cited for seeking a foreign loan was in part to refinance its original portion in the financing plan but also to mobilize additional resources for the SRM so as to take advantage of a unique privilege accorded to Yugoslav enterprises borrowing from the World Bank. At that time, Yugoslav enterprises were allowed to match Bank funds with other foreign borrowings without having to make a deposit in Dinars equivalent to 75% of the additional foreign funds borrowed, which would otherwise have been required. The supervision mission stated and the Bank reconfirmed via letter that it supported IBT-UB's mobilization of additional resources but requested IBT-UB to:

- (i) inform the Bank as soon as any foreign borrowing materialized and;
- (ii) seek the Bank's no objection to the terms and conditions of the loan prior to signing any contracts.

3.29 In June 1979 another Bank mission (not for supervision of this project) was informed that IBT-UB had borrowed US\$22 million from Bank of America with an eight year maturity to refinance its share of project costs. 2/ IBT-UB also informally discussed, with the same mission, the possibility of obtaining Bank assistance for additional funds through cofinancing. The mission informally agreed to offer the Bank's assistance.

1/ In 1983 additional Federal Funds were made available to AK for debt servicing in the amount of 100 million Dinars.

2/ No details of the financing terms from Bank of America to IBT-UB were given, however, in an earlier letter, (12/9/77) IBT-UB assured the Bank that IBT-UB's foreign borrowing, which would substitute its original participation in project financing, would not alter the on-lending terms from IBT-UB to AK as agreed in the Loan and Subsidiary Agreements. However, the Bank's letters and telexes to IBT-UB requested that the Bank be informed of the terms being offered to IBT-UB before making any contractual agreement, and there is no evidence in the records that this was done.

This verbal exchange was reported by the mission to Bank management in a June 1979 memorandum with the suggestion that IBT-UB be informed if the Bank's position was different from that expressed by the mission. Management apparently agreed to this position as the files revealed no further correspondence on this subject. IBT-UB never submitted a request for cofinancing assistance, and the June 1979 memorandum was the last document in the files on the general issue of IBT-UB's foreign borrowings and the financing plan.

Financing Cost Overruns

3.30 In the end, IBT-UB did provide the amount it had agreed on in the original financing plan from its own resources (with the same terms except for an eight year repayment period instead of five years). But by 1980 AK ran into serious cost over-runs and turned to IBT-UB for more financing. The only funds IBT-UB had available at that time were US\$16.3 million which it had borrowed on the international market over one year earlier for "other purposes" 1/, but had been unable to on-lend these funds to an appropriate investor. Even though AK did not need foreign funds, IBT-UB did not have sufficient locally generated funds available to on-lend to AK. 2/

3.31 The terms of the loan could not be met by AK (interest rate 1.5% above LIBOR; grace period 2.5 years for principal only, 7 years repayment), so IBT-UB and AK agreed on a compromise whereby each annuity would be converted into a new loan having an eight year repayment period at 8% interest with the first payment coming due six months after utilization. Such terms were possible only if AK carried the foreign exchange risk on the funds, which it did. Between April 1980 and October 1981, the US\$16.3 million loan was fully disbursed and utilized. By the end of 1981 more financing was needed and again IBT-UB used foreign borrowing--from the Kuwait Fund--amounting to US\$1 million. The remaining credits for cost overruns came from Federal Funds and suppliers' credits. Financing of AK's debt came from IBT-UB extending AK further credit each time a payment came due and from additional Federal Funds. In 1983 the Republic passed a law for some 18 enterprises in Montenegro which faced a serious liquidity crisis and at this time additional funds were allocated to AK by combining Federal and Republic funds with the earthquake emergency aid fund. The basic banks also contributed considerable sums for working capital in 1984--Dinars 660 million or US\$3.6 million equivalent. Annex 5, Table 2 outlines the new loans, terms and conditions for financing the cost-overruns, debt rescheduling and 1983-1984 working capital loans.

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- 1/ Presumably this is from part of the US\$ 22 million borrowed from Bank of America but IBT-UB declined to specify the funding source and purpose of the loan during the PCR mission.
- 2/ AK's request came after the 1980-1985 five year plan had been prepared/approved and the Republic's/bank's investment funds were fully committed for other purposes.

3.32 Two points seem to stand out as particularly relevant to an analysis of the investor's and the project's financial situation:

- (i) The eight year implementation period of the project spans two "eras" with different financial management philosophies in Yugoslavia. From 1977-1980, the exchange rate vis-a-vis the dollar devalued by only 30% and the five previous years it varied only slightly. Large borrowing of foreign funds for domestic investments was encouraged even though it was growing out of proportion to what the economy seemed able to sustain as measured by the GDP. In 1980, when AK was experiencing high domestic cost overruns, it borrowed foreign exchange in the total sum of US\$17.3 million from IBT-UB. AK had to agree to carry the foreign exchange risk on these funds, which has been considerable since 1980, and the period of repayment for these funds extends to 1988.
- (ii) The period from 1981-1984 reflects a very different situation. In only four years the exchange rate vis-a-vis the dollar has devalued five fold and the Federal Government has had to re-negotiate its debt situation bilaterally and multilaterally. Enterprises have run into a series of grave liquidity crises and very strict financial measures are gradually being adopted to help the country and the major enterprises emerge from this difficult situation. AK is having difficulties servicing its present debt associated with this project and has had to reschedule it, with the assistance of IBT-UB, and the Republican and Federal authorities. Paras 5.09-5.15 assess the financial performance of the investor and describe the measures being undertaken to rehabilitate and restructure the enterprise.

I. Compliance with Loan Covenants

3.33 The Borrower and investor fully complied with all loan covenants and with the provisions of the seven side letters. The principal covenants dealt with assigning additional staff to the IBRD Operations Unit in IBT-UB (the Borrower); and AK (the investor) establishing a PU and hiring irrigation consultants. Covenants requiring Quarterly Progress Reports and Audit Reports have been complied with satisfactorily.

J. Disbursements

3.34 Between FY78 and mid-FY80 disbursements lagged considerably behind the original appraisal estimate, as can be seen in Annex 6. As soon as the ICB procurement was contracted, disbursements accelerated. The loan of US\$26 million was disbursed to the extent of US\$25.98 million and the balance of US\$0.02 million was cancelled on March 30, 1984.

IV. AGRICULTURAL IMPACT

A. Incremental Production and Crop Yields

4.01 The dynamics of crop yields and production for each species from 1977 to 1984 is shown in detail in Annex 7, Table 1. The project's incremental production (actual and forecast) is presented in Annex 7, Table 2, and actual production obtained to date in comparison with appraisal estimates is summarized in the following table.

Incremental Production

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>Total</u>	<u>No. of Ha /1</u>
<u>tons</u>								
<u>Wine Grapes</u>								
Appraisal	-	1,200	3,600	7,300	11,900	14,700	38,700	1,300.0
Actual	<u>170</u>	<u>972</u>	<u>2,404</u>	<u>7,200</u>	<u>11,530</u>	<u>9,837</u>	<u>32,113</u>	<u>1,306.6</u>
% of APR	-	81	67	99	97	67	83	100
<u>Table Grapes</u>								
Appraisal	-	-	600	1,600	2,500	3,100	7,800	200.0
Actual	-	-	<u>35</u>	<u>527</u>	<u>724</u>	<u>2,400</u>	<u>3,686</u>	<u>186.0</u>
% of APR	-	-	6	33	29	77	47	93
<u>Peaches</u>								
Appraisal	-	-	300	900	1,600	2,600	5,400	200.0
Actual	-	-	<u>532</u>	<u>1,300</u>	<u>1,584</u>	<u>2,425</u>	<u>5,841</u>	<u>214.3</u>
% of APR	-	-	174	144	99	93	108	107
<u>Sour Cherries</u>								
Appraisal	-	-	200	700	1,500	2,500	4,900	300.0
Actual	-	-	-	<u>18</u>	<u>52</u>	<u>204</u>	<u>274</u>	<u>281.8</u>
% of APR	-	-	0	3	3	6	5	94
<u>Japanese Plums /2</u>								
Actual	-	-	-	11	18	23	52	25.3

/1 At full plantation development.

/2 Not envisioned by appraisal.

4.02 Average grape and deciduous fruit yields are presented in detail in Annex 7, Table 3, and actual yields obtained to date are in the following table, including comparisons with appraisal estimates.

Average Yields

	Age of Grape Vines and Fruit Trees in Years					
	3	4	5	6	7	8

Wine Grapes

Appraisal	6.0	9.0	11.0	13.0	14.0	14.0
Actual	4.0	7.5	8.7	10.5	11.3	9.5
% of APR	67	83	79	81	81	68

Table Grapes

Appraisal	6.0	10.0	15.0	16.0	16.0	16.0
Actual	1.4	4.4	4.2	-	-	-
% of APR	23	44	28	-	-	-

Peaches

Appraisal	3.0	6.0	10.0	16.0	16.0	16.0
Actual	3.6	7.8	10.5	18.6	-	-
% of APR	120	130	105	116	-	-

Sour Cherries

Appraisal	2.0	5.0	8.0	12.0	13.0	13.0
Actual	0	0.6	1.4	3.0	-	-
% of APR	0	12	17	25	-	-

Japanese Plums

Actual	-	0.7	1.0	-	-	-
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Wine Grapes

4.03 Total actual wine grape production, for the six year period between 1979 and 1984, was 83% of the appraisal estimate. Unfortunately, 1984 was a disastrous year for grape production due to torrential rains of 17 days duration during the entire harvest period. An unusually late spring delayed the normal grape harvest by 18 days, otherwise, most of the harvest would have been completed before the rains set in. Close to 400 mm of rain fell between September 17 and October 8, 1984, when normally less than one quarter of that amount is expected. In one 24 hour period, 100 mm was recorded. Besides the physical damage caused by rain and wind, high temperatures promoted diseases and accelerated spoilage of grapes, which besides affecting production, also reduced grape quality. Just prior to harvest and the rains, the PU, supported by a special Republic level commission to assess the damage, estimated that the 1984 grape crop would yield a total of 14,880 tons; whereas, in reality the harvest was 34% less. If the 1984 grape harvest season would have been normal, production would have slightly exceeded the appraisal estimate for that year. The fact that any grapes were harvested at all was due to emergency mobilization of the army, high school students and towns people. Unfortunately, damage due to rain is not covered by crop insurance under Yugoslav regulations. The PU estimates that the 1985 grape harvest will be about five percent below expectations due to carryover damage from 1984, and production costs will rise due to increased use of plant protection materials to combat disease. The yield of grapes on vines of 3, 4, 5, 6 and 7 years of age averaged 2.2 t/ha less than estimated by appraisal. At full development in 1987, wine grapes are expected to yield 14 t/ha, as estimated by appraisal.

Table Grapes

4.04 Actual production of table grapes to date was only 47% of appraisal's estimate primarily due to significantly lower yields per hectare on the young vines than was foreseen by appraisal. The vineyard specialist for the PU expressed the view that the appraisal yield estimates for young vines are too high, since for the production of first quality table grapes in later years it is necessary to permit the young vines to develop fully vegetatively at the expense of grape production in the early years. In the future, table grape production is expected to improve substantially. As with wine grapes, the rains adversely affected table grape production in 1984. Table grapes are expected to attain a yield of 16 t/ha at full development in 1987, which is in line with appraisal estimates.

Peaches

4.05 Incremental peach production and peach yields have exceeded the appraisal estimates. Out of the total annual production of peaches about 70% is of first quality peaches for export. Of the remaining 30%, about two-thirds is sold on the domestic market, and the rest is discarded. Full development of incremental peach production is expected in 1989, when yields are expected to reach 20 t/ha, compared to the appraisal estimates of 16 t/ha.

Sour Cherries

4.06 Thus far production of sour cherries has been far below expectations, mainly due to very low per hectare fruit yields on the young trees. The orchard specialists of the PU attribute the cause to extremely slow growth of the young trees; suspected diseased planting stock in the case of several varieties; and a bacterial disease which causes premature "fruit drop" before the fruit has ripened on the tree. About 80% of the trees have been affected by the disease, although differences in resistance to "fruit drop" have been noted among the 10 varieties in the plantation. Increased use of fungicides to control the disease is expected to reduce the problem once the trees are more fully developed in size. Yields of 12 t/ha are expected when the trees reach eight years old, and full development of incremental production is expected in 1990 rather than 1986, as estimated by appraisal.

Japanese Plums

4.07 Twenty five hectares, comprising seven varieties of Japanese plums, were planted on a pilot basis. Thus far production has been poor. Growth and development of the seedlings into young trees has been good, but at three years of age a severe yellowing and defoliation of leaves has occurred. Although research is under way, the cause has not as yet been identified. The PU intends to up-root the poorest varieties and substitute pilot plantings of hazel nuts.

B. Agronomic Practices and Inputs

Plantation Establishment

4.08 Land preparation consisted of deep plowing to a depth of 80 cm, and in those areas where conglomerate was present, subsoiling was included in order to loosen the soft, cemented horizon occurring at various depths in accordance with the appraisal recommendation. Land levelling was not required. Animal manure at the rate of 20-25 t/ha was mixed with soil in the planting holes. Grape vines were planted in rows spaced 2.60 m, with 80 cm between individual plants in the row. They were trained on wire trellises. Although the appraisal report had stipulated a spacing of 5 m x 5 m for peach trees, AK requested and the Bank approved a 4 m x 3.5 m spacing, which was claimed to be more suitable for the early varieties of peaches, and also it permitted the use of a palmeta training and pruning system. Sour cherries and plums were planted with a spacing of 5 m x 3 m.

4.09 Planting material consisted of grafted vine cuttings for grapes and seedlings for the fruit trees, except the first years planting of sour cherries (31 ha) in 1979, which was from grafts. The principal wine grape variety (1,050 ha) employed was "Vranac" on Richter 99 rootstock. It is indigenous to the region, extremely well adapted, and of deep dark color. Six other red and white varieties were used to a lesser extent. Kardinal was the main table grape variety. For peaches, the plantation included 25 different varieties, and for sour cherry and Japanese plum the numbers were 10 and 7, respectively.

Fertilizer and Plant Protection

4.10 The total amount of plant nutrients used each year for each species is shown in Annex 7, Table 4. A comparison between fertilizer rates (kg/ha) actually applied and the appraisal estimates is shown in the following table.

Fertilizer Usage - Available Nutrient Basis

	Nitrogen (N)				Phosphate (P205)				Potash (K20)			
	Grapes	Peaches	Cherries	Plums	Grapes	Peaches	Cherries	Plums	Grapes	Peaches	Cherries	Plums
	kg/ha				kg/ha				kg/ha			

ACTUAL

Initial rate

1st year	27	81	81	81	240	240	240	240	362	360	360	360
2nd year	54	108	81	81	80	100	100	100	122	150	150	150
Total	81	189	162	162	320	340	340	340	484	510	510	510

Annual rate

3rd year	108	108	108	108	100	100	100	100	150	150	150	150
4th year	108	108	108	108	100	100	100	100	150	150	150	150
Total	216	216	216	216	200	200	200	200	300	300	300	300

APPRaisal ESTIMATE

Initial rate

1st year	27	40	55	-	240	240	240	-	360	360	360	-
2nd year	27	60	60	-	80	80	80	-	120	120	120	-
Total	54	100	115	-	320	320	320	-	480	480	480	-

Annual rate

3rd year	54	80	80	-	40	50	50	-	60	75	75	-
4th year	108	108	108	-	70	80	80	-	105	120	120	-
Total	162	188	188	-	110	130	130	-	165	195	195	-

In all cases, the rates of fertilizer actually employed exceeded appraisal's estimates. In practice, the initial rates (1st and 2nd years) of N were 60% higher than estimated, and of P2O5 and K2O they were 4% higher. The annual rates (3rd and 4th years) exceeded appraisal's estimates by 20%, 60% and 60%, respectively. According to specialists in the PU, from the 5th year onward, about 5% more N was applied than in the 4th year, and for P2O5 and K2O the amount was about 40% less. PU specialists indicated that, in general, the highly porous nature of the soil necessitated the liberal use of fertilizer nutrients. No shortages of fertilizer were reported by the investor.

4.11 Over twenty different plant protection materials were normally used in controlling diseases, insects and weeds. Once established, the vineyards, sour cherries and plums usually received up to nine applications of different materials annually, while peaches received 11. There was no shortage of plant protection materials in 1984; however, in the earlier years the PU experienced some difficulty in obtaining the necessary chemicals on a timely basis.

C. Related Food Processing

Winery

4.12 The project provided for the construction of a winery by AK to process grape production from its new vineyards (1,306 ha actual), planted in Zone C of the Cemovsko Polje plain. According to the appraisal, the project was to finance a total processing capacity of 10 million litres, which was the calculated output of wine grape production corresponding to year 7, or about 80% of the total grape production at full development in year 10. The reason for this was to avoid idle capacity in the early years and then possibly in year 9 expand the winery, if necessary. In actuality, the winery was designed with a 15 million liter capacity, for which the Bank approved the tender specifications. The actual investment cost of the winery was Dinars 339.6 million compared to the appraisal estimate of Dinars 251.8 million, which represented the second lowest cost overrun of all the project components (35%).

4.13 The plant produces high quality (appellation contrôlée) red wine; quality red and white wine; loza brandy; and has bottling facilities for 60% of the annual production. The remaining 40% is either stored or sold in bulk. The investor is very satisfied with the entire physical implementation of the winery component, the quality of civil works, as well as the design, which combines the best features of traditional and modern technology for wine production. As a result, the high quality wine--"Vranac"--has won numerous international gold medals in recognition of its superior quality.^{1/} The loza brandy has also won international awards identifying it as one of the best quality brandies in Yugoslavia.

4.14 After beginning construction in early 1978 the winery was completed in time for trial production in 1980. Although the total capacity of the new winery is 15 million liters, the actual total usable capacity for primary processing in any given year is 10.5 million liters. The remaining capacity

^{1/} This reaffirms the conclusions reached in an extensive specialized consultant's report entitled "Cemovsko Polje Development Project, Montenegro Wine Marketing Mission", October 1, 1975.

is used for aging wine, holding fermentation stock, and blending and clarification of wine. Based on usable capacity, the winery is expected to reach full production capacity by 1986, despite a severe shortfall due to crop damages from the excessive rainfall in 1984, as described in para 4.03. 1/

4.15 Something which received very little attention in the appraisal report was the old winery of AK. It has been operating for 20 years and is, in fact, an integral part of the high quality "Vranac" wine bottled under this project. 2/ The "Vranac" wine processed by AK blends 40% of the wine processed from 400 ha of old vineyards coming through the old winery with 60% coming from production under the project's new vineyards and new winery. The combination of the two is vital to maintaining the standard high quality of "Vranac" wine--a detail which was not recognized during the appraisal. However, it does effect the financial/economic analysis of the project at least to the extent that wine processed from older vineyards is generally of better quality than from younger vineyards and can therefore command a higher price. This point will be further discussed in para 5.03 on financial analysis.

Cold Store and Packing Plant

4.16 The project also provided for the establishment of a 3,000 ton capacity cold store for handling fruit production from the new orchards (521 ha actual). It included a blast freezer (3.6 tons/hr capacity) and facilities for fruit and vegetable washing, grading and packing. The actual investment cost of this component was Dinars 140.0 million -- 60% higher than the appraisal report estimate of Dinars 86.9 million.

4.17 The cold store has four chambers of 750 tons each installed capacity. All four chambers have multi-temperature capabilities and three of the four are used as freezers, remaining at 18° below centigrade while the other chamber is at 0° centigrade. Although the facilities have been in operation since June 1982, the investor still has not officially certified its receipt, because the problems described in para 3.13 are still under court review. Consequently, the facilities are not able to operate at full capacity, which is estimated at 2,500 tons. By early 1986, the investor expects that the legal proceedings will have been concluded, the repairs completed, and the cold store/packing line to be operating at full usable capacity. The utilization of the cold store since June 1982 has been as follows:

<u>1/ Year</u>	<u>Capacity Utilization</u>	<u>Year</u>	<u>Capacity Utilization</u>
	<u>%</u>		<u>%</u>
1980	*	1984	24
1981	14	1985	92
1982	44	1986	100
1983	74		

* Trial production only.

2/ There is only one reference to the old winery in the SAR (Annex 4, para 50), which incorrectly describes its physical capacity as 2.6 million liters when it is actually 5.8 million liters.

Cold Store Utilization

	<u>Monthly Average Utilization</u>	<u>Utilization Based on Usable Capacity of 2,500 tons</u>
		<u>%</u>
1982	Minimum	6
	Maximum	35
	Average for the 6 months period	27
1983	Minimum	7
	Maximum	60
	Average for the year	32
1984	Minimum	36
	Maximum	100
	Average for the year	70

4.18 The cold store handles production from the WO Plantation, by packing and storing peaches, table grapes, and plums. The sour cherries are frozen and stored for three to six months. The largest part of the cold store's income currently comes from renting the facilities and space in the cold store chambers. Rental items include storage of meat, fish, and a variety of frozen fruits, and renting facilities, including labor for processing and freezing/storage of industrial bell peppers, as well as other fruits.

D. Marketing

4.19. The preparation and appraisal of the project devoted considerable attention to marketing--particularly wine marketing. During the early stage of project preparation in 1975, a very detailed study was carried out on the "Vranac" wine by a consultant, who was a well-known wine expert. The study is important for several reasons. It confirmed the high quality and uniqueness of "Vranac" wine, and pointed out the necessity of developing a marketing strategy which would have included the establishment of a marketing research unit 1/. Most of all, the results of the study were decisive in the Bank's decision to proceed with preparation of the project (para 2.07).

4.20 Although appraisal assumed most of the wine and fruit produced would be for the domestic market, the project was seen to have very strong export potential. The planting of the vineyards and orchards followed very high standards, and the modern technology employed in the processing establishments ensured excellent, "exportable" quality production. The results verify that

1/ In addition to establishing the quality of "Vranac" wine, the study goes on to assess domestic wine consumption patterns; Yugoslav wine export trends; and suggests certain marketing techniques without evaluating to any great extent the marketing methods prevalent in Yugoslavia and how to improve them.

the wine production is export quality 1/. However, it requires considerable time to develop export marketing expertise, particularly in such competitive international markets as those of wine and fresh fruit and vegetables, and possibly AK was slow in initiating these efforts, particularly for wine exports, since in the early years all the winery output was readily marketed domestically throughout Yugoslavia.

4.21 While the preparation and appraisal reports recognized the importance of "strong, aggressive" marketing, they did not assess whether the established marketing system in AK could meet the export challenge. The project did not include a component for sales promotion, training or the organization of an effective marketing unit. The present system does not seem to be equipped to handle the sales of such specialized items as high quality red table wine or even fresh peaches and table grapes. Steps recently taken to improve this situation are described in para 8.28.

4.22. The AK has 14 WOs producing products ranging from wine and fresh fruits to dairy, fish, and meat (Chart 2). There are three service organizations which perform common functions for all 14 WOs; namely, the internal banking service unit; common service unit; and the commercial purchases and sales unit. Each BOAL prepares a program of raw material requirements which it submits to its own umbrella WO. After review, the program is then forwarded to the commercial unit of AK, which purchases the requested supplies. This same unit is also responsible for finding potential buyers and actually delivering the final products.

4.23. It is difficult to know what overlap of responsibility and/or coordination of work exists between the BOAL, the WO and the commercial unit. The manager of the BOAL Winery, for example, is involved in all meetings and discussions with potential buyers. There is an internal Self-Management Agreement between the commercial unit and the WO Plantation authorizing the WO to carry out the decisions taken by the commercial unit regarding supplies, purchases and sales of goods produced by the BOALs which are associated with a particular WO. The present system needs to be reviewed and new, innovative ways need to be developed to assist the investor with its commercial activities.

4.24. The main international marketing intelligence sources for AK are the National Foreign Trade Bureau and the Yugoslav Embassy. Until recently, these contacts developed exports to Eastern Block countries, particularly the Soviet Union and Czechoslovakia. In 1984, small contracts were signed introducing "Vranac" wine into the United Kingdom and the United States. The following table shows the percentage share of sales which came from exports for the main exportable commodities produced under the project.

1/ "Vranac" wine has won several gold medals at international wine competitions and was accorded the "appellation controllee" distinction in 1976.

Project Export Sales

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
	(Percentage Share of Total Sales) <u>1/</u>			

Wine

"Vranac" high quality wine	-	-	1	87 <u>2/</u>
Quality wine <u>3/</u>	100	58	45	-
White wine	-	-	-	70 <u>4/</u>

Fruits 5/

Frozen Sour cherries	-	100	100	N/A
Table grapes	-	1	25	28
Peaches	5	5	35	42

-
- 1/ Annex 8, Table 1 shows the breakdown of wine production and sales in Yugoslavia. Annex 8, Table 2 shows the quantities and export destinations of peaches and frozen cherries for the years 1977-1981 for all Yugoslavia.
- 2/ 18% of the total export sales were to the West and the remainder went to East bloc countries.
- 3/ All exports were to the Soviet Union and Czechoslovakia.
- 4/ All Exports went to the Soviet Union.
- 5/ The fruits went to a variety of Western and Eastern markets, including West Germany, Austria, Czechoslovakia and the United Kingdom.

4.25. It is extremely difficult to enter the Western markets, but it is not impossible. Several Eastern European wines have done so with considerable success, particularly Premiat from Romania and Trakia Merlot from Bulgaria. The EEC has many restrictions on wine imports because several of its members are large wine producers. The United States is slightly less difficult and especially advantageous at this time due to the strength of the US dollar vis-a-vis the Dinar. Also, the domestic market for wine appears to be slackening with the severe downturn in the domestic economy in recent years, although there is only sketchy national data past 1982. It appears, therefore, that AK needs to concentrate its marketing efforts on non-EEC Western countries.

4.26. Fresh fruit and vegetable exports also face stiff competition from other Mediterranean countries and several EEC members. Because fresh peaches and table grapes are so fragile and the international market is so competitive, the export business requires considerable know-how, care and alertness to changes in market supply and demand. The present commercial unit does not appear to have the necessary personnel and/or training to carry out such a difficult task. The entire supply of frozen sour cherries is exported primarily to West Germany but because they have the stones, the investor receives a price which is 50% to 100% lower than if they were without stones. There are also some 20% losses due to damages of both peaches and sour cherries. To make use of this material, the investor has borrowed World Bank funds under the Montenegro Regional Development Project (Loan 2467-YU) to make frozen peach and sour cherry purees which have very good export prospects for

use in ice creams and fruit juices. Within the context of the Montenegro Regional Development Project, loan funds are provided for training in export marketing for the relevant staff of the participating social sector enterprises, including AK.

V. FINANCIAL RE-EVALUATION

5.01 The financial rates of return (FRR) have been recalculated taking into account the actual events which took place during project implementation. Revised estimates have been used for later years (1985-1988) based on the first four years experience. Full production of the vineyards is expected in 1987 in accordance with the appraisal estimate. Full production of the orchards comes in 1989 for peaches and 1990 for sour cherries compared to 1986, which was estimated at appraisal for both fruits.

5.02 All input and output prices have been evaluated in constant 1984 local currency values (Annex 9, Tables 1 and 2). Two FRRs have been calculated: one for the vineyards and winery (which represents 70% of the total project investment costs) and one for the orchards and cold store/packing line (which represents 30% of total project investment costs). A project cash flow has also been prepared combining the actual financing plan with the total investment, operating costs, and revenues from both subprojects.

A. Vineyards and Winery

5.03 The actual revenues for this subproject are the total wine and brandy sold each year from the production of the vineyards established under the project. The high quality "Vranac" wine produced from the new vineyards is blended with the high quality "Vranac" wine from the old vineyards and old winery (60% new to 40% old) in order to insure consistent quality and taste. This procedure was not foreseen by the appraisal. Because older vineyards generally produce higher quality wine, the blending of the two improves the over-all quality of the wine. The quantities from the old vineyards and winery have been omitted in order to include only the income/benefits coming from project investments. However, it is not possible to determine a unique price for wine produced from the new vineyards since all sales of high-quality "Vranac" wine is blended 1/. As in the appraisal model, the quantified costs include all investment and operating costs from the three components which make up the subproject; namely, (i) irrigation and infrastructure for 1,307 ha of wine grape vineyards; (ii) establishment and maintenance of the vineyards; and (iii) construction and operation of the new winery.

5.04 The re-estimated FRR is 5% compared to the appraisal estimate of 13%. The analysis of switching values indicates that the following changes would need to occur to bring the FRR to 12% (the estimated opportunity cost of capital): incremental revenues + 30%; operating costs - 37%; or the investment costs would have had to have been 63% lower. (Annex 9, Table 3). At the time of appraisal, the winery model was sensitive to a 10% increase in either investment or operating costs which brought the FRR down from 13% to 11%. A 10% decrease in revenues brought the FRR down to 10%.

1/ Theoretically this blended wine should command a higher price than wine produced solely from the new vineyards.

5.05 The reasons for the lower rate of return include the following:
(i) very high cost overruns (70% for the three components comprising this subproject), particularly for the planting and development of the vineyards;
(ii) delays in completion (although the winery was commercially operational in 1981, some 40% of remaining works were not fully completed until after 1982);
(iii) input prices such as fertilizers and pesticides have been increasing much faster than output prices for processed products, and the actual quantities were higher than anticipated by appraisal; (iv) domestic demand for wine and spirits has been somewhat stagnant in recent years due to the economic downturn in Yugoslavia; (v) the international demand has not compensated for the slack in domestic demand because the red wine market is extremely competitive, given the large number and size of red wine suppliers in both Eastern and Western countries; (vi) the commercial unit responsible for marketing is inexperienced in international trade; and (vii) "Vranac" wine is unknown and therefore, even though it is of high quality, has difficulty commanding a price comparable to the price received by wines of similar quality coming from France or California because of Yugoslavia's unfortunate reputation for lower quality, inexpensive table wines.

B. Orchards and Coldstore

5.06 The FRR for this subproject is based on actual investment and operating costs, and revenues generated. As in the appraisal model, the quantified costs include all investment and operating costs associated with the three components which make up the subproject; namely, (i) irrigation and infrastructure for 707 ha of orchards and table grapes; (ii) establishment and maintenance of the orchards and table grapes; and (iii) construction and operation of the coldstore and packing line. The revenues include the total sales of fruit which has been packaged, cooled or frozen and stored each year from the production of the 707 ha of orchards and table grapes. The re-estimated revenue stream also includes rental income which was not included in the appraisal analysis.

5.07 The addition of rental income is significant because it accounts for more than half of the total revenues accruing to the subproject and makes for more efficient use of the facilities. Production from the peach orchards and table grape vineyards remains in the coldstore no more than two days and only during the two to three week period of harvesting. The frozen sour cherries remain in the coldstore's freezer chambers for as long as six to eight months but the production to date has been quite low, and it has utilized only 10% of total available capacity during the months it is in storage.

5.08 The re-estimated FRR is 26% compared to the appraisal estimate of 17.7%. 1/ An analysis of the switching values indicates that the following changes would need to occur to bring the FRR down to 12%: incremental revenues -40%; incremental operating costs +115% (Annex 9, Table 4). The rental income is a large unanticipated benefit to the investment which significantly contributes to more efficient use of the facilities and a higher return.

1/ In order to compare the re-estimated FRR with the appraisal estimate, the model was run excluding rental income which gave an FRR of 11.5%.

C. Financial Performance of the Investor

5.09 The investor for the project is the "13 July" Agrokombinat (AK). Project implementation was carried out by the Work Organization (WO) Vinoprodukt Cemovsko Polje. Beginning in 1982, WO Vinoprodukt personnel and responsibilities have been merging into the WO Plantation which was reorganized to carry out the operations established under the project (paras 7.03-7.07).

5.10 The combined income/expense statements and balance sheet for WO Vinoprodukt and WO Plantation are presented in Annex 9, Tables 5 and 6. An assessment of these financial statements in the context of the project's related finances is difficult because WO Plantation's operations include several non-project related activities (i.e., plantations and processing facilities) which the completion mission was not able to review. Therefore, only limited conclusions can be drawn from the income/expense statement and balance sheet.

- (i) For the last two years (1982 and 1983) WO Plantation/WO Vinoprodukt has sustained a 5% net margin while improving the gross margin to 55% in 1983.
- (ii) After 1982, WO Vinoprodukt and WO Plantation began to merge and thereby strengthened their financial situation. The debt-equity ratio became more reasonable (3:1) and further improved to 2:1 in 1983. However, this is still somewhat high in view of the high risk associated with operations dependent on grape and fruit production.
- (iii) Moreover, WO Plantation faces short-term liquidity difficulties. The combined current assets of WO Plantation/WO Vinoprodukt covered only two thirds of their current liabilities in 1982, and this ratio worsened so that only half their current liabilities were covered by current assets in 1983.

5.11 WO Plantation/WO Vinoprodukt are only two of 14 WOs within AK. As the investor, AK is responsible for servicing all project related debts incurred by WO Plantation/WO Vinoprodukt. Annex 9, Tables 8 and 9 present the balance sheet and income/expense statement for AK which, as of 1983, appear satisfactory.

5.12 The completion mission prepared an indicative cash flow for all project related cash inflows and outflows, which are a part of WO Plantation/WO Vinoprodukt's total operations. This cash flow, which is prepared in a manner similar to the project cash flow prepared at the time of appraisal (Annex 9, Table 7), demonstrates the serious debt-servicing problems facing AK. The present cash flow is in current terms until 1984 and then in constant terms after 1984. The negative annual cash flow is more sustained than was anticipated at the time of appraisal for the reasons explained in paras 3.25-3.32 concerning the financing plan and project cost. The project cash flow estimated by appraisal was negative only in 1980 and 1982, which the appraisal report and Loan Agreement took into account by ensuring that additional concessional funds would be made available to AK for its estimated deficit in funds for debt repayment. The present net annual cash flow remains

negative until 1991 (except for 1984 when a large loan for reprogramming of debts was made available) and the cumulative cash flow reaches a negative total of Dinars 4.2 billion by 1991. 1/

5.13 The Republican and the Federal Governments have responded to the liquidity problems faced by AK (and many other enterprises in Montenegro and throughout Yugoslavia) by extending financial assistance to reprogram past loans and debt servicing obligations. 2/ In exchange for the concessional financing, the Federal Government requires that each enterprise facing financial difficulties prepare a rehabilitation program. In 1983/1984, AK was obliged to prepare a rehabilitation program for WO Vinoprodukt/WO Plantation. The one for the Federal Government dealt with proposed non-financial measures, and the other, a financial rehabilitation program, was submitted to IBT-UB. Annex 10 outlines the main points of the programs. IBT-UB and the Republican authorities monitor implementation of these programs.

5.14 In addition to the measures described in the rehabilitation program, the mission discussed with the managers of the common services unit other important areas which would help improve the financial performance of the enterprise. The investments made under the project were major undertakings for WO Vinoprodukt and WO Plantation. Even though, from a managerial point of view, it was advantageous to have the BOALs of WO Plantation manage all the production from the irrigation system, vineyards, orchards, winery and coldstore, from a financial point of view, the operating costs for the new investments should have been monitored separately. The operating costs and revenues attributed to the project's investments had to be separated from WO Plantation's other operations at the time of the PCR mission. Only by closely supervising the cost/revenues of these different operations, can the enterprise pinpoint the source of financial difficulties and anticipate problems with its new or old investments. For legal purposes, WO Plantation may wish to present its accounts in a unified manner for all its operations, but for internal financial management, accounts should be kept separately for the operating costs and revenues associated with old and new investments.

5.15 The Montenegro Regional Development Project (Loan 2467-YU) addressed the issue of cost accounting systems, which generally are a shortcoming in many social sector enterprises' financial management. The new loan provides a total of 250 man/months of training in the fields of cost accounting, financial management and export marketing, for which WOs in AK are eligible along with other WOs participating in the Regional Development Project. More recently in December 1984, the Bank offered its assistance to AK in undertaking a comprehensive review of its operations, including production,

1/ The rate of return calculations (5% for winery, and 26% for the cold store) are based only on returns to investments in Dinar equivalents. To finance the investment, AK contributed less than 5% equity and borrowed a total of US\$43.3 million in foreign exchange during a period when the dinar devaluation has had deleterious effects on AK's debt-servicing obligations. The estimated effective interest rate on the foreign borrowings comes to 45% per annum.

2/ The situation faced by AK was reviewed during a pre-negotiations mission for the Montenegro Regional Development Project. AK is one of the investors in that Project. At that time (September 1983) it was projected that AK would pay off its arrears by 1986.

marketing, financial and management aspects. The review is expected to culminate in an Action Program aimed at restructuring AK to make it competitive economically and to ensure its longer term economic and financial viability. This endeavor is similar to others in which the Bank is assisting in the Socialist Republics of Bosnia-Herzegovina and Macedonia. During a Bank mission in February 1985, the terms of reference for the review (Annex 11) were agreed with AK. The Agroeconomic Institute of AK is in charge of the review and already four highly qualified consultants from Yugoslavia have been hired to form teams to begin implementation of the review process.

VI. ECONOMIC IMPACT

A. Prices

6.01 Annex 9, Tables 1 and 2 compare financial and economic prices for inputs and outputs in constant 1984 terms for those commodities where both prices were available. The distortions between the two, in many of the years and especially for fertilizers, are very large. The ratio of financial to economic prices varies considerably between the three different active ingredients. For example, N, which is generally an export parity item for Yugoslavia depending on annual production, shows a sporadic divergence from 1.1:1 in 1978 and 1979 (2 years when Yugoslavia was exporting N based fertilizers) to 1.3:1 and 1.7:1 in 1981, 1982 and 1983, 3 years when Yugoslavia had to import N based fertilizer. The other two active ingredients, P2O5 and K2O show a wider price divergence as they moved from 3.8:1 in 1978 to 2.8:1 in 1984, respectively. Part of the reason for these distortions appears to be acute domestic shortages of particular chemicals. These ingredients could not be imported due to foreign exchange shortages, which in turn caused the demand and therefore prices of certain fertilizers to escalate at the enterprise level.

6.02 The output prices from the project followed a similar trend as that of the input prices, but the initial distortions were never so large as in the case of the fertilizer prices. For three items, peaches, high quality "Vranac" wine and white wine, the economic prices actually rose higher than domestic prices by 1984. Over-all, input prices increased much faster than did output prices. In fact, WO Plantation cites this as one of the principal reasons for losses during the period 1977-1984 in the section on "Causes for Losses" in the Stabilization Report which was presented to IBT-UB. The Initiating Project Brief for the Agricultural Inputs Loan highlights "unpredictable pricing policies which make little attempt to maintain parity (a) with world prices (b) between prices of relative outputs, and (c) between prices of inputs and outputs," as one major constraint hindering the agricultural sector. It is important that the pricing policy issue be systematically reviewed throughout Yugoslavia in view of its effects on this and perhaps other projects. 1/

1/ The conversion factors will also need to be re-assessed because of recent financial and economic developments affecting the exchange rate and prices in Yugoslavia vis-a-vis the rest of the world.

B. Benefits

Incremental Production

6.03 The total incremental production of peaches, 5,841 tons by 1984, surpassed the appraisal estimate of 5,400 tons, while the incremental production of wine grapes was 83% of appraisal estimates, mainly because of rain damage in 1984. Incremental production of sour cherries and wine grapes was considerably below appraisal estimates (para 4.01). Actual wine production compared to appraisal estimates is as follows:

	Wine Production						
	1980	1981	1982	1983	1984	1985	1990
	million liters						
Appraisal	2.34	4.75	7.74	9.56	9.56	9.56	9.56
Actual	.63	1.56	4.45	7.49	2.00	9.84	11.30
% of APR	26	33	57	78	21	103	118

There is a slower build-up from 1980 through 1983 and a sharp fall in 1984 due to the severe rain damage. The actual production surpasses appraisal estimates in the later years because the appraisal assumed some of the wine grapes would be sold as table grapes due to limited capacity of the factory. However, the factory was eventually built to 15 million liter total capacity.

Employment

6.04 The project's contribution to employment was substantial. About 600 new jobs were created as a direct result of the project compared to the 630 permanent jobs expected at the time of appraisal. In addition, there is also increased employment of seasonal labor which, in fact, posed difficulties due to shortages of seasonal workers in Montenegro. Sizeable indirect employment opportunities were generated as a result of plantation establishment investments which were carried out by one of the BOALs within WO Plantation.

Foreign Exchange Effect

6.05 Most of the incremental production due to the project has been used to satisfy local consumption needs. At appraisal, it was estimated that the project would generate about US\$100 million in foreign exchange through increased exports. The project has not been particularly successful in generating foreign exchange. For example estimated foreign exchange earnings for 1984 are only about US\$1.5 million, however several products--especially the wines--do have the potential to become significant export earners for the country (para 4.24).

C. Economic Analysis

6.06 Quantifiable benefits include (i) incremental benefits from the production, processing and sale of wine and fruit from the vineyards and orchards; and (ii) savings and reduction of losses from the processing/packing line and cold store. Costs quantified include all investment and operating costs, excluding transfer payments such as taxes and subsidies. The outputs of wine, peaches, frozen sour cherries and table grapes and the inputs of fertilizer have been priced as tradeables based on their border equivalent values or the actual ex-factory export prices received, whichever was applicable. The investment costs have been adjusted by the specific

conversion factors applicable in each year. After deriving the rates of return for the subprojects and phasing their participation in the project, the aggregate economic rate of return (ERR) is re-estimated at 15% compared to the 17.3% appraisal estimate. 1/ (Annex 12).

VII. INSTITUTIONAL PERFORMANCE AND DEVELOPMENT

A. Institutional Design and Performance and Institution Building

Investicione Banks Titograd - Udruzena Banks (IBT-UB)

7.01 The Bank loan was channelled through IBT-UB, which on-lent to the implementing agency and investor, AK. IBT-UB's existing IBRD Operations Unit was responsible for administering and supervising the project. At the time of appraisal this unit was staffed by five economists. For agricultural related activities, the Unit drew on the expertise of specialists from the bank's Technical Group. However under the project, one experienced agriculturalist and one senior credit officer were added to the IBRD Operations Unit. In accordance with the Loan Agreement (Section 3.02), the credit officer was appointed on schedule by September 1, 1977; however, the agriculturalist's appointment was delayed until December 1977. A supervision and monitoring system, acceptable to the Bank, was in place by March 1, 1978, in accordance with the Loan Agreement (Section 3.03). These staff additions greatly enhanced the effectiveness of the IBRD Unit.

7.02 As a continuing effort in institution building, the IBRD Unit of IBT-UB is being strengthened further under several Industrial Credit Projects (particularly the Seventh Industrial Credit Project, Loan 2340-YU) and the recent Montenegro Regional Development Project (Loan 2467-YU). Although full implementation of the institution building actions under Loan 2340-YU has suffered delays, the IBRD Unit has been upgraded to full divisional status and the staff increased to 11. Training in project appraisal, financial analyses and supervision skills in line with the Bank's procedures is being offered and will be intensified in the future under both the Seventh Industrial Credit Project and the Regional Development Project. To further this effort, IBT-UB recently appointed a senior officer as Training Coordinator, as a condition of Board presentation for the Regional Development Project. In addition, each basic bank of IBT-UB participating in this project is required to appoint an agricultural credit officer to its staff, as a condition of loan effectiveness.

1/ The ERR for each sub-project was not presented in the appraisal report. The PCR mission has estimated the ERRs as follows:

Vineyards and Winery 8.0%
Orchards and Cold Store 28%

The economic rate of return calculated at appraisal did not estimate the savings and losses which are attributed to the use of the cold store and packing facilities by local individual farmers and other BOALS and Work Organizations.

The Project Unit (PU)

7.03 A Project Unit (PU) was created on January 22, 1977 as an Organization of Associated Labor within AK for implementation of the project in accordance with the Loan Agreement (Section 7.01 a) and as a condition of loan effectiveness. The name of the PU was WO Vinoprodukt Cemovsko Polje, and it became the tenth WO within AK at that time. Currently there are 14 WOs within AK, as shown in the organization diagram (Chart 2). Three BOALs were created under the PU; namely, one each for project planning and technical preparation; project implementation; and common services. By September 1, 1977 and in accordance with the Project Agreement (Schedule 2) the PU had assigned eight qualified and experienced staff, including irrigation engineers, agronomists and specialists in procurement. By end-1977, the staff number had increased to 16, including the addition of lawyers, economists, financial analysts and a wine expert.

7.04 Also, in accordance with Schedule 2 of the Project Agreement, AK established an Executive Committee to develop operating policies and procedures for guiding and supervising the project and to manage institutional coordination. The Committee comprised 10 individuals, of which five were from the PU and five from key management positions within AK. The Committee served an important function in decision-making and problem-solving. To carry out its responsibilities, it met officially a total of 67 times during project implementation.

7.05 The PU was generally effective in carrying out its responsibilities of physical project implementation and technical supervision, particularly as staff gained experience and confidence in dealing with contractors. Some of the key staff from this PU have now transferred to the new PU which has been established for assisting sub-borrowers in the technical supervision of project implementation under the new Regional Development Project (Loan 2467-YU).

7.06 As part of the planned strategy, as each phase of the irrigation and plantation subsystem was completed, it was gradually transferred to another WO in AK, called WO Plantation, which had existed for many years prior to the project for the purpose of operating AK's existing vineyards, orchards, cold store and winery. An interesting aspect of this strategy was that the same people responsible for plantation establishment later assumed responsibility for their exploitation. By 1982, all the subsystems had passed to WO Plantation, at which time it was reorganized into three BOALs; namely, vineyards and orchards; winery; and common services. Over time, as the staff of WO Plantation increased, the staff of the PU decreased. The following table illustrates this point:

Dynamics of Staff in the Project Unit

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
<u>Nc. of staff</u>	16	23	35	52	42	41	9	5	0

The large number of 52 in 1980 is due to the vigorous recruitment of young staff for training to eventually become operators of the plantations and processing facilities in production under the WO Plantation.

7.07 Unfortunately, the accounting records for operating the plantations, cold store and winery in WO Plantation did not distinguish between project-financed investments and those of AK's own former investments in these three activities. Consequently, AK was unable to monitor the operation of these investments properly. For purposes of the PCR, it was only through the laborious task of reviewing original invoices, that it was possible to determine the operating costs for the project's investments.

7.08 The WO Plantation is a typical example of the 45 or so WOs in the SRM concerned with production, processing and trade of food commodities. Generally, all are organized and managed in a similar manner. Operations are divided along product lines within separate Basic Organizations of Associated Labor (BOAL). The common functions; such as, administration, accounting and legal assistance are provided by a common services group within each WO. As mentioned in para 7.03 and shown in Chart 2, AK now has 14 affiliated WOs; therefore there are 14 common service groups. In addition, there are three umbrella units at the AK level over the 14 WOs; namely, commercial, internal bank, and common services. The efficiency of this type of organizational structure is questionable since many similar functions such as accounting, transporting, marketing, and advertising are fragmented in many BOALs and the three umbrella units, which could lead to excessive operating costs and unclear accountability for overall efficiency and profitability of the WOs and/or BOALs (para 8.08).

B. Support Services

7.09 The major support service to individual farmers in the context of this project was AK's provision of five permanent collection centers through two BOALs for Cooperation with Individual Farmers, within the WO Cooperation of AK. These centers, consisting mostly of reconditioned modest structures and open receiving patios strategically located throughout Zone B of the Cemovsko Polje, have served the important dual function of providing a market place for farmers' produce and assuring the supply of raw material for AK's project-financed cold store. At the same time, the farmers have had access to technical assistance, credit, and farm inputs; such as, seeds, fertilizers, plant protection materials and small tools--mainly through marketing contracts with the two BOALs. The source of credit to individual farmers has been the three Agricultural Credit Projects (Loans 1129-YU, 1477-YU and 1801-YU), and the "Green Plan" (a Bank-assisted agricultural development plan for individual farmers). Of the 2,500 individual farmers in Zone B, 1,200 have long-term contracts with these two BOALs and 135 are full time cooperants. As described in para 3.14, the project has supported research in grape and tree fruit production. The results of this effort have not only directly benefited the investor, but also the individual farmers in Zone E, through the advisory service provided by the two BOALs for Cooperation with the Individual Farmers.

C. Performance of the Bank

7.10 Supervision of the project was generally adequate. Missions had appropriate technical specialists and staff continuity. As early as nine months after loan effectiveness, missions began to raise concern over cost overruns of the early investments and recommended a series of measures to the Borrower and investor, which included: (i) avoiding over-design of irrigation works (well diameter, pipe size, and transformer and pump capacities); (ii) making larger contracts; and (iii) promoting keener competition for local procurement. This effort resulted in some cost savings, which otherwise would not have occurred, particularly with respect to the irrigation system.

7.11 However, once the investment period had past, supervision missions could have paid closer attention to the operating phase, responsibility for which passed from the PU to the WO Plantation. At this stage, the expertise of a financial analyst during supervision may have been beneficial.

7.12 Despite the fact that an existing winery of 5.8 million liter capacity had been operating for over 10 years at the time of project appraisal, there was no assessment of its technical or financial condition included in the appraisal report. Such an analysis may have enhanced the appraisal of the new winery which was being proposed for financing, and provided a directly relevant case study on the suitability of the then established management and marketing systems for wine production.

7.13 Project appraisal adequately dealt with and supported the latest technology in both primary production and its related processing; however, it failed to recognize the need to provide assistance to the investor in marketing the project's output, particularly wine for export. This would have been beneficial when local demand fell off due to the unanticipated decline in real per capita income and would have also helped to service the large foreign debt.

7.14 Quarterly Progress Reports included information on the physical progress of project implementation; scheduling of delivery of equipment and supplies; and contract costs. However, it would have been useful to have also required the Borrower to provide, annually, information on production costs and output from the plantation, winery, and cold store in order to monitor project benefits from the time production began.

VIII. CONCLUSIONS AND RECOMMENDATIONS

A. Overview

8.01 The project's physical and institution building goals were achieved. They included the installation of a sprinkler irrigation system for establishment of 2,000 ha total of vineyards and deciduous orchards; related infrastructure; construction of a winery and cold store to handle the incremental grape and fruit production; and the addition of two high-level staff to the Borrower's IBRD Unit and creation of an improved supervision and monitoring system. The overall physical implementation of the project was essentially completed on schedule by end-1982, as envisioned by appraisal.

8.02 While the physical goals were met, the project is experiencing considerable difficulties in achieving several of its main objectives, i.e., to increase exports and the income of the investor. The main reason is the absence of a dynamic marketing system and strategy in the investor's organization; there is also a need to improve financial planning and controls.

8.03 The feasibility studies for the project were technically sound, and the investor was well qualified to implement the project's investments since they involved works and activities with which the investor already had many years of experience. In addition, it was the positive results of the investor's own research, prior to the project, that provided the basis for establishing the new plantations on a commercial scale in the previously unutilized Cemovsko Polje plain.

8.04 The investor was effective in mobilizing and staffing the Project Unit to administer the project. As the project approached completion, staff were reduced accordingly and transferred to an operational unit (Work Organization) responsible for managing the investments on a commercial basis.

8.05 Total project cost in current Dinars was 76% above the appraisal estimate--mainly due to the high rate of domestic inflation, which resulted in severe price escalation particularly for those components whose completion was delayed until the later years of project implementation.

8.06 The re-estimated financial rate of return for the vineyard-winery subproject dropped to 5%, compared to the appraisal estimate of 13%--mainly because of cost overruns and disparities between input and output prices. The orchard-cold store financial rate of return was 26% compared to appraisal's estimate of 17.7%--mainly due to the re-estimated revenue stream which included rental income, which was not envisioned by appraisal. The re-estimated economic rate of return of the project is 15% compared to the appraisal estimate of 17.3%.

8.07 The cash flow for the total project demonstrates the liquidity problem of the investor in that the annual cash flow remains negative until 1991 (except for 1984 when a large loan for reprogramming of debts was made available). The appraisal estimated project cash flow was negative only in 1980 and 1982, which the project took into account by ensuring that additional concessional funds would be made available to the investor for its estimated debt-servicing requirements. However, over and beyond this requirement, the high cost overrun created a situation where even more financing was needed, and unfavorable conditions of the additional financing further aggravated the investor's financial problems.

B. Lessons Learned

Lessons Learned

8.08 The completion of this project has afforded an insight into a typical investment in the field of agroindustry, which lends support to the findings of the appraisal of the Montenegro Regional Development Project, as well as the concerns emerging from a recent Bank review of several agroindustries in the Socialist Republics of Bosnia-Herzegovina and Macedonia. Three major weaknesses have been identified; namely, (i) organizational inefficiencies,

whereby, many similar functions are carried out by several different units; (ii) lack of financial controls^{1/}; and (iii) inadequate marketing skills, particularly in export marketing. It is felt that the functional changes required to improve the organizational efficiency can be accommodated within the current system of self-management. As a result, the Regional Development project provides financing for an in-depth analysis of the organization and management (with recommendations) of two principal WOs participating in the project, by experienced internationally recruited consultants. In addition, the project provides a total of 250 man/months of training, including courses in cost accounting, financial management and export marketing for the financial and marketing managers and assistants of the participating social sector enterprises. Also, during a Bank Country Implementation Review mission to Montenegro in December 1984, the investor, with support from IBT-UB and the Republic authorities, agreed to undertake a comprehensive review of its existing production, marketing, financial, and management practices with the objective of developing an action program to enhance its commercial operation. The Bank is assisting the Montenegrins in developing this action program.

8.09 In view of the inadequate financial control system within the kombinat for its affiliated work organizations, and the associated bank's weak financial monitoring of its sub-borrowers, the preparation of annual estimated cash flows at the enterprise level (WOs and BOALs) in addition to financial audits should be considered^{2/}. This would provide early signals in case of a deteriorating situation within an enterprise, particularly during the investment stage of the project's development.

8.10 Improvement in the financial discipline of social sector enterprises has been stressed recently in Yugoslavia's stabilization program and only recently in the Bank's lending strategy to that country. In its financial evaluation of the investor, the appraisal mission reviewed balance sheets and income statements without assessing the actual management capability (financial, marketing or otherwise) of such a large integrated operation as AK. In the future, an analysis of an institution's credit-worthiness would not be sufficient unless accompanied by an assessment of the organization and managerial operations of the enterprises. Moreover, the investor was only required to provide five percent of total project cost (Bank financed projects now require at least 20% participation), and IBT-UB was required by the Loan Agreement to finance any cost overruns. The data and calculations prepared by the appraisal showed that the investor would experience a cash flow deficit estimated at US\$18 million between 1982 and 1987--a deficit which was covered in the Loan Agreement through financing from SKM with concessionary terms similar to the Federal Funds.

1/ The Borrower has indicated disagreement with points (i) and (ii) (Annex I); however, the aspects on organizational efficiency and financial control referred to in these points are among the findings of reviews other than this PCR, and it is the Bank's view that the situation at AK corroborates these findings.

2/ The Borrower advises that appropriate action in this regard will be taken after completion of the analysis being carried out under the Montenegro Regional Development Project (Annex I).

8.11 In retrospect, it would have been appropriate to require the Borrower to submit to the Bank an annual update of the total estimated project expenditures in Dinars taking into account the effects of inflation on costs, along with a supporting financing plan. In this way, it would have been possible to monitor project costs critically and to provide the basis for the necessary financial planning to support the project on a timely basis. Concerning the financing required beyond that agreed at negotiations, the Bank should have ensured that it was kept informed on the terms and conditions of the subloans to the investors. Based partly on the experience gained in this project, annual project cost and financing plan updates are now requirements of the Borrower in the last four agricultural projects in Yugoslavia (Loans 2161-YU, 2306-YU, 2307-YU, and 2467-YU). Also, recent agriculture projects include a provision for a mid-term review of project progress, including an analysis of costs, benefits, and financial viability of the investments.

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AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

List of Wells and Characteristics

<u>Well Construction Phase</u>	<u>Well No.</u>	<u>Net Area ha</u>	<u>Depth in</u>	<u>Diameter mm</u>	<u>Discharge l/sec</u>	<u>Completion Date</u>
I	-	40	64.5	600	128 /1	Existing
I	6	87	75.5	600	85	4/23/78
I	7	74	79.3	600	85	4/23/78
II	2	97	68.8	500	85	5/15/79
II	3	90	69.0	500	85	5/15/79
II	8	113	77.0	600	85	5/15/79
II	9	103	68.5	500	85	5/15/79
II	10	115	71.2	500	85	5/15/79
III	14	119	63.0	500	85	8/06/79
III	15	112	74.5	500	85	5/25/80
III	17	97	60.5	500	85	5/25/80
III	18	124	64.5	500	85	5/25/80
III	12	104	70.5	500	85	5/25/80
III	11	110	70.5	500	85	5/25/80
III	13	118	66.5	500	85	5/25/80
IV	4	118	64.5	500	85	12/20/80
IV	16	83	60.5	500	85	12/20/80
IV	19	128	75.5	500	85	12/20/80
V	-	28	-	-	-	Existing
Total	21 20	154 2,014	74.5	500	85	12/20/80

/1 Of which 28 l/sec is used for 40 ha.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Comparison of Actual Plantation Establishment with Appraisal Estimates

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u> ha	<u>1981</u>	<u>1982</u>	<u>Total</u>
<u>Wine Grapes</u>							
Appraisal	-	200.0	300.0	400.0	400.0	-	1,300.0
Actual	40.0	/1	200.0	302.0	412.0	298.6	1,306.6
<u>Table Grapes</u>							
Appraisal				100.0	100.0	-	200.0
Actual				51.0	135.0	-	186.0
<u>Peaches</u>							
Appraisal			100.0	100.0	-	-	200.0
Actual			97.0	39.0	78.3	-	214.3
<u>Sour Cherries</u>							
Appraisal			100.0	100.0	100.0	-	300.0
Actual			31.0	97.0	153.8	-	281.8
<u>Japanese Plums /2</u>							
Appraisal				-	-	-	-
Actual				18.0	-	7.3	25.3
<u>Total per Year</u>							
Appraisal	-	200.0	500.0	700.0	600.0	-	2,000.0
Actual	40.0	200.0	448.0	599.0	673.0	54.0	2,014.0
<u>Accumulative Total</u>							
Appraisal	-	200.0	700.0	1,400.0	2,000.0	-	2,000.0
Actual	40.0	240.0	688.0	1,287.0	1,960.0	2,014.0	2,014.0

/1 At the request of AK, the Bank approved inclusion in the project area of 40 ha of grapes, which were established in early 1977, prior to loan effectiveness.

/2 Pilot planting of seven plum varieties to substitute, in part, for lack of cherry seedlings in 1979 due to frost damage, and also for experimental purposes.

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECTMATERIALS AND EQUIPMENTITEM LISTPHASES OF EQUIPMENT ACQUISITIONAgricultural and Transport Equipment

	No. of Units Estimated	Total Investment Cost		
		Appraisal Estimate	Actual	Balance Dissarge
I. <u>Plantations</u>				
Tractor - caterpillar	2	3	1,720,000	6,326,351
Plough for deep ploughing	2	2	420,000	529,187
Tractor - 45 hp to till up	51	32	7,691,700	12,032,974
Trailer - 3 tons to 7 tons	1	14	1,323,000	1,321,388
Disc plough	2	2	131,000	213,996
Plough for seedbed preparation	2	1	182,000	175,159
Auger	2	2	61,800	36,292
Small disc plough	7	1	96,500	-
Plough	7	5	66,400	350,400
Machine for seeding green manure	7	1	130,500	-
Cultivator	35	36	523,000	2,516,440
Blower	46	10	250,000	266,100
Fertilizer machine	16	16	266,000	145,190
Vineyard plough	15	27	447,500	1,321,461
Disc plough for green manure	14	1	465,500	-
Machine for pruning vines	15	7	132,200	935,065
Machine for grinding vines	15	3	1,159,500	225,604
Platfrom for picking fruit	2	2	326,000	369,000
Atomizer 1,000 l to 1,500 l	25	25	3,000,750	2,302,167
Sprayer 0.5 l	10	10	-	181,533
Sprayer for herbicides	10	7	30,000	25,200
Machine for eliminating leaves	1	1	-	168,451
Shovel	1	1	-	1,439,350
Ladder with cab	1	1	-	85,712
Mobile workshop	1	1	-	423,594
Van to transport field workers	1	1	-	1,705,661
Van & small car for land distribution to field	1	1	-	407,483
Lift truck	1	1	-	617,327
Trailer for tractor fuel	1	1	-	162,400
Machine for making holes	1	2	-	1,815,412
Combine for harvesting grapes	1	1	-	4,266,057
Minor implements	1	1	20,170	371,426
Spare parts	1	1	945,150	3,182,972
Plastic bags	1	1	1,200,000	-
Scissors	1	1	20,900,900	26,457,293

II. Vinery

Forker truck

Flas truck

Pick-up

Lift truck

Small car

Subtotal

1,020,000	-
720,000	-
290,000	-
2,030,000	1
467,327	467,327

III. Warehouse

Lift truck

Pick-up

Subtotal

360,000	417,327
280,000	-
640,000	1
417,327	417,327

Total

26,457,293	26,457,293
26,457,293	1

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Investment Costs: Appraisal vs Actual

<u>Irrigation Facilities</u>	<u>Appraisal /1</u> -----'000 Din-----	<u>Actual /2</u>
<u>Head Works</u>		
Well drilling and casing	4,081.9	18,184.0
Civil works	26,750.9	15,069.0
Pump units and hydro-mechanical equipment	14,425.7	18,862.0
Transformers and electrical equipment	10,399.1	16,254.0
Power lines	4,201.8	35,434.0
Subtotal	<u>59,859.4</u>	<u>103,803.0</u>
<u>Main Pressure and Distribution Lines</u>		
Pipes and fittings	44,083.7	44,649.0
Hydraulic equipment	4,625.8	4,953.0
Subtotal	<u>48,709.5</u>	<u>49,602.0</u>
<u>Irrigation Equipment</u>		
Subtotal	<u>115,611.3</u>	<u>179,544.0</u>
Engineering - Admin. - Superv.	<u>11,674.9</u>	<u>13,071.0</u>
Working Capital	<u>30,141.3</u>	<u>-</u> /3
Total	<u>157,427.5</u>	<u>192,615.0</u>
	=====	=====

/1 Based on irrigating 700 ha from groundwater and 1,300 ha from Lake Skadar.

/2 Based on revised design irrigating entire area from groundwater.

/3 Included under vineyard and orchard investment costs.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Investment Costs: Appraisal vs Actual /1

	<u>Appraisal</u> -----'000 Din-----	<u>Actual</u>
<u>Vineyards /2</u>		
Fertilizer	15,211.9	64,239.6
Plant protection	2,130.9	42,569.1
Animal manure	17,475.5	31,123.1
Seeds for green manure	3,433.8	-
Planting material	76,181.3	72,218.4
Trellis	93,074.2	158,130.4
Machinery and equipment	16,372.2	148,784.3
Labor	48,622.5	172,804.0
Subtotal	<u>272,512.3</u>	<u>689,868.9</u>
Administration-supervision	12,133.7	34,054.9
Working capital	75,733.1	22,500.0
Total Vineyards	<u>360,379.1</u>	<u>746,423.8</u>
<u>Orchards /2</u>		
Fertilizer	5,074.1	22,220.7
Plant protection	710.4	14,806.0
Animal manure	5,825.4	10,824.9
Seeds for green manure	1,144.6	-
Planting material	15,398.8	17,614.8
Machinery and equipment	5,457.6	51,748.5
Labor	16,208.0	60,102.7
Subtotal	<u>49,818.9</u>	<u>177,317.6</u>
Administration-supervision	4,044.7	11,844.6
Working capital	25,245.0	4,000.0
Total Orchards	<u>79,108.6</u>	<u>193,162.3</u>
Grand Total Plantations	<u>439,487.7</u>	<u>939,586.0</u>
	=====	=====

/1 Investment costs cover a period of two Project Years, including the year of establishment. Also, the SAR (Annex 5, Table) states that O&M costs for the first five years have been treated as investment costs; however, the investment cost tables in the SAR do not include these costs, presumably due to an oversight. The actual investment costs do include these O&M costs.

/2 Vineyards: Appraisal = 1,500 ha; Actual = 1,492.6 ha
Orchards : Appraisal = 500 ha; Actual = 521.4 ha
Total : Appraisal = 2,000 ha; Actual = 2,014.0 ha

AGRICULTURE AND AGROINDUSTRIES PROJECT

MONTENEGRO

LOAN 1360-YU

PROJECT COMPLETION REPORT

Investment Costs : Appraisal vs Actual

I. Cold Store

	<u>Appraisal</u>	<u>Actual</u>
	-----'000 Dinars-----	
Building and Civil Works	27,702.0	37,761.8
Installations	16,389.3	55,345.3
Imported Equipment	15,606.5	23,390.0
Transport Vehicles	1,223.6	2,216.9
Engineering	5,975.6	14,841.0
Collection Center	2,868.3	-
Import Duties	5,559.1	6,474.0
Working Capital	11,624.6	-
 TOTAL	 86,949.0	 140,029.0

II. Winery

Building and Civil Works	56,598.0	48,998.0
Installations	7,818.0	100,201.0
Foreign Equipment	110,071.0	126,364.0
Domestic Equipment	3,822.0	13,855.0
Engineering	17,830.0	21,615.0
Import Costs	25,603.0	28,632.0
Working Capital	30,078.0	-
 TOTAL	 251,820.0	 339,665.0

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Investment Cost: Appraisal vs Actual

<u>Infrastructure</u>	<u>Appraisal</u> -----'000 Din-----	<u>Actual</u>
<u>Road System</u>		
Macadam roads	6,053.4	41,316.1
Bridge on river Cjierna /1	<u>8,315.0</u>	<u>-</u>
Subtotal	<u>14,368.4</u>	<u>41,316.1</u>
<u>Farm Centers</u>		
Buildings	4,822.7	36,316.1
Sheds	12,487.6	20,212.2
Equipment /2	<u>-</u>	<u>5,434.3</u>
Subtotal	<u>17,310.3</u>	<u>61,962.6</u>
Admin.-Supervision	<u>2,534.3</u>	<u>4,258.3</u>
Total	<u>34,213.0</u>	<u>107,537.0</u>

/1 At the request of the Investor, the Bank agreed to delete construction of this bridge from the project on May 13, 1983.

/2 Equipment for canteen and workshop.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Investment Costs

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u> '000 Din	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>Total</u>
Irrigation Facilities	1,772	18,914	51,529	71,233	32,456	6,292	6,439	3,980	192,615
Plantations /1	20,916	41,951	89,695	166,292	214,414	205,648	170,420	76,019	985,355
Infrastructure	62	4,654	5,239	1,261	33,095	15,046	4,650	43,530	107,537
Winery	277	1,344	86,799	166,276	35,938	23,230	3,985	21,816	339,665
Cold Store	<u>125</u>	<u>395</u>	<u>25,734</u>	<u>54,159</u>	<u>35,755</u>	<u>18,487</u>	<u>2,434</u>	<u>2,940</u>	<u>140,029</u>
Total - Actual	23,152	67,258	258,996	459,221	351,658	268,703	187,928	148,285	1,765,201
Percent of Total Realized Each Year	1.3	3.8	14.7	26.0	20.0	15.2	10.6	8.4	100
Total - Appraisal	33,111	221,889	388,443	199,051	153,937	2,783	0	0	1,001,214
Percent of Total Planned Each Year at APR	3.5	22.2	38.7	19.9	15.4	0.3	0	0	100

/1 Includes agricultural and transportation equipment and O&M costs during the first five years..

YUGOSLAVIAAGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECTMONTENEGROLOAN 1370-YUPROJECT COMPLETION REPORTLending Terms

Source	Appraisal Estimate				Source	Actual			
	Repayment* Period	Grace Period	Interest Rate	Interest During Construction		Repayment Period	Grace Period	Interest Rate	Interest during Construction
(i) IBRD	15	3	9.0	Capitalized	(i) IBRD	15	3	9.0	Capitalized
(ii) IBT-UB	5**	3	8.0	Not Capitalized	(ii) IBT-UB*	8	3	8.0	Capitalized
(iii) Federal Funds	20	3	5.0	First Year	Cost overrun credit*	7	2.5	LIBOR+1.25**	Not Capitalized
					Kuwait Fund*	4.5	3	LIBOR+1.25**	Not Capitalized
					(iii) Federal Funds	20	3	5.0	Capitalized
					Additional funds	12	3	5.0	Capitalized
					(iv) Suppliers Credit	3.5	-	12.0	Not Capitalized
					Credit to Reprogram				
					(v) Debt payments	5	-	8.0	-

* Including grace period

** The appraisal assumed 8 year repayment
 but according to AK July 13, IBT-UB
 did not agree to 8 year repayment
 period until 1981.

* AK July 13 had to absorb the foreign exchange risk on these loans and the
 Dinar devalued 5 fold since 12/81.

** 1.25% above LIBOR works out to: 5/81-17.7%; 11/81-20.5%; 12/82-15.4%;
 12/83-11.25%; 10/84-11.5%; forecast - 16%.

YUGOSLAVIA

AGRICULTURE AND AGROINDUSTRIES PROJECT

MONTENEGRO

LOAN 1360-YU

PROJECT COMPLETION REPORT

Financing of Debt Rescheduling and Working Capital Loans as of October 1984

<u>I. Debt Rescheduling Sources</u>	<u>Amount</u>	<u>Dinars</u>	<u>Repayment Period</u>	<u>Grace Period</u>	<u>Interest Rate</u>	<u>Interest during Construction</u>
	<u>Million</u>					
1. IBT-UB (1983) 1/	400		Semiannual	-	8%	-
2. Federal Funds (1983)	100		12 Months	3 Years	5%	Capitalized
3. Reprogramming 2/ Credit (1983)	300		5 Months	-	8%	-
<u>II. Working Capital Loans (9/84) 3/</u>	<u>600</u>		<u>Within 6 Months</u>	-	<u>25% 4/</u>	-

1/ Foreign Exchange Risk borne by AK 13 July.

2/ Includes Federal, Republic and Earthquake Funds

3/ Includes 9 separate loans from the past 8 months from 5 different local banks or financing institutions.

4/ Weighted average for the 9 loans.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Actual and Appraisal Cumulative Disbursements

<u>IBRD Fiscal Year and Quarter</u>	<u>Actual Disbursements</u>	<u>Appraisal Estimate</u>
	US\$'000	
FY 1977		
3rd Jan-Mar	-o-	100
4th Apr-Jun	-o-	200
FY 1978		
1st Jul-Sept	100	316
2nd Oct-Dec	200	839
3rd Jan-Mar	500	2,101
4th Apr-Jun	900	3,363
FY 1979		
1st Jul-Sept	1,300	4,626
2nd Oct-Dec	1,600	5,890
3rd Jan-Mar	1,800	8,165
4th Apr-Jun	3,500	10,440
FY 1980		
1st Jul-Sept	5,600	12,715
2nd Oct-Dec	7,400	14,990
3rd Jan-Mar	10,200	16,195
4th Apr-Jun	13,100	17,400
FY 1981		
1st Jul-Sept	15,300	18,605
2nd Oct-Dec	16,200	19,811
3rd Jan-Mar	17,300	20,862
4th Apr-Jun	18,000	21,913
FY 1982		
1st Jul-Sept	18,800	22,964
2nd Oct-Dec	18,900	24,016
3rd Jan-Mar	21,500	24,885
4th Apr-Jun	21,700	26,000
FY 1983		
1st Jul-Sept	22,700	-
2nd Oct-Dec	23,400	-
3rd Jan-Mar	23,400	-
4th Apr-Jun	23,400	-
FY 1984		
1st Jul-Sept	24,960	-
2nd Oct-Dec	24,960	-
3rd Jan-Mar	25,980 /1	-

/1 An undisbursed balance of US\$0.02 was cancelled on March 30, 1984.

YEMENIAANNEX 7AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECTMONITORINGLAW 130-HPRODUCT COMPLETION WORKDynamics of Vineyard and Orchard Establishment and Related Production

Age of Vines & Trees in Years	1977 /A		1978 /B		1979 /C		1980 /D		1981 /E		1982 /F		1983 /G		1984 /H		
	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	
<u>Vine (grape)</u>																	
1	40,0	40,0	200,0	30,0	412,0	-	-	208,6	-	-	56,0	-	-	56,0	-	-	
2	40,0	40,0	200,0	30,0	412,0	3,2	3,2	402,0	1,036,0	3,4	612,0	2,187,0	5,3	208,6	1,553,0	1,5	
3	40,0	40,0	200,0	30,0	432,0	1,036,0	1,036,0	200,0	1,080,0	5,4	302,0	2,793,0	9,2	162,0	1,672,0	3,6	
4	40,0	40,0	200,0	30,0	432,0	8,5	200,0	1,080,0	200,0	1,080,0	9,0	302,0	2,793,0	11,7	162,0	1,672,0	7,5
5	40,0	40,0	200,0	30,0	432,0	8,5	200,0	1,080,0	200,0	1,080,0	9,0	302,0	2,793,0	11,7	162,0	1,672,0	6,7
6	40,0	40,0	200,0	30,0	432,0	8,5	200,0	1,080,0	200,0	1,080,0	9,0	302,0	2,793,0	11,7	162,0	1,672,0	6,7
7	40,0	40,0	200,0	30,0	432,0	8,5	200,0	1,080,0	200,0	1,080,0	9,0	302,0	2,793,0	11,7	162,0	1,672,0	6,7
8	40,0	40,0	200,0	30,0	432,0	8,5	200,0	1,080,0	200,0	1,080,0	9,0	302,0	2,793,0	11,7	162,0	1,672,0	6,7
Subtotal	51,0	-	135,0	-	-	-	-	135,0	-	-	51,0	35,0	0,7	135,0	230,0	-	
Total grapes	51,0	-	51,0	-	-	-	-	51,0	-	-	51,0	257,0	5,1	51,0	211,0	6,2	
Subtotal	51,0	-	106,0	-	106,0	-	106,0	-	106,0	-	106,0	327,0	-	106,0	242,0	-	
<u>Pear</u>																	
1	97,0	97,0	-	-	76,3	-	-	76,3	-	-	-	-	-	-	-	-	
2	97,0	97,0	-	-	97,0	512,4	5,5	97,0	1,280,0	11,3	97,0	1,280,0	2,6	76,3	203,0	2,7	
3	97,0	97,0	-	-	97,0	1,280,0	11,3	97,0	1,280,0	11,3	97,0	1,280,0	8,9	76,3	203,0	10,0	
4	97,0	97,0	-	-	97,0	1,280,0	11,3	97,0	1,280,0	11,3	97,0	1,280,0	11,3	76,3	203,0	10,0	
5	97,0	97,0	-	-	97,0	1,280,0	11,3	97,0	1,280,0	11,3	97,0	1,280,0	11,3	76,3	203,0	10,0	
6	97,0	97,0	-	-	97,0	1,280,0	11,3	97,0	1,280,0	11,3	97,0	1,280,0	11,3	76,3	203,0	10,0	
Subtotal	31,0	97,0	-	-	153,0	-	-	153,0	-	-	153,0	-	-	153,0	-	-	
Total cherries	31,0	97,0	-	-	31,0	-	-	31,0	-	-	31,0	10,0	0,6	97,0	-	-	
Subtotal	31,0	128,0	-	-	281,0	-	-	281,0	-	-	11,0	52,0	1,7	97,0	111,0	1,1	
Japanese Plum	14,0	14,0	-	-	7,0	-	-	7,0	-	-	7,0	-	-	7,0	7,0	-	
Subtotal	14,0	14,0	-	-	14,0	-	-	14,0	-	-	14,0	18,0	1,0	18,0	18,0	1,0	
Acerola	14,0	14,0	-	-	25,3	-	-	25,3	-	-	25,3	18,0	0,0	25,3	21,0	-	
Acerola Total (Ha)	40,0	260,0	562,0	1,005,0	1,436,0	521,0	-	1,436,0	1,492,0	521,0	1,492,0	1,492,0	1,492,0	1,492,0	1,492,0	1,492,0	
Grand Total (Ha)	40,0	260,0	686,0	1,287,0	1,965,0	-	-	-	2,016,0	-	2,016,0	-	2,016,0	-	2,016,0	-	

^{1/1} At the request of AK, the Bank approved the initiation of 40 ha of grapes in the project area, which were established in late 1976 and early 1977.^{1/2} In 1979, 40 ha of three year old vines mentioned above produced 170 tons of grapes, or about 4.2 t/ha.^{1/3} Established from grafts rather than seedlings.^{1/4} Pilot planting of seven different varieties.

YUGOSLAVIA
AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
LOAN 1370-YU
PROJECT COMPLETION REPORT

Annual Production from Vineyards and Orchards

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991-95</u>
tons															
<u>Wine Grapes</u>															
Appraisal /1	-	-	-	1,200	3,600	7,300	11,900	14,700	16,600	17,800	19,200	18,200	18,200	18,200	18,200
Actual	-	-	170	972	2,404	7,200	11,530	9,837	15,873	17,824	18,230	18,230	18,230	18,230	18,230
% of appraisal	-	-	-	81	67	99	97	67	96	100	100	100	100	100	100
<u>Table Grapes</u>															
Appraisal /1	-	-	-	-	-	600	1,600	2,500	3,100	3,200	3,200	3,200	3,200	3,200	3,200
Actual	-	-	-	-	-	35	527	724	2,400	2,655	2,925	2,925	2,925	2,925	2,925
% of appraisal	-	-	-	-	-	6	33	29	77	83	91	91	91	91	91
<u>Peaches</u>															
Appraisal /1	-	-	-	-	300	900	1,600	2,600	3,200	3,200	3,200	3,200	3,200	3,200	3,200
Actual	-	-	-	-	532	1,300	1,584	2,425	3,600	4,030	4,114	4,309	4,387	4,387	4,387
% of appraisal	-	-	-	-	174	144	99	93	112	126	128	135	137	137	137
<u>Sour Cherries</u>															
Appraisal /1	-	-	-	-	200	700	1,500	2,500	3,300	3,900	3,900	3,900	3,900	3,900	3,900
Actual	-	-	-	-	-	18	52	204	800	1,192	2,056	2,620	3,184	3,444	3,444
% of appraisal	-	-	-	-	0	3	3	6	24	31	53	67	82	88	88
<u>Japanese Plums</u>															
Appraisal /1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Actual	-	-	-	-	-	11	18	23	35	42	56	56	56	56	56

/1 Annex 5, Table 14 SAR.

/2 The PU estimated a production of 14,880 t just prior to the rain damage.

YUGOSLAVIAAGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECTMONTENEGROLOAN 1370-YUPROJECT COMPLETION REPORTComparison of Actual Yields with Appraisal Estimates

	Age of Grape Vines and Fruit Trees in Years					
	3	4	5	6	7	8
	t/ha					

Wine Grapes

Appraisal /1	6.0	9.0	11.0	13.0	14.0	14.0
Actual						
1979	4.2	-	-	-	-	-
1980	3.2	8.5	-	-	-	-
1981	3.4	5.4	7.2	-	-	-
1982	5.3	9.2	9.0	10.5	-	-
1983	5.2	8.9	11.2	12.2	12.9	-
1984	3.0	5.6	7.4	8.7	9.7	9.5
Average	4.0	7.5	8.7	10.5	11.3	9.5

Table Grapes

Appraisal /1	6.0	10.0	15.0	16.0	16.0	16.0
Actual						
1982	0.7	-	-	-	-	-
1983	2.0	5.0	-	-	-	-
1984	-	3.8	4.2	-	-	-
Average	1.4	4.4	4.2	-	-	-

Peaches

Appraisal /1	3.0	6.0	10.0	16.0	16.0	16.0
Actual						
1981	5.5	-	-	-	-	-
1982	2.6	12.4	-	-	-	-
1983	2.6	3.0	11.0	-	-	-
1984	-	3.0	10.0	18.6	-	-
Average	3.6	7.8	10.5	18.6	-	-

Sour Cherries

Appraisal /1	2.0	5.0	8.0	12.0	13.0	13.0
Actual						
1982	-	0.6	-	-	-	-
1983	-	-	1.7	-	-	-
1984	-	-	1.1	3.0	-	-
Average	-	0.6	1.4	3.0	-	-

Japanese Plums /2

Actual	-	0.6	-	-	-	-
1982	-	0.6	-	-	-	-
1983	-	-	1.0	-	-	-
1984	-	0.7	-	1.0	-	-
Average	-	0.7	1.0	1.0	-	-

/1 Assuming establishment in PY 1./2 Pilot planting of seven varieties.

YUGOSLAVIA

ANNEX 7
Table 4

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Total Fertilizer Use by Years - Total Available Nutrient Basis

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986 onward</u>
										<u>total kg</u>

Vineyards

N	1,080	7,560	23,274	54,729	95,445	134,612	160,995	166,266	168,394	168,664
P205	9,640	51,440	92,982	160,045	194,601	139,036	126,554	109,060	91,716	89,556
K20	14,480	77,280	139,724	240,450	292,349	208,797	189,858	163,596	137,574	134,334

Peaches

N	-	-	7,857	13,635	21,030	23,144	23,629	23,824	23,824	23,824
P205	-	-	23,280	19,060	32,392	21,430	17,550	15,990	15,990	15,990
K20	-	-	34,920	28,590	48,588	32,145	26,325	23,985	23,985	23,985

Sour Cherries
and Plums

N	-	-	3,969	11,826	26,198	28,817	33,412	33,897	33,897	33,897
P205	-	-	11,760	32,980	53,264	30,710	28,750	24,870	24,870	24,870
K20	-	-	17,640	49,470	79,896	46,065	43,125	37,305	37,305	37,305

Total by years

N	1,080	7,560	35,100	80,190	142,673	186,573	218,036	223,987	226,115	226,385
P205	9,640	51,440	128,022	212,085	280,257	191,176	172,854	149,035	132,576	130,416
K20	14,480	77,280	192,284	318,510	420,833	287,007	259,308	224,886	198,864	195,624

AGRICULTURE AND AGROINDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Wine - Production and Sales in Yugoslavia

(In 000 hl)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
1. Total Production	6,297	5,880	6,742	8,173	6,887	8,576	7,877
2. Industrial Production	1,612	2,323	2,968	3,761	3,122	4,429	-
3. Private Sector Production	4,685	3,557	3,775	4,412	3,765	4,147	-
4. Net Foreign Trade	(733)	(756)	(989)	(1,064)	(1,326)	-	-
- Export	777	824	1,071	1,124	1,326	1,534	1,407
- Import	44	68	82	60	0	-	-
5. Apparent Domestic Consumption	5,790	5,560	5,786	6,030	5,850	6,330	-

1 hl = 100 liters.

Source: Statistical Annual Yearbook of Yugoslavia for 1975-1984 and the Industrial-Statistical Bulletin for 1975-1984.

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Fruit Export from Yugoslavia - Quantities and Destinations
 (In tons)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
<u>Peach</u>		<u>232</u>		<u>390</u>	<u>220</u>	<u>651</u>	<u>3,545</u>
Austria		<u>232</u>		<u>107</u>	<u>120</u>	<u>24</u>	<u>127</u>
Czechoslovakia		-		<u>283</u>	<u>100</u>	<u>606</u>	<u>3,410</u>
Greece		-		-	-	-	-
German Federal Republic		-		-	-	-	-
France		-		-	-	<u>13</u>	-
Saudi Arabia		-		-	-	<u>8</u>	-
Switzerland		-		-	-	-	<u>8</u>
<u>Frozen Sour Cherry</u>		<u>3,124</u>		<u>3,891</u>	<u>5,863</u>	<u>7,904</u>	<u>23,577</u>
Austria		<u>344</u>		<u>416</u>	<u>717</u>	<u>813</u>	<u>1,302</u>
Belgium and Luxemburg		<u>122</u>		-	<u>40</u>	<u>246</u>	<u>238</u>
France		<u>39</u>		<u>112</u>	<u>20</u>	<u>130</u>	<u>42</u>
Netherlands		<u>630</u>		<u>692</u>	<u>1,232</u>	<u>1,308</u>	<u>1,903</u>
Italy		<u>90</u>		<u>284</u>	<u>165</u>	<u>353</u>	<u>687</u>
German Federal Republic		<u>1,052</u>		<u>1,973</u>	<u>3,123</u>	<u>4,186</u>	<u>11,271</u>
Spain		-		-	-	-	-
Great Britain		<u>846</u>		<u>355</u>	<u>462</u>	<u>615</u>	<u>1,386</u>
Switzerland		-		<u>58</u>	<u>60</u>	<u>81</u>	<u>63</u>
Greece		<u>20</u>		-	-	-	-
Czechoslovakia		-		-	<u>18</u>	-	-
Denmark		-		-	<u>20</u>	<u>19</u>	<u>6</u>
Sweden		-		-	<u>5</u>	-	<u>40</u>
German Democratic Republic		-		-	-	<u>130</u>	<u>127</u>
Norway		-		-	-	<u>24</u>	<u>11</u>
USSR		-		-	-	-	<u>6,304</u>
Lichtenstein		-		-	-	-	<u>197</u>
<u>Fresh Grapes</u>	<u>5,738</u>	<u>5,497</u>	<u>5,375</u>	<u>4,017</u>	<u>5,000</u>	<u>12,056</u>	<u>7,586</u>
Austria	<u>3,882</u>	<u>2,552</u>	<u>2,123</u>	<u>2,168</u>	<u>2,410</u>	<u>3,298</u>	<u>3,098</u>
Czechoslovakia	<u>1,168</u>	<u>1,370</u>	<u>2,219</u>	<u>1,293</u>	<u>1,800</u>	<u>7,893</u>	<u>4,426</u>
Denmark	<u>17</u>	-	-	-	-	-	-
France	<u>14</u>	-	-	-	-	-	-
Hungary	<u>243</u>	<u>99</u>	<u>290</u>	<u>108</u>	-	-	-
Norway	<u>18</u>	-	-	-	-	-	-
Poland	<u>261</u>	<u>1,459</u>	<u>415</u>	<u>315</u>	<u>673</u>	<u>384</u>	-
Sweden	<u>102</u>	-	<u>49</u>	<u>54</u>	<u>1</u>	<u>16</u>	<u>27</u>
Cyprus	<u>32</u>	-	-	-	-	-	-
German Federal Republic	-	<u>17</u>	<u>55</u>	<u>65</u>	<u>84</u>	<u>30</u>	<u>36</u>
Netherlands	-	-	<u>224</u>	<u>15</u>	<u>17</u>	-	-
Greece	-	-	-	-	<u>14</u>	-	-
Bulgaria	-	-	-	-	-	<u>26</u>	-
German Democratic Republic	-	-	-	-	-	<u>410</u>	-

Source: Foreign Trade Statistics of Yugoslavia, 1983.

1/ No data available for peaches and frozen sour cherries for the years 1975 and 1976.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

FINANCIAL AND ECONOMIC INPUT PRICES

Constant 1984 Dinars/ton 1/

<u>Fertilizer</u>	1978		1979		1980		1981		1982		1983		1984	
(100% active ingredient)	FINANCIAL	ECONOMIC												
Nitrogen (N)	53,000	46,386	53,353	49,745	59,261	58,990	79,800	61,139	78,808	46,280	64,953	41,144	50,810	50,180
Phosphate (P2O5)	100,769	35,380	103,823	44,465	91,087	55,422	113,857	46,174	106,383	42,445	115,384	43,422	93,500	45,071
Potash (K2O)	67,154	17,565	69,235	20,428	60,739	26,858	75,914	27,287	70,915	21,190	76,923	16,886	62,330	21,905
<u>Pesticides</u>	156,923	-	152,647	-	117,782	-	207,229	-	158,681	-	367,692	-	360,220	-
<u>Herbicides</u>	-	-	-	-	-	-	-	-	233,617	-	261,538	-	296,710	-

1/ Financial prices have been deflated by the Producer's Price Index from Section 112-2, 1983 Statistical Yearbook of Yugoslavia. Economic prices have been converted to Dinars by the prevailing dollar exchange rate in 1984 and deflated by the MIV Index of the bi-annual EPD Primary Commodities Price Forecast, World Bank, July 1984.

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

DOMESTIC AND EXPORT OUTPUT PRICES

Constant 1984 Dinars 1/

	1981		1982		1983		1984		1985	
	Domestic	Export /2	Domestic	Export	Domestic	Export	Domestic	Export	Domestic	Export
I. Winery										
1. High Quality Vranec	189.4	-	163.5	151.4	142.6	121.2	167.9	182	168	172
2. Quality Vranec	-	65.6	70.9	65.5	77.5	36.6	53.0	-	53	-
3. White Wine	-	-	-	-	101.8	-	93.4	126	94	100.0
4. Loza	430.0	-	377	-	265	-	218.5	-	220	-
II. Cold Store										
1. Table Grapes	-	-	62.1	27.3	57.0	38.2	70.0	40	70	40
2. Peaches	64.3	38.3	56.4	48.8	52.0	50.5	55	73	55	73
3. Frozen Sour Cherries	-	-	-	165.2	-	76.3	71.0	-	71	-
4. Plums	-	-	85.1	-	63	-	48.0	-	48	-

1/ Output prices used in the financial analysis are a weighted average of the domestic and export prices converted to 1984 constant Dinars.

2/ Export prices are based on the dollar equivalent converted to 1984 constant Dinars. For purposes of the economic analysis, economic prices for those items and years where actual ex-factory export border prices are not available, are calculated by applying the consumption conversion factor to the financial prices. The standard conversion factor was 0.9 from 1977-1980, and 0.7 in 1981, and 0.75 in 1982. The conversion factors will need to be reviewed and updated in view of the sharp movement in exchange rates during 1983 and 1984.

INVESTMENT COSTS												
PROJECTED INVESTMENT - FINANCIAL ANALYSIS												
PROJECTED INVESTMENT - FINANCIAL ANALYSIS												
1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988-2001												
INVESTMENT COSTS												
FOREIGN OWNERSHIP	39827.7	21140.8	14837.8	128140.7	24884.5	89270.0	31803.5	79376.0	84865.1	21613.0		
DOMESTIC OWNERSHIP	93860.0	110330.0	314500.0	665400.0	689278.8	184052.5	31803.5	79376.0	84865.1	21613.0		
TOTAL INVESTMENT COSTS	63502.7	131680.8	389427.8	613500.7	839333.7	248833.5	31876.5	79376.0	84865.1	21613.0		
OPERATING COSTS	-	-	-	-	48373.8	122826.6	394427.7	38976.5	38930.0	38887.0	39971.0	393981.0
TAXES & CONTRIBUTION	-	-	-	-	19800.0	4271.4	2100.8	18987.7	19398.0	19394.0	14655.0	14131.0
TOTAL INCOME	-	-	-	-	139837.1	31821.3	255841.5	325211.0	321928.0	315100.0	285120.0	203235.0
NET INCOME	-	-	-	-	-	-	-	-	-	-	-	-
NET DEPRECIATION	-33502.7	-131680.8	-389427.8	-613500.7	-839333.7	-248833.5	-31876.5	-79376.0	-84865.1	-21613.0	-293512.0	-210722.0
SWITCHING VALUES AT 12%												
STRENGTH	APPRAISAL VALUE	SWITCHING VALUE	PERCENTAGE CHANGE									
8. INCOME	2. 819.888.70	3. 524.304.20	24.99%									
C. INVENTORY	1. 273.105.76	370.480.25	-95.26%									
C. OPERATOR	2. 179.028.16	1. 474.452.53	-32.34%									
C. TRADEDEF	70.120.30	-634.495.20	-1.004.87%									
MDV @ 12% = 704.615.9												
MDV @ 12% = 704.615.9												
CEER = 9%												
IRR = 5.4%												

ANNEX 9
TABLE 3

YUGOSLAVIA

AGRICULTURE & AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO LOAN 1970-YU

COLD STORAGE INVESTMENT - FINANCIAL ANALYSIS

PROJECT COMPLETION REPORT

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988-2001
INVESTMENT COSTS	1064.7	33580.9	137687.1	246439.0	225740.7	115487.0	109444.2	51498.0	-	-	-	
OPERATING COSTS	-	-	-	-	88262.9	121300.9	228966.2	211185.0	213320.0	213320.0	213320.0	213320.0
TAXES & LEGAL OBLIGATION	-	-	-	-	1440.0	3905.1	8232.3	8915.0	8915.0	8915.0	8915.0	8915.0
GROSS INCOME	-	-	-	-	33345.7	193438.3	242289.2	506588.0	818787.0	870113.0	751608.0	776868.0
NET BENEFIT	-7064.7	-33580.9	-137687.1	-246439.0	-263115.4	-96847.4	-104313.4	234992.0	396532.0	493878.0	529974.0	594431.0

January 20, 1985 10:28

Internal Rates of Return of Net Streams

R INCOME 26.11%

83

SWITCHING VALUES AT 12%

STREAM	APPRAISAL VALUE	SWITCHING VALUE	PERCENTAGE CHANGE
R INCOME	8,347,701.05	1,503,866.38	-46.97%
C INVEST	560,113.68	1,004,066.25	86.37%
C OPERATE	900,094.64	1,051,000.52	116.95%
C FAACDEF	35,567.66	1,018,462.53	2,832.46%
TOTAL COSTS	1,503,866.38	2,347,701.05	69.42%

NPV @ 12% = 1,043,064.7

IRR = 26.1%

CERR = 22.3%

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Balance Sheet

WO Vinoprodukt and WO Plantation
(Dinars '000)

	<u>1977</u>	<u>1980</u>	<u>1981</u>	<u>1982 1/</u>	<u>1983 1/</u>
A. Assets					
Liquid Assets	55	1,162	12,217	290,868	338,264
Inventories	3	2,512	23,129	305,790	527,282
Other S-T Assets	20	1,575	1,885	198,342	138,782
Current Assets	78	5,249	37,231	795,000	1,004,328
Long-Term Receivables	7,955	187,678	227,312	308,986	330,971
Net Fixed Assets	17,994	828,793	1,372,968	2,497,167	4,016,314
Common Consumption and other Assets	151	657	1,008	46,431	68,294
Total Assets	26,178	1,022,377	1,638,519	3,647,584	5,419,907
B. Liabilities					
Short-term Loans	-	4,127	4,127	462,678	503,243
Trade Payables	-	-	2,900	26,617	60,019
Other Short-term Liabilities	2,945	171,145	305,290	725,051	1,231,593
Current Liabilities	2,945	175,272	312,317	1,214,346	1,794,855
Long-Term Loans	23,082	832,713	1,297,096	1,798,250	2,321,075
Business & Reserve Funds (Equity)	-	13,735	28,098	551,788	1,170,262
Common Consumption Funds	151	657	1,008	82,199	133,714
Total Liabilities	26,178	1,022,377	1,638,519	3,646,583	5,419,907
ANALYSIS					
(a) Current Ratio, Assets/Liabilities	.02:1	.03:1	.11:1	.65:1	.55:1
(b) Total Debt as % of Total Assets	88%	81%	79%	62%	52%
c) Debt/Equity	0	61:1	46:1	4:1	2:1

1/ Combined for WO Vinoprodukt and WO Plantation for 1982 and 1983
For the years 1977, 1980, 1981, WO Vinoprodukt only.

YUGOSLAVIA

ANNEX 9
Table 6

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Income and Expense Statement

WO Vinoprodukt and WO Plantation
(Dinars '000)

	<u>1977</u>	<u>1980</u>	<u>1981</u>	<u>1982 2/</u>	<u>1983 2/</u>
A. Income					
Revenues	1,654	22,904	72,388	526,488	666,762
Subsidies	-	-	-	-	-
Total Revenues	1,654	22,904	72,388	526,488	666,762
B. Costs					
Operating Costs	352	8,069	33,458	275,633	293,589
Depreciation	161	4,305	10,590	23,283	101,572
Taxes & Contribution	75	850	10,034	93,053	77,050
Interest	-	-	-	11,694	23,505
Gross Salaries 1/	1,066	9,640	18,120	98,752	136,777
Total Costs	1,654	22,864	72,202	502,415	632,493
A-B	0	40	186	24,073	34,269
C. Funds					
Business Fund	-	-	-	15,213	19,824
Reserve Fund	-	40	186	8,859	14,443
Analysis					
(a) Gross Margin <u>(revenue-operating costs)</u>	78%	64%	54%	47%	55%
revenue					
(b) Net Margin <u>(revenue-all costs)</u>	0	0.1%	0.2%	4.5%	5.1%
revenue					

1/ Including funds allocated for common consumption.

2/ The years 1977, 1980, 1981 are for Vinoprodukt only; 1982 and 1983 combine WO Vinoprodukt with WO Plantation.

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

YUGOSLAVIA

MONTEVIDEO LOAN 1370-YU

FINANCIAL CASH FLOW ^{1/}

('000 DINARA)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994		
CASH INFLOW																				
RETURN	-	-	-	60544.0	221069.0	323785.0	939004.0	1020047.0	1291213.0	1534929.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0			
CVN FUNDS	-	17570.0	27940.0	2779.0	1263.0	-	459.0	-	-	-	-	-	-	-	-	-	-	-		
IIRD LOAN	3232.0	24934.0	109175.0	205257.0	87543.0	176278.0	183152.0	127422.0	-	-	-	-	-	-	-	-	-	-		
FIP LOAN	20249.0	47045.0	77411.0	87818.0	5146.0	-	-	1219.0	-	-	-	-	-	-	-	-	-	-		
IBT LOAN I	-	-	67231.0	178116.0	69723.0	83341.0	9421.0	6990.0	-	-	-	-	-	-	-	-	-	-		
SID ROW REL.	-	-	-	4579.0	410.0	-	-	-	-	-	-	-	-	-	-	-	-	-		
IBT LOAN II	-	-	-	-	234003.0	55487.0	3820.0	11975.0	-	-	-	-	-	-	-	-	-	-		
IBT LOAN III (KUWAIT)	-	-	-	-	-	4210.0	41039.0	-	-	-	-	-	-	-	-	-	-	-		
COMMERCIAL CREDIT	-	-	-	-	-	4976.0	7379.0	-	-	-	-	-	-	-	-	-	-	-		
GOVERNMENT OF MONTEVIDEO PROGRAM OF THE LOANS	-	-	-	-	-	-	-	400000.0	-	-	-	-	-	-	-	-	-	-		
AK LOANS	-	-	-	-	-	226253.0	282425.0	751675.0	760181.0	675435.0	-	-	-	-	-	-	-	-		
UNPAID ANNUITIES LOANS	-	-	-	-	-	31029.0	-	13705.0	-	-	-	-	-	-	-	-	-	-		
INTEREST INCOME	-	-	-	-	-	31917.0	51775.0	167553.0	265474.0	276162.0	-	-	-	-	-	-	-	-		
TOTAL CASH INFLOW	23401.0	74601.0	271387.0	553438.0	774243.0	1004385.0	1612531.0	254924.0	1675482.0	1291213.0	1534929.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0			
CASH OUTFLOW																				
INVESTMENT COSTS	23152.0	67258.0	258996.0	457221.0	351458.0	268703.0	187926.0	148285.0	-	-	-	-	-	-	-	-	-	-		
OPERATING COSTS	-	-	-	11821.0	67041.0	2304931.0	370833.0	594193.0	404215.0	706417.0	776095.0	801452.0	811483.0	815764.0	815764.0	815764.0	815764.0	815764.0		
TAXES	-	-	-	495.0	2092.0	11577.0	17600.0	22451.0	22221.0	22839.0	23340.0	23400.0	23401.0	23728.0	23728.0	23728.0	23728.0	23728.0		
SUB-TOTAL	23152.0	67258.0	258996.0	471537.0	426721.0	311231.0	584441.0	764929.0	421438.0	723454.0	779435.0	825252.0	835144.0	837472.0	837472.0	837472.0	837472.0	837472.0		
LOANS																				
LOAN REPAYMENTS	-	-	-	31374.0	49973.0	126279.0	219619.0	347564.0	637912.0	819348.0	1637834.0	1115798.0	960718.0	765194.0	444864.0	350196.0	117134.0	31231.0		
REPAYMENT PAID BY RESCHEDULING	-	-	-	-	-	117545.0	178333.0	603100.0	444770.0	443100.0	-	-	-	-	-	-	-	-		
SUB-TOTAL	-	-	-	31374.0	107519.0	304432.0	822719.0	992076.0	1242312.0	819348.0	1637834.0	1115798.0	960718.0	765194.0	444864.0	350196.0	117134.0	31231.0		
INTEREST PAYMENTS																				
INTEREST LONG TERM LOANS	329.0	6743.0	12391.0	45023.0	43813.0	163997.0	179544.0	344444.0	590320.0	573729.0	471283.0	374900.0	253179.0	164411.0	87233.0	35143.0	14912.0	8332.0		
INTEREST SHORT TERM LOAN	-	-	-	393.0	2769.0	16379.0	28747.0	53187.0	91223.0	105323.0	111623.0	113520.0	114123.0	114123.0	114123.0	114123.0	114123.0	114123.0		
INTEREST PAID BY RESCHEDULING	-	-	-	106710.0	164072.0	151575.0	124611.0	72335.0	-	-	-	-	-	-	-	-	-	-		
SUB-TOTAL	329.0	6743.0	12391.0	45416.0	177292.0	224360.0	357044.0	523844.0	743878.0	679022.0	464704.0	486420.0	347302.0	278534.0	203376.0	149264.0	129035.0	122455.0		
TOTAL CASH OUTFLOW	23401.0	74601.0	271387.0	546347.0	765331.0	1042223.0	1767026.0	2200497.0	2612626.0	2221856.0	2442177.0	2474769.0	2143184.0	1943222.0	1709734.0	1344754.0	1087441.0	972176.0		
ANNUAL CASH FLOW	-	-	-	-	-	-12709.0	-11200.0	-37830.0	-154475.0	240575.0	-917144.0	-730443.0	-955248.0	-749564.0	-903202.0	-223320.0	-27632.0	332748.0	572241.0	466724.0
CUMULATIVE CASH FLOW	-	-	-	-	-	-12709.0	-23997.0	-61835.0	-216310.0	52245.0	-844879.0	-1795322.0	-2790770.0	-3454338.0	-3733426.0	-4156740.0	-4156772.0	-3633824.0	-3241583.0	-2374839.0

^{1/} The cash flow analysis is only indicative. It is in current terms until 1984 and then in constant terms after 1984 because it would be too difficult to estimate both the effects of inflation on income and operating costs and the effects of foreign exchange devaluations on the repayment of foreign loans. The cash inflows include 3 foreign loans: IIRD US\$26 million which, when converted to Dinara, averaged out to an exchange rate of Dinara 35: US\$1; IBT (Foreign Credit) US\$16.3 million, exchange rate of 16.7 Dinara:US\$1; and Kuwait Fund US\$1.0 million, exchange rate of 43.3 Dinara:US\$1. The exchange rate has moved from Dinara 180:US\$1 in October 1984 (the time of the PCR) to Dinara 210:US\$1, by March 1985.

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

YUGOSLAVIA

MONTENEGRO LOAN 1370-YU

FINANCIAL CASH FLOW

('000 DINARD)

	1995	1996	1997	1998	1999	2000	2001
CASH INFLOW							
RETURN	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0
OWN FUNDS	-	-	-	-	-	-	-
IBRD LOAN	-	-	-	-	-	-	-
FMP LOAN	-	-	-	-	-	-	-
IRT LOAN I	-	-	-	-	-	-	-
SIZ ROW DEL.	-	-	-	-	-	-	-
IBT LOAN II	-	-	-	-	-	-	-
IBT LOAN III (KUWAIT)	-	-	-	-	-	-	-
COMMERCIAL CREDIT	-	-	-	-	-	-	-
GOVERNMENT OF MONTENEGRO	-	-	-	-	-	-	-
REPROGRAM. OF THE LOANS	-	-	-	-	-	-	-
AK LOANS	-	-	-	-	-	-	-
UNPAID AMMUNITIES LOANS	-	-	-	-	-	-	-
INTERST INCOME	-	-	-	-	-	-	-
TOTAL CASH INFLOW	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0	1679902.0
CASH OUTFLOW							
INVESTMENT COSTS	-	-	-	-	-	-	-
OPERATING COSTS	815764.0	815764.0	815764.0	815764.0	815764.0	815764.0	815764.0
TAXES	23728.0	23728.0	23728.0	23729.0	23728.0	23728.0	23728.0
SUB-TOTAL	839492.0	839492.0	839492.0	839492.0	839492.0	839492.0	839492.0
LOANS							
LOAN REPAYMENTS	27913.0	29438.0	30127.0	28728.0	11028.0	4797.0	274.0
REPAYMENT PAID BY RESCHEDULING	-	-	-	-	-	-	-
SUB-TOTAL	27913.0	29438.0	30127.0	28728.0	11028.0	4297.0	274.0
INTEREST PAYMENTS							
INTEREST LONG TERM LOANS	6696.0	5171.0	3561.0	1934.0	603.0	128.0	7.0
INTEREST SHORT TERM LOAN	114123.0	114123.0	114123.0	114123.0	114123.0	114123.0	114123.0
INTEREST PAID BY RESCHEDULING	-	-	-	-	-	-	-
SUB-TOTAL	120819.0	119294.0	117684.0	116057.0	114726.0	114251.0	114130.0
TOTAL CASH OUTFLOW	988224.0	988224.0	987303.0	984277.0	965246.0	958040.0	953896.0
ANNUAL CASH FLOW	691678.0	691678.0	692599.0	695625.0	714656.0	721862.0	724006.0
CUMULATIVE CASH FLOW	-1883181.0	-1191503.0	-498904.0	196721.0	911377.0	1633239.0	2359245.0

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

ANNEX 9
Table 8

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Balance Sheet

"July 13" Agrokombinat
(Dinars '000)

	<u>1977</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
<u>Assets</u>					
Cash	61,064	301,439	332,186	388,642	420,726
Receivables	47,609	260,098	671,083	826,661	1,074,567
Inventories	240,608	576,401	1,004,637	1,378,228	2,146,784
Investments	<u>79,994</u>	<u>982,980</u>	<u>1,473,278</u>	<u>2,155,872</u>	<u>2,897,187</u>
<u>Current Assets</u>	<u>429,275</u>	<u>2,120,918</u>	<u>3,521,184</u>	<u>4,749,403</u>	<u>6,539,164</u>
Fixed Assets	854,307	1,685,857	2,571,755	3,489,802	5,226,805
Common Consumption	43,361	184,635	196,857	281,275	403,060
Other Assets	<u>34,122</u>	<u>265,252</u>	<u>585,331</u>	<u>782,111</u>	<u>1,244,584</u>
Sub Total	931,790	2,135,744	3,353,943	4,553,188	6,874,449
<u>Total Assets</u>	<u>1,361,065</u>	<u>4,256,662</u>	<u>6,875,127</u>	<u>9,302,591</u>	<u>13,413,613</u>
<u>Liabilities</u>					
Short Term Loans	141,351	668,629	1,512,121	1,948,461	2,372,264
Supplier's Credit	101,780	622,098	671,652	974,700	1,796,740
Other Short Term Liabilities	-	-	-	-	1,879
<u>Current Liabilities</u>	<u>243,131</u>	<u>1,290,727</u>	<u>2,183,773</u>	<u>2,923,161</u>	<u>4,170,883</u>
Medium & Long-term Loans	347,510	1,494,684	2,267,040	3,069,587	4,091,260
Business and Reserve Funds (Equity)	546,324	997,653	1,549,993	2,209,078	3,397,499
Common Consumption Fund	53,861	160,407	246,501	352,253	488,418
Other Funds	246			76,291	121,329
Other Resources	169,993	313,191	627,820	672,131	1,144,224
Sub Total	<u>770,424</u>	<u>1,471,251</u>	<u>2,424,314</u>	<u>3,309,753</u>	<u>5,151,470</u>
<u>Total Liabilities</u>	<u>1,361,065</u>	<u>4,256,662</u>	<u>6,875,127</u>	<u>9,302,591</u>	<u>13,413,613</u>

ANALYSIS

Current Ratio	1.76:1	1.64:1	1.61:1	1.62:1	1.56:1
Total Debt/Equity	0.89:1	1.96:1	2.43:1	2.27:1	1.9:1
Long Term Debt Equity	0.64:1	1.5:1	1.46:1	1.39:1	1.20:1

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Income and Expense Statements

"13 July" Agrokombinat
(Dinars '000)

	<u>1977</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
A. <u>Income</u>					
Revenue	1,694,582	5,020,462	7,533,350	9,648,603	13,482,138
Subsidies	442	-	1,208	-	761
<u>Total Income</u>	<u>1,695,024</u>	<u>5,020,462</u>	<u>7,534,558</u>	<u>9,648,603</u>	<u>13,482,899</u>
B. <u>Expenses</u>					
Operating Costs	1,385,727	4,217,167	6,458,622	8,177,318	11,550,927
Amortization	27,276	62,426	82,581	112,113	157,568
Taxes & Contributions	29,263	148,668	200,035	284,106	361,807
Interest	26,712	66,728	111,011	179,883	319,685
Gross Salary 1/	207,059	488,797	616,707	834,488	1,037,712
<u>Total Cost</u>	<u>1,676,037</u>	<u>4,986,386</u>	<u>7,468,956</u>	<u>9,587,908</u>	<u>13,427,699</u>
C. <u>A-B</u>	+ 18,987	+ 34,076	+ 65,602	+ 60,695	+ 55,200
Allocated to Funds	21,266	69,504	105,751	139,717	146,090
Business Fund	18,299	50,367	82,190	106,713	90,674
Reserve Fund	2,967	19,137	23,561	33,004	55,416

1/ Includes common consumption fund

YUGOSLAVIA

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

MONTENEGRO

LOAN 1370-YU

PROJECT COMPLETION REPORT

Summary of Stabilization Program for WO Plantation (WO Vinoprodukt)

A. Non-Financial Measures

1. Improve capacity utilization by increasing sales and decreasing stocks.
2. Increase productivity of workers, i.e. control sick leave, improve internal transport; carry out strong penalties for unexcused absences from work, use soldiers during the harvest period.
3. Improve quality of products to conform to export demand.
4. Increase the variety of production depending on market demand; i.e. introduce cognac and new types of wine such as Merlot.
5. Market more actively by sending marketing representatives abroad to promote sales, employ the necessary staff and train existing staff.

B. Financial Rehabilitation

1. Improve collection rates, particularly for late payments from clients.
2. Change short-term loans to long-term loans and obtain a lower interest rate.
3. Have penalty interest rates to IBT-UB for obligations not settled during the 1980-1983 period written off.
4. Possibly have a portion of the short-term loans' interest rates (amounting to 50-70 million Dinars) written off due to operational losses.

Specific employees have been assigned to oversee the implementation of the different measures. The mission was given one small section of the report, but the over-all report was confidential.

TERMS OF REFERENCE FOR A REVIEW OF
"13 JULY" AGROKOMBINAT'S OPERATION

I. Introduction

1. During the recent Country Implementation Review (CIR) conducted by the World Bank in Montenegro during the month of December 1984, it was agreed that "13 July" Agrokombinat (AK) would take primary responsibility for carrying out a comprehensive review of its existing marketing and financial practices and develop an Action Plan to revitalize its operation. This undertaking would be done with the close collaboration of Investicions Banks Titograd-Udruzena Banks (IBT-UB) and its relevant Basic Banks.

II. Objective

2. To review and develop a restructuring plan to improve and strengthen the operations of AK, including production, technical, marketing and financial with an objective to render it competitive and economically and financially viable (See Section III).

III. Areas of Review and Investigation

3. Raw Material Supply

- (i) Identify current planned sources of raw material supply (breakdown between social and individual sector), reliability of supply and its quality, procurement arrangements from within and outside the Republic and prices of raw material.
- (ii) Identify constraints in obtaining adequate raw materials to meet enterprise requirements. A brief quantitative description of problems encountered in procurement, pricing, competition, capability of farmers to expand production, joint ventures with other Republics, enterprise capability of raw material.
- (iii) Develop alternative policies and practices to ensure stable and adequate raw material supply at competitive prices.

4. Marketing of Products

- (i) Review current marketing policy and plans, and specific arrangements for domestic and export sales. Identify sources of market information, methods of forecasting market demand, determining market prices and delivering products. Identify areas in which administered prices adversely affect profitability.
- (ii) Review current arrangements with export marketing organizations and effectiveness of marketing services (new market information, market research, export financing, etc.) provided by these organizations.

- (iii) Identify current practices for new product development and new market development.
- (iv) Analyze the effectiveness of marketing strategy, response capacity of marketing management to changes in market place and their ability to estimate and control marketing costs (transportation, packaging, advertising, commissions).
- (v) Develop alternative strategies, policies and practices to ensure adequate market outlets to fully utilize plant capacities through effective domestic and export marketing.

5. Production

- (i) Review current production organization and management, scheduling and planning, standards and quality maintenance and capacity utilization. Identify any bottlenecks affecting capacity utilization.
- (ii) Identify management and technological problems affecting the production system and develop alternative policies and practices.
- (iii) Analyze cost effectiveness of production with reference to capacity utilization, optimizing productivity and yield, energy conservation and minimizing unit overhead costs.

6. Financial Planning, Analysis and Operations

- (i) Review current financial policies and practices and their impact on the following:
 - Structure on financing
 - Mobilization of short-term and long-term funds
 - Sources of funds and interest rate policy
 - Return on assets and net income
- (ii) Review role of enterprise management in preparing annual financial plans derived from data provided from production, marketing and manpower planning functions. Analyze their effectiveness and recommend improvements.
- (iii) Review and modify, as necessary, arrangements for accounting, costing and financial analysis of current operations, product costing, analysis of product profitability.
- (iv) Review systems and procedures for preparing operating and financial reports to management and develop proposals for their improvement.

7. Organization and Management

- (i) Examine the manner in which the above functions are organized and managed to achieve enterprise objectives.

- (ii) Assess the responsiveness of management and planning systems to meet the needs of emerging internal and external situations.
- (iii) Review the management decision-making process, delegation of authority and control functions.
- (iv) Review the management and technical training and human resource development practices.
- (v) Review existing practices of performance review and reward/incentive systems for both management and staff.
- (vi) Develop policies and procedures to improve management efficiency, including employment practices.

IV. Preparations of Action Plan

8. Based on this Review, prepare a detailed Action Plan to strengthen the following:

(A) Planning

- Setting and achieving enterprise objectives at various management levels.

(B) Production

- Availability and procurement of raw material at competitive prices.
- Capacity utilization, including extension of production period, number of shifts, identification of bottlenecks.
- Maintenance, including spare parts.

(C) Marketing

- Domestic
- External
- Market research and intelligence
- Joint-venture, both domestic and foreign
- New product development
- Quality control
- Packaging, etc.

(D) Financial

- Financial planning and controls
- Cost accounting
- Sources and costs of funds
- Profitability analysis (return on investment)
- Inventory control system

(E) Organization and Management

- Responsiveness of management to meet changing external and domestic conditions
- Monitoring and evaluation of total operations
- Manpower development and training
- Effective management information system

FINANCIAL AND MARKETING REVIEW OF "13 JULY" AGROKOMBINAT

Steps and Action

	<u>Date</u>
1. The World Bank (WB) sent the draft Terms of Reference (TOR) to AK	January 15, 1985
2. AK reviewed the TOR	February 15, 1985
3. Finalization of TOR in consultation with WB	February 28, 1985
4. Formation of the teams and recruitment of specialists	March 1, 1985
5. Start of the teams' work	March 8, 1985
6. Review of the teams' work <u>/1</u>	April 15, 1985
7. Completion of the teams' reports	July 15, 1985
8. Review and acceptance of the full Report's recommendations (Action Plan) <u>1/</u>	July 30, 1985
9. Implementation of the Action Plan	Dates to be determined

1/ WB will participate in discussions to provide guidance.

AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT

YUGOSLAVIA

MONTENEGRO LOAN 1370-TU

ECONOMIC ANALYSIS

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988-2001
CASH INFLOW												
TOTAL INFLOW												
	-	-	-	-	134851.9	236461.5	422613.6	1018793.0	997730.0	1296164.0	1485290.0	1628054.0
CASH OUTFLOW												
INVESTMENT COSTS	64014.0	151322.2	503100.4	748091.2	448292.8	290685.5	236172.8	148285.0	-	-	-	-
OPERATING COSTS	-	-	-	36703.5	131604.9	340427.4	345933.8	542891.0	606582.0	702278.0	777539.0	813546.0
TOTAL OUTFLOW	64014.0	151322.2	503100.4	784794.7	579897.7	631312.9	782106.6	711176.0	606582.0	702278.0	777539.0	813546.0
NET CASH FLOW	-64014.0	-151322.2	-503100.4	-784794.7	-445045.8	-394851.4	-359493.0	307617.0	391148.0	593886.0	707751.0	814508.0

December 19, 1985 10:42

Internal Rates of Return of Net Streams

NET 15.28%

SWITCHING VALUES AT 12%

STREAM	APPRAISAL VALUE	SWITCHING VALUE	PERCENTAGE CHANGE
B.TOT	5,105,225.80	4,543,087.53	-11.01%
C.INV	1,579,778.32	2,141,916.60	35.58%
C.OPT	2,963,309.20	3,525,447.48	18.97%
TOTAL COSTS	4,543,087.53	5,105,225.80	12.37%

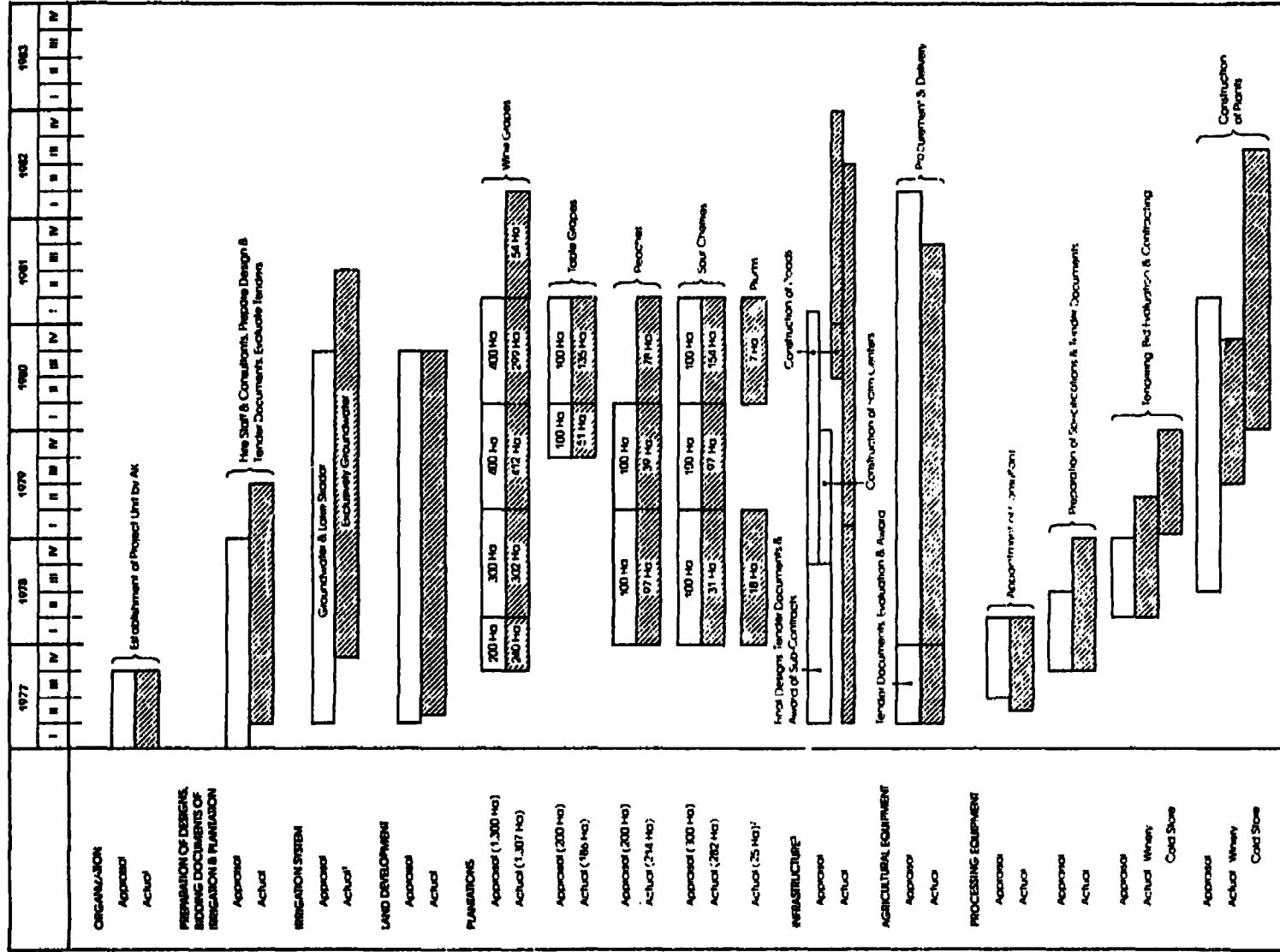
Net Present Value at DCC 12% = 562,138.3

Internal Rate of Return = 15.3%

Coupon Equivalent Rate of Return = 13.9%

CHART 1

YUGOSLAVIA
AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
Loan 1370-MU
Project Completion Report
Implementation Schedule



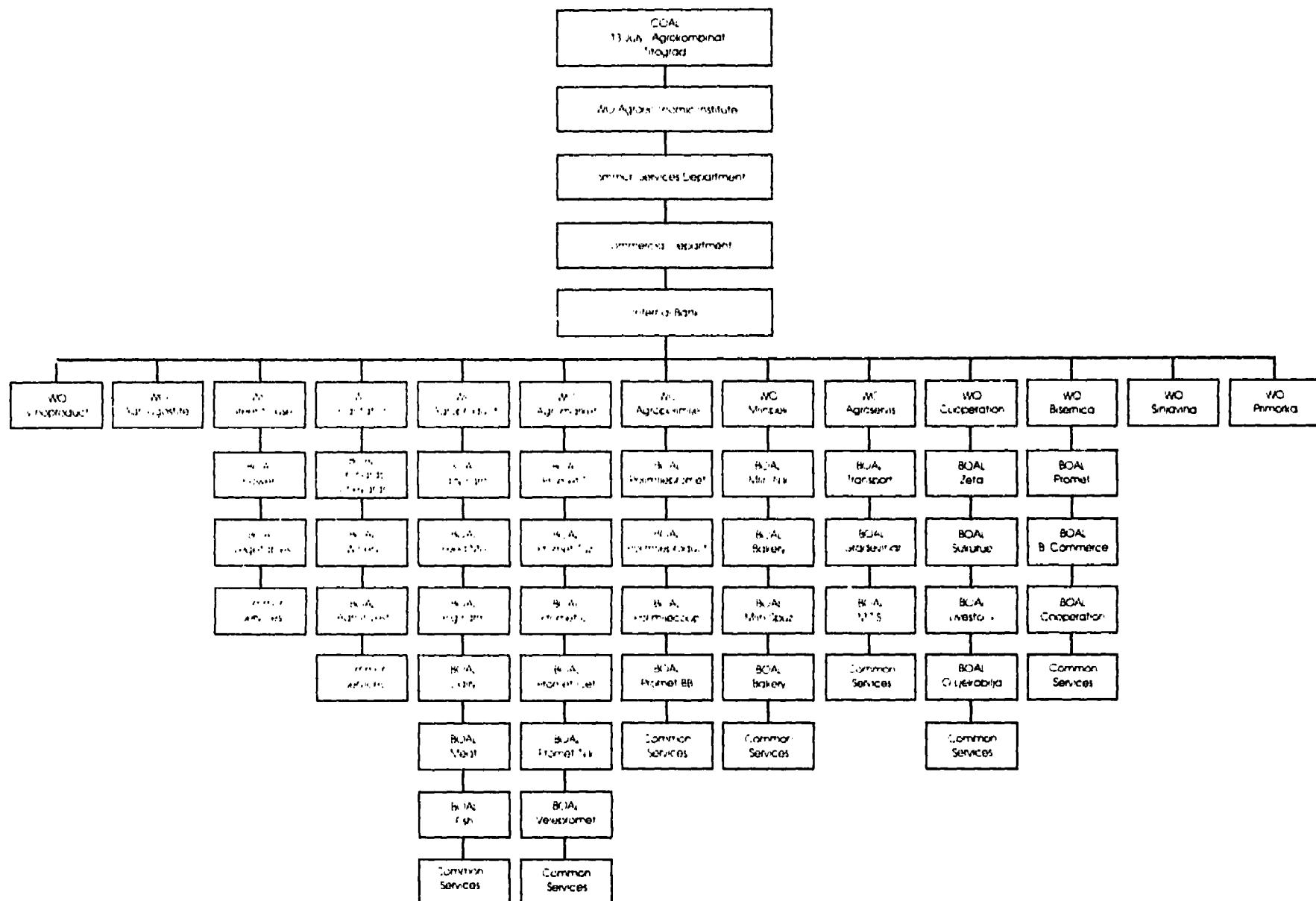
1

Note : 100% वायरल रेट दर्शकों के लिए 23 जून 2018

प्राचीन भारतीय संस्कृति

**YUGOSLAVIA
AGRICULTURE AND AGRICULTURAL INDUSTRIES PROJECT
MONTENEGRO
Loan 1370-YU**

**Project Completion Report
"13 July" Agrokombinat: Organization Chart**



YUGOSLAVIA
AGRICULTURE AND AGRICULTURAL
INDUSTRIES PROJECT
MONTENEGRO LOAN-1370YU

RELIEF

Altitude in Meters

0 - 400

400 - 1500

1500 - 3000

Boundaries of Republics and
Autonomous Provinces

International Boundaries

0 20 40 60 80 100
KILOMETERS

0 10 20 30 40 50
MILES

