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Loan Committee - TURKEY — Drainage & On-Farm Development

For consideration on March 20, 1986

R86-47

FROM: Vice President and Secretary

March 3, 1986

TURKEY: Drainage and On-Farm Development Project

1. Attached is the President's Report and Recommendation (P-4188-TU) on a proposed loan to the Republic of Turkey for a Drainage and On-Farm Development Project.

2. A report entitled "Turkey: The Vth Five Year Plan in the Context of Structural Adjustment" (5418-TU) was distributed on August 6, 1985.

3. A detailed report entitled "Staff Appraisal Report: Turkey - Drainage and On-Farm Development Project" is being distributed separately.

4. A draft Loan Agreement between the Republic of Turkey and the Bank is available on request from the Secretary's Department Documents Office (X76237).

5. Questions on these documents should be referred to Mr. Gassner (X32850).

Distribution:

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The World Bank

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Report No. P-4188-TU

REPORT AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

EXECUTIVE DIRECTORS

ON A PROPOSED LOAN

IN AN AMOUNT EQUIVALENT TO US$255 MILLION

TO THE REPUBLIC OF TURKEY

FOR A

DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

February 24, 1986

TURKEY

CURRENCY EQUIVALENTS

Currency Unit	Jan.1980 1/	Jan. 1981	Jan. 1982	Jan. 1983	Jan. 1984	Dec. 1985
USDollar	TL 70.00	TL 91.00	TL 139.60	TL 191.15	TL 309.20	TL 574.00
TL 1	US$0.014	US$0.011	US$0.007	US$0.005	US$0.003	US$0.002

1/ Since January 1980, the rate is being adjusted for the differential inflation between Turkey and its major trading partners. In this report it is assumed that this policy will continue.

FISCAL YEAR

Republic of Turkey — January 1 to December 31

LIST OF ABBREVIATIONS

ASAL	-	Agricultural Sector Adjustment Loan (Ln.2585-TU, June 1985)
DSI	-	General Directorate of State Hydraulic Works within the Ministry of Energy and Natural Resources
GDRS	-	General Directorate of Rural Services within MAFRA
MAFRA	-	Ministry of Agriculture, Forestry and Rural Affairs
O&M	-	Operation and Maintenance
PPAR	-	Project Performance Audit Report
SEE	-	State Economic Enterprise
SPO	-	State Planning Organization

TURKEY

DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

Loan and Project Summary

Borrower: Republic of Turkey

Amount: US$255 million equivalent

Terms: Seventeen years including four years of grace, with interest at the standard variable rate.

Project Description: The proposed project constitutes the first time slice of the Government's program for completing or improving drainage and on-farm development works for irrigation projects for which major works have been completed or are close to completion. It would include the following components:

(a) rehabilitatioan of surface drains to restore them to their planned performance;

(b) excavation of additional drains to supplement the existing drainage system;

(c) installation of subsurface drainage network where appropriate;

(d) installation of subsurface collector pipe drains to reinforce existing subsurface drainage installations;

(e) reclamation of selected tracts of saline land;

(f) construction of access roads, minor buildings, field workshops and other structures to facilitate operation and maintenance of the system;

(g) installation of piezometers and other devices to monitor groundwater levels;

(h) buildings and equipment for existing drainage and reclamation research stations in the irrigated areas; and

(i) consulting services to assist GDRS and DSI in carrying out the above program and overseas training of GDRS and DSI staff.

Benefits and Risks

The proposed project would support agreements reached under the Agricultural Sector Adjustment Loan (ASAL, Loan 2585-TU) for accelerating priority investments for drainage and on-farm development. The proposed investments would eliminate waterlogging and salinity, restore the existing irrigated areas to full production, and prevent further deterioration of soils and reduction in crop production. Approximately 97,000 farmers would benefit initially, plus additional farmers operating land which without the proposed investments would eventually become waterlogged. At full development, annual on-farm employment would increase by about 7 million mandays, and foreign exchange earnings/savings would amount to about $177 million equivalent per year.

The main project risks concern the availability of adequate funding and the capacity of the implementing agencies to prepare, appraise, and select priority investments and coordinate overlapping implementation plans and schedules. Measures are included to minimize these risks. Provision of consultant services and training programs are expected to improve the design and implementation capacities of DSI and GDRS. To reduce the risk of funding shortfalls, the Government would give the Bank an opportunity to comment on the proposed budget allocations for the project prior to finalization of the budget. However, if delays should occur due to a shortfall in annual program funding or implementation capacity constraints, selected program elements could be deferred and the period for completing the program extended without jeopardizing individual subproject benefits or subsector objectives.

Estimated Project Costs: (net of taxes, but including contingencies)	--- $Million Equivalent --- Local	Foreign	Total
Surface drainage	82.3	81.7	164.0
Subsurface drainage	121.0	157.4	278.4
Other on-farm works	18.8	8.1	26.9
Waterlogging monitoring and facilities for O&M	1.4	0.9	2.3
Research stations buildings & equipment	0.4	0.2	0.6
Consulting services	1.6	6.0	7.6
Overseas training	-	0.7	0.7
Total Project Cost	225.5 1/	255.0	480.5 1/
Financing Plan:			
Bank	-	255.0	255.0
Government	225.5	-	225.5
	225.5	255.0	480.5

1/ Excludes about $23 million equivalent of taxes and duties.

Estimated Bank Disbursements: ---------- $Million ----------						
Bank FY	1987	1988	1989	1990	1991	1992
Annual	11.0	40.0	47.0	51.0	51.0	55.0
Cumulative	11.0	51.0	98.0	149.0	200.0	255.0

Economic Rate of Return: 22 percent

Appraisal Report: 5869-TU dated February 6, 1986

Maps: IBRD 19280 and 19281

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE IBRD TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO THE REPUBLIC OF TURKEY FOR A DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

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1. I submit the following report and recommendation on a proposed loan to the Republic of Turkey for the equivalent of US$255 million to help finance the foreign exchange cost of a Drainage and On-Farm Development Project. The loan would have a term of 17 years including 4 years of grace, with interest at the standard variable rate.

PART I - THE ECONOMY 1/

2. An economic mission visited Turkey in June 1982, and its report entitled "Turkey: Country Economic Memorandum, Recent Economic Developments and Medium-Term Prospects" (No. 4287-TU) was distributed to the Executive Directors in June 1983. The report of a mission to review the financial sector, entitled: "Turkey: Special Economic Report - Policies for the Financial Sector" (No. 4459-TU), was distributed in September 1983. A Bank mission reviewed the Government's Fifth Five-Year Development Plan (1985-89) in September 1984 and its report: "Turkey: The Vth Five Year Plan in the Context of Structural Adjustment" (No. 5418-TU) was distributed in July 1985.

3. Turkey's area is about 781,000 square kilometers (i.e. about equal to the area of France and West Germany combined) with a population of around 50 million and GNP per capita of $1200 in 1984. The density of population is low (78 per square kilometer of agricultural land), and about 47 percent live in urban centers. Population growth (2.2 percent per annum) is below the median for middle-income countries. Despite rapid economic growth in the mid-1970s as well as emigration of workers (to Western Europe and more recently, to the Middle East), there is still substantial unemployment which, including disguised unemployment in agriculture, is estimated at about 19 percent of the civilian labor force. There is, however, little or no absolute poverty, although income distribution is skewed. There are considerable regional differences in income and large rural-urban disparities. Recent data indicate a probable increase in income inequality since the 1970s, especially a relative deterioration of the position of wage and salary earners and an improvement in the position of the trading and commercial classes, and, more generally, of capital-owners. Educational enrollment has expanded greatly, but the level of adult literacy remains relatively low compared to the European average for middle income countries.

1/ Parts I and II are substantially the same as Parts I and II of the President's Report for the Kayraktepe Hydropower Project (P-4179-TU), dated January 31, 1986.

Background

4. During the 1970s Turkey did not make the necessary adjustments to the shocks caused by the steep rise in oil prices, stagflation in the OECD economies, and the consequent deterioration of its terms of external trade. Until 1977 Turkey maintained high rates of economic growth by increasing public investment. The foreign exchange requirements were financed initially by workers' remittances and then increasingly by borrowing, a large part of it short-term. The rapid GNP growth came to an abrupt halt in 1977 as the massive external debt burden led to a sharp deterioration in creditworthiness, severe shortages of imports, disruptions in industrial production and a rise in unemployment. By the end of 1979, domestic inflation had also become an issue of critical importance.

5. In response to the crisis of the late 1970s, the Turkish authorities made a major shift in development strategy in 1980, moving towards outward orientation and giving an increased role to market forces. To alleviate the balance of payments constraint and import shortages, policies were adopted to expand exports, increase workers' remittances, liberalize imports, encourage foreign investment and improve external debt management. On the domestic front, the objectives were a reduction in the inflation rate, reform of the State Economic Enterprises (SEEs), a more efficient financial sector, improved resource mobilization and better selection of investments, especially in the public sector.

6. The adjustment program, which has been supported by the Bank through five structural adjustment loans and an agricultural sector adjustment loan, involves far-reaching changes in attitudes, institutions, and the legal and policy framework, all of which require time to be put in place. Major structural changes have been made in the exchange rate system, the export and import regimes, the tax system, interest rate and selective credit policies and the public investment program. Implementation of the adjustment program started in January 1980, continued under a military regime during the period September 1980 - November 1983, and has since been carried out by an elected government.

The Structural Adjustment Program -- 1980-85

7. The Turkish economy has shown an impressive response to the structural adjustment program and actual outcomes met or exceeded the Government's own targets through 1982. The overall performance deteriorated in 1983 due to a combination of factors (slowdown of export growth, slippages in the monetary program, shortfall in Government revenues), but improved again, except in the area of inflation and the budget deficit, in 1984. The improvement was maintained in 1985, as evidenced by a slowdown in inflation and a reduction in the budget deficit.

8. After expanding by 4.1 percent in 1981 and 4.6 percent in 1982, real GNP growth slowed down to 3.2 percent in 1983, due to the effects of a bad harvest, stagnant exports, and lower workers' remittances. The growth rate rebounded in 1984 to 5.9 percent, mostly on account of favorable performance in agriculture (3.7 percent growth) and industry (9.3 percent growth).

Exports also expanded strongly, by more than 25 percent in dollar terms. In 1985, according to the latest estimates, the growth rate of the economy was about 4.9 percent, as against the program target of 5.5 percent. The slowdown of growth is apparent across the board, but was most significant in agriculture (2.2 percent growth) and manufacturing (5.5 percent), due respectively to less favorable climatic conditions and slackening domestic demand. On the expenditure side, the average annual real rate of growth of public fixed investment over the period 1980-85 has been fairly stable, at less than 3 percent p.a., while the growth rate of private investment has recovered, following a 17.3 percent decline in 1980, and rose by 7.1 percent in 1984 and an estimated 5.2 percent in 1985. Private consumption, after declining by 5 percent in real terms in 1980, grew by 5 percent in 1983 and 1984 before slowing down to an estimated 3 percent in 1985. Strict budgetary discipline contributed to a steady decline in the real rate of growth of public consumption from 8.4 percent in 1980 to 1.8 percent in 1983; however, it increased to 3.8 percent in 1984 and an estimated 4.4 percent in 1985.

9. Through 1982, the Government met with considerable success in reducing the rate of inflation by a combination of fiscal, monetary and incomes policies. After peaking at 107 percent in 1980, the average annual rate of increase in the wholesale price index decelerated to 37 percent in 1981 and 27 percent in 1982. In 1983 the downward trend was reversed and the inflation rate rose to 30 percent. Inflation accelerated further in 1984, and reached 50 percent. The major factors that brought about the worsening of the inflationary situation in 1984 were the lagged impact of the expansionary monetary policy pursued during the second half of 1983, and a significant increase in agricultural product prices, especially of fresh fruits and vegetables, as a consequence of export liberalization and higher export market prices. Other contributory factors included substantial "catch up" increases of SEE prices - since January 1984 most SEEs have effectively been allowed to set their prices freely - and higher import prices resulting from the nominal depreciation of the Turkish lira. In addition, inflationary pressures stemmed from a larger than anticipated budget deficit in 1984 as a result of a slowdown in the growth of revenues.

10. Inflation declined to about 43 percent in 1985. This average annual inflation rate has been the net result of a period of high inflation during the first quarter of the year, followed by a period of deceleration starting in April 1985. Deceleration occurred despite significant increases in prices of goods produced by SEEs; it was rendered possible by the maintenance of high real rates of interest, a decline in the prices of a number of agricultural goods (mostly fruits and vegetables), and an overall slackening of domestic demand. The slowdown of inflation in the second half of 1985 reinforces the expectations of a further decrease in the average rate in 1986, bringing it close to the Government's target of 25 percent.

11. In the fiscal area, the progress achieved between 1980 and 1982 (during which time the budget deficit declined from 5.3 percent to 2.1 percent of GNP) was not sustained in 1983 and 1984. Due to a steady decline in consolidated government revenues as a percentage of GNP, 1/ the budget deficit

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1/ Although total government revenues (inclusive of extra-budgetary funds introduced in 1984) have not declined as sharply.

increased to 3.2 percent of GNP in 1983, and reached almost 5 percent of GNP in 1984. The somewhat disappointing performance in the raising of revenues was accompanied, however, by significant improvements in the control of public expenditure. Overall, government expenditures decreased from 22 percent of GNP in 1983 to an estimated 16 percent in 1985, essentially due to a curtailment of personnel expenditures and government transfers to SEEs, with the latter declining from 2.5 percent of GNP in 1983 to an estimated 0.8 percent of GNP in 1985. However, the fact that improvements in the area of government expenditures were not matched by commensurate gains in the reduction of the budget deficit highlights the urgency of mobilizing additional public resources. As a step in this direction, the Government introduced a Value Added Tax in January 1985, replacing previous indirect taxes based on the value of output. The new tax has resulted in raising the share of taxes on goods in total government revenues from around 12 percent in 1983-84 to an estimated 20 percent in 1985. As a result of these measures, the budget deficit is expected to have improved to about 2.5 percent of GNP in 1985.

12. Progress has also been made in rationalizing interest rates and reforming the banking system. Commercial bank deposit interest rates, which were deregulated in July 1980, are positive in real terms. Time deposits have been yielding a positive real return since early 1984, with interest rates presently ranging between 45 and 55 percent depending upon the term of the deposit. Positive deposit interest rates have resulted in a steady increase in deposits: in 1984 private non-commercial deposits grew by 8 percent in real terms, and in 1985 the growth has continued at a rate of about 10 percent. Improvements in incentives for savings were accompanied by administrative reforms of the banking system. A new banking law was enacted in June 1983. It included many of the recommendations made in the Bank's report on the Financial Sector (No. 4459-TU), including measures to reduce the undercapitalization of banks and the interlocking between banks and corporations. The legal basis of the banking reform was strengthened with the enactment of a revised banking law in April 1985, which introduced standardized accounting for banks and specified improved procedures for handling of non-performing loans. The Government also took a major step towards reducing the cost of bank intermediation by reducing in December 1983 the financial transactions tax from 15 percent to 3 percent. Other important developments in the financial sector include measures undertaken to revitalize the capital markets, for which IFC has provided technical assistance, and the sale of revenue-sharing certificates linked to the income from selected public infrastructual facilities (e.g. the Bosphorus bridge, and two dams).

13. While positive real interest rates have provided an incentive to save, they have also meant high borrowing costs. Effective nominal interest rates range from 60 to 80 percent on non-preferential credits, in part because of the high intermediation costs of the commercial banks and the prevailing practice of requiring compensating balances. The Government took a number of steps in 1985 to reduce the interest rate differentials between preferential and non-preferential credits: in particular, the preferential interest rate for export credits was discontinued in January 1985, while interest rates for agricultural short-term loans and for loans to SEEs were increased in 1985 to 30 percent (from 28 and 24 percent respectively). The narrowing of the gap between interest rates on preferential and non-preferential credits, together

with the decrease in the amount of preferential credits, is expected to increase the general availability of credit and exert a downward pressure on non-preferential interest rates.

14. Improvements in the balance of payments were substantial between 1980 and 1982, with the current account deficit decreasing from $3.3 billion (5.7 percent of GNP) in 1980 to $1.2 billion (1.6 percent of GNP) in 1982. In 1983 the current account deficit increased to $1.8 billion, as merchandise exports stagnated and workers' remittances fell by one-third. These developments were reversed in 1984 as exports increased by over 25 percent in dollar terms to reach $7.4 billion. Remittances, too, registered a higher than expected increase, reaching $1.8 billion (up by 20 percent over 1983). Merchandise imports, fueled by high growth as well as a more liberal import regime put in place in 1984, grew by more than 16 percent to reach $10.8 billion (or almost 22 percent of GNP). As a result of these developments, both the trade and the current account deficits declined as compared to 1983: the trade deficit by $50 million, and the current account deficit by $350 million, to reach $1.4 billion or about 2.9 percent of GNP. Estimates for 1985 indicate a further strong improvement of the current account situation. Merchandise exports, after a sluggish start in 1985, grew by 13 percent (in dollar terms) in the first ten months of 1985, while merchandise imports grew at a moderate 6 percent. Among the invisibles, tourism revenues and investment income from abroad have increased significantly compared to 1984 and previous years. Similarly, workers' remittances have continued to rise at a rate of about 6 percent per annum. The current account deficit is now estimated in 1985 at $650-800 million (about 1.7 - 1.9 percent of GNP).

15. Merchandise export performance has been impressive throughout the 1980-85 period, during which exports registered an average annual rate of increase of about 22 percent in dollar terms. This growth has been led by the manufacturing sector and has involved a rise in the share of exports to the Middle Eastern countries. Industrial exports, composed primarily of processed foods and textiles, have risen from 36 percent of total exports in 1980 to more than three-quarters in 1985. These results were achieved by a combination of indirect (flexible exchange rate policy, import liberalization) and direct (tax rebates, preferential credits) measures to enhance the relative profitability of exports and offset the traditional bias towards production for the domestic market. Successful penetration of the Middle Eastern markets has brought their share in total Turkish exports from 17 percent in 1980 to around 40 percent in the 1983-85 period.

16. On the import side, the 1982-83 period was marked by a relative stability in the growth of merchandise imports, as prices of both oil and non-oil imports declined, and the volume rate of growth remained moderate. In 1984, however, merchandise imports increased by 16.1 percent in dollar value. The increase was most pronounced in some of the groups (e.g. raw materials and consumer goods) that have been subjected to major liberalization in terms of both a lowering of tariff rates and a significant removal of quantitative restrictions. In 1985, as domestic demand eased, and the initial effects of pent-up demand for importables released by import liberalization weakened, the rate of import growth decreased to one-third of the level recorded in 1984.

Medium-Term Prospects

17. The Fifth Five Year Development Plan (1985-89), which was approved by the Grand National Assembly in June 1984, reaffirms the Government's determination to pursue an outward-oriented development strategy and to liberalize the economy by relying increasingly on market forces for allocation decisions. The public sector is targeted to play a supportive role by concentrating its investments in infrastructure rather than manufacturing, while the private sector is to be encouraged to play a leading role in the growth of manufacturing and exports. Some of the key targets are:

(i) an average annual GNP growth rate of 6.3 percent;

(ii) an average annual real rate of growth of merchandise exports of 10.6 percent;

(iii) an average annual real rate of growth of 10.9 percent in private investment and 6.8 percent in public investment;

(iv) a declining external debt service ratio, from 26 percent in 1984 to around 18 percent in 1989; and

(v) a decreasing rate of inflation reaching 10 percent p.a. in 1989.

18. While the overall thrust of the Plan is in accord with the goals of the structural adjustment program, the Plan targets, if viewed collectively and in the light of the developments in 1984 and 1985, appear ambitious and likely to strain domestic resources (especially in the public sector) as well as to have an adverse impact on the external balance. Accordingly, the Government is adjusting the annual programs to ensure that they remain compatible with the fight against inflation and with a growth strategy commensurate with the Government's ability to generate resources.

19. The Bank's projections indicate that GDP growth of 5.7 percent p.a. on average for the 1985-90 period may be more realistic. In the first phase of this period (1985-87), growth might be relatively slow (5.3 percent p.a.), gradually accelerating in the outer years with an average rate of 6.0 percent p.a. in the period 1988-90. The inflation targets in the Bank's projections are also more conservative, implying a reduction from about 43 percent in 1985 to around 18 percent in 1990. Key economic variables in the Bank's projections for the period 1985-90 are presented in Table 1: 1/

1/ The Bank's estimate for 1985 may differ slightly from the Government's latest estimates for 1985 discussed above.

Table 1: TURKEY - SELECTED ECONOMIC INDICATORS, 1984-90

(Base Case)

	Units	1984 (Act.)	1985 (Est.)	1990 (Proj.)	Real Growth Rate (%) 1984	Real Growth Rate (%) 1985	Average Real Growth Rate (%) 1985-90
GDP /a	1985 TL bil	25672.5	26920.2	35466.8	5.8	4.9	5.7
Agriculture	"	4621.9	4728.2	5481.3	3.0	2.3	3.0
Industry	"	7138.1	7605.6	10820.4	9.3	6.6	7.3
Services	"	12443.2	13040.5	17156.4	4.7	4.8	5.6
Consumption	"	21578.3	22389.6	29274.5	6.9	3.7	5.5
Fixed investment	"	4682.3	4921.6	6742.1	2.0	5.1	6.5
Exports of goods (fob)	Curr $ mil	7389.0	7982.0	18127.6	34.6	12.1	8.5
Imports of goods (fob)	"	10331.0	10810.9	21567.7	18.0	5.3	7.8
Trade balance	"	-2942.0	-2828.9	-3440.1			
Workers' remittances	"	1791.0	2190.0	2741.8			
Current account balance	"	-1426.0	-750.5	-809.0			
Ratios							
Investment/GDP	%	20.2	19.8	20.5			
Domestic savings/GDP	%	15.5	16.0	18.3			
Exports of goods/GDP	%	14.0	15.0	17.1			
Current acct. deficit/GDP /b	%	-2.7	-1.4	-0.8			
Debt service ratio /c	%	26.0	31.3	21.2			
Public fixed investment/ total fixed investment	%	59.0	58.8	51.8			
Memo item:							
Gross capital required	Curr $ mil	4627.3	3894.8	4507.4			

/a At market prices. Components are expressed at factor cost.
/b Based on constant TL.
/c Total debt service (excluding short-term)/exports of goods and NFS plus workers' remittances.

20. Achievement of these growth rates will depend primarily on the performance of agriculture and manufacturing. This in turn will depend to a large extent on the Government's determination to constrain the growth of the public sector in line with resources and to create a more favorable investment climate for the private sector. This translates into a projected real growth in public fixed investment of about 3.8 percent p.a. on average for the 1985-90 period, starting with a more modest increase of around 3.5 percent p.a. in the early years. The comparable figure for the growth of private fixed investment (for the whole period) is 10.0 percent p.a. These figures are consistent with the need to meet the infrastructural requirements of the economy through the public investment program, while providing for the capacity expansion of the private sector necessary to meet the output and export targets. The projections allow for a modest increase of per capita consumption of about 3.0 percent p.a. on average over the period 1985-90.

21. Merchandise exports are projected to grow at an average rate of 8.5 percent per annum in real terms during 1985-90, while merchandise imports are projected to grow at an average annual rate of 7.8 percent. This is consistent with the import liberalization program of the Government. On these assumptions, the current account deficit is projected to decrease through 1988 as stabilization policies act to contain import growth while encouraging exports. As higher growth rates set in during the outer years of the period, the trend would reverse and the current account deficit would rise moderately through 1990. For the year 1990, the projections show a deficit of $810 million as compared to an estimated 1985 figure of $750 million. The projected capital account would remain manageable throughout the period, even in the face of some sharp increases in amortization payments arising from the debts rescheduled during 1978-80.

22. On the external front, the current expectation of lower oil prices in the next period is likely to have a positive impact on the balance of payments. The savings on direct petroleum imports could be as much as $275 million in 1986 alone. Lower oil prices will no doubt have some negative consequences for Turkey's exports to oil-exporting countries as well as on profit and workers' remittances from construction activities in these countries. Nevertheless, the overall effect on the current account is likely to be positive, due to the stronger effect of the import savings.

23. The medium-term scenario presented above is, of course, only one of many possibilities and is used specifically to illustrate Turkey's potential in the light of the Government's own development strategy. Given Turkey's progress in the structural adjustment program, the favorable response which this has evoked from the international financial community, and the present outlook for both lower oil prices and a strong growth of Turkish exports, the GNP growth projected in the medium-term base case scenario could be exceeded if slightly higher export growth rates were achieved and there was an improvement in the mobilization of public resources.

24. In view of the sensitivity of the projections to the assumptions regarding export growth, a downside risk case has also been developed. With Turkey's export performance heavily dependent on exogenous factors such as the world economic conditions and movements in international prices, a slower

growth of merchandise exports (an average of about 6 percent p.a. over the 1985-90 period) coupled with lower mobilization of public resources (3 percent lower revenues than envisaged under the base case scenario) would lead to a more difficult but still manageable balance of payments situation, a lower GDP growth (averaging about 4.7 percent p.a.) and a higher debt service ratio (averaging 26.7 percent during 1986-90 against 25.1 percent in the base case scenario). In such a situation the Government would have less chance of absorbing the unemployed and improving tangibly the average standard of living. However, if the Government in such circumstances were to resort to a high growth strategy, then it could witness a repeat of the situation which prevailed in the 1970s, and which led to a debt crisis. It is unlikely that the Government would risk such a situation. It is therefore more probable - even if exogeneous developments are unfavorable - that the Government will continue with the structural adjustment program as implemented to date, so that the scenario of high growth fuelled by increased external borrowing seems at present unlikely.

External Debt and Creditworthiness

25. At the end of 1978, Turkey had $7.2 billion in short-term debt and $7.0 billion in medium and long-term debt. Between 1978 and 1980, Turkey rescheduled some $9.2 billion of outstanding obligations through a series of rescheduling arrangements concluded with official and commercial creditors. Following the resolution of the debt crisis, inflows were mostly from official sources -- OECD countries, the World Bank and the IMF. Since 1983 commitments from commercial banks have outstripped those from official sources and have reached an estimated level of $2.5 billion by end-1985. Of the estimated total debt outstanding of $22.3 billion (including IMF) at end-1984, medium and long-term debt accounted for about 79 percent. Short-term debt as a percentage of total debt outstanding fell from 51 percent in 1978 to about 11 percent in 1982, then increased to 14 percent in 1983 and to an estimated 21 percent in 1984. Much of this growth in the stock of short-term debt is due to the inflows associated with the Dresdner Bank scheme 1/. At end-1984, the outstanding liabilities associated with the Dresdner scheme amounted to $1.8 billion, constituting 39 percent of short-term external obligations. Based on the growth scenario outlined in paras. 19 to 22, debt outstanding and disbursed as a percentage of GDP is projected to fall from an estimated 42 percent in 1984 to 37 percent in 1990. This translates into a total debt outstanding forecast for 1990 of $28.8 billion, with short-term debt constituting about 25 percent of the total.

26. The debt service ratio for medium and long-term credits increased from about 26 percent in 1984 to an estimated 31 percent in 1985, mostly as a result of large repayments of rescheduled debt falling due. Debt service obligations are expected to be on average about $4.0 billion a year during

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1/ Under this scheme the Dresdner Bank collects deposits from Turkish workers in West Germany and automatically places these funds at the disposition of the Central Bank of Turkey, which guarantees the deposits and pays an interest rate commensurate with the Euro-market rate.

1986-90, a quarter of which is attributable to service obligations on rescheduled debt. However, the debt service ratio is projected to decrease to a level of about 25 percent during 1986-1990, due largely to improvements in the current account of the balance of payments. The debt burden should remain manageable provided current policies are successfully implemented, the export drive is sustained, and Turkey continues to receive support from international commercial and official sources. Confidence in Turkey's overall economic performance, its stable record in meeting debt servicing obligations and its improved debt management, encouraged commercial banks to commit about $1.8 billion in 1985. Several major American, European, Japanese and Middle Eastern banks were involved in these operations, including a $500 million syndicated loan in support of the balance of payments signed in April 1985.

27. Turkey's economic program has been supported by the IMF through a series of standby arrangements during 1980-84. The Government did not ask for a new standby in 1985. The Government's decision seems to reflect the view that the favorable economic developments in 1985 constitute proof of Turkey having "graduated" from the IMF's program and that the IMF presence through Article IV consultations should suffice for purposes of maintaining international confidence.

PART II - BANK GROUP OPERATIONS IN TURKEY

28. Through September 30, 1985 the Bank and IDA have lent $6185.8 million 1/ to Turkey, through 88 projects. Agriculture accounts for 21 percent of the funds lent, industry and DFCs for 22 percent, power for 16 percent, structural adjustment and program loans for 27 percent, and urban development, transportation, education, tourism and technical assistance for the remaining 14 percent. Disbursements for all sectors combined averaged 63 percent of appraisal estimates at the end of September 1985, which compares favorably with other countries in the region. As of September 30, 1985, IFC commitments to Turkey totalled about $246 million, of which about $64 million were still held by IFC. Annex II provides a summary statement of Bank loans, IDA credits and IFC investments as of September 30, 1985.

29. Bank lending is aimed at supporting Turkey's medium-term objectives of restructuring the Turkish economy by placing more reliance on market forces and adopting a more outward-oriented strategy. The main vehicle for the Bank's operational discussions with the Government has been the structural adjustment lending (SAL) program, which was completed in June 1984, and more recently the sectoral adjustment lending program. Significant progress has been achieved in the last five years, but the task of restructuring is by no means over. The current plan involves the broadening and deepening of the adjustment process at the sectoral level. Recent economic developments have underlined the need for a continuation of the stabilization program without

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1/ Net of cancellations.

giving up the goals of sectoral adjustment. Hence the emphasis of Bank lending in the post-SAL period would be on striking an appropriate balance between sectoral adjustment lending designed in part to be quick disbursing and supportive of policy reforms in the major sectors, and carefully formulated project lending focussing on high priority projects principally in the agriculture, energy, industry and transport sectors.

30. A series of sectoral adjustment loans for the major sectors is planned over the next few years. A first loan for agriculture was approved in June 1985. Further lending of this kind would support measures to address the structural problems of the financial sector and enhance the utilization of industrial capacity in the public and private sectors, keeping in view the scope for the "privatization" of publicly-held assets in the manufacturing subsectors. Other sectors where sectoral adjustment loans are likely to be developed include energy and transport, and it is expected that there would be a follow-up loan in agriculture.

31. This would be the fifth loan to Turkey presented to the Executive Directors this fiscal year. Other projects being processed include a second railway project, the Sir hydropower project, and a financial sector adjustment loan.

32. The close macroeconomic and sector dialogue established with the Government in recent years is expected to be pursued. The economic and sector work currently being undertaken includes a review of the public investment program and studies of housing finance, engineering industries, transport investment and electronics. Topics expected to be covered in the future include a study in domestic resource mobilization, a country economic memorandum focussing on inflation, reviews of the health and education sectors and a study of private sector adjustment to liberalization action.

33. Turkey's debt burden is projected to remain manageable throughout 1986-89 (paras. 25 and 26). The Bank Group's share of Turkey's total external debt was 13.4 percent in 1983, is estimated at 14 percent in 1984, and is expected to grow to about 17 percent by 1989. Official debt outstanding is projected to increase from $11.0 billion in 1984 to $13.4 billion in 1989 and private medium and long-term debt outstanding is projected to increase from $5.2 billion in 1984 to $7.5 billion in 1989. The Bank group's share of total debt service payments is projected to increase from about 12 percent in 1983 to an estimated 13 percent in 1984, and to about 18 percent in 1989.

34. IFC has invested in synthetic yarns, textiles, pulp and paper, glass, aluminum, cement, iron and steel products, heavy diesel engines, motor bicycle engines, piston rings, food processing and tourism. It has also invested in the Industrial Development Bank of Turkey (TSKB) and provided guarantees for overseas contracting firms. In addition, IFC is currently providing technical assistance to the Government with respect to the development of the capital market and a regulatory framework for leasing.

PART III - THE AGRICULTURAL SECTOR

35. While the relative importance of the agricultural sector in the economy is declining, it still represents in a typical year about 18 percent of GDP, about a third of export earnings and about half of civilian employment. The growth rates of agricultural GDP and exports are projected to remain below those for the rest of the economy. Nevertheless, the agricultural sector will continue to play a significant role in meeting domestic food needs, supplying industrial raw materials, and providing foreign exchange earnings and employment.

36. Turkish agriculture is diverse. Intensive crop cultivation is prevalent in the coastal regions which receive plentiful rainfall or are equipped with irrigation facilities. Mixed (crop and livestock) farming predominates in the eastern and central parts of the country where pastures and meadows form more than half of the agricultural land and crop production is dependent upon rainfall. In these areas much of the land is kept fallow in alternating years. While the livestock production system is largely traditional, dependent on grazing lands and low productivity systems of animal husbandry, it produces about one-third of agricultural GDP. Cereal crops occupy about 66 percent of the cultivated area, fruits and vegetables about 20 percent, industrial crops about six percent, and oil seeds, pulses and tubers the remaining seven percent.

37. Through the 1970s, Turkey's agricultural policies were inward-looking, stressing food self-sufficiency through subsidized inputs and producer prices. This led to relatively rapid growth of production through the first half of the 1970s, averaging 4.7 percent from 1972-75. However, with a deteriorating overall macroeconomic situation, these growth rates could not be maintained, due in part to the strain placed upon the budget by the level of subsidization and the competing demand for resources from the manufacturing sector. As a result of the overall economic crisis, growth in the sector slowed to less than 1.5 percent per annum during the late 1970's. Ineffective public investment policies, weaknesses in technical services, and problems in marketing and credit also contributed to sluggish growth. During this period, sectoral exports remained a small fraction of total production (less than 1 percent of agricultural GDP in 1979) due to the overvalued exchange rate and other disincentives to export.

38. New Policies: As part of the structural adjustment program adopted by the Government in 1980, input subsidies and production price supports were reduced and market-oriented policies were introduced. The overall restraint on monetary policy forced a curtailment of agricultural credit. Exports were encouraged through the introduction of a competitive exchange rate policy and other incentives. Unavoidably, this shift in strategy produced some short-term shocks to sectoral development: the growth of agricultural GDP in

real terms fell to an average of only 0.9 percent in 1980 and 1981. 1/ In 1982 and 1983, 1/ however, real growth in agricultural GDP recovered to an average annual rate of 3.1 percent. During 1984 it reached 3.7 percent. Due to the adoption of a realistic exchange rate and relaxation of export licensing restrictions, agricultural exports increased by an annual average rate of 17.7 percent during 1980 and 1981. If agroindustries exports are included, the average annual rate of growth increases to 18.9 percent. In 1982 and 1983, while agricultural exports continued to grow in volume, the average annual rate of growth of the value of agricultural exports dropped sharply to only 1.2 percent, due to the decline in the prices of the main commodities. However, for agriculture and agroindustries combined, the average annual rate of export growth remained at a healthy 9.5 percent, indicating a significant switch from unprocessed to processed exports. During 1985 the estimated agricultural growth rate declined to 2.3 percent, and agricultural exports through September decreased by about 7 percent as compared to the same period in 1984, reflecting the effects of an unusually severe drought.

39. Prospects: The potential for Turkey's agricultural sector over the medium term was examined in a recent agricultural sector study 2/. The report stated that the possibilities for growth through expansion of the cropped area or of livestock numbers under a system of extensive grazing, were largely exhausted by the mid-1970s. Growth must now come primarily from increased productivity and changing the crop mixture to reflect better Turkey's comparative advantage. Increased productivity would require expansion in the irrigated area through improved efficiency of the implementing agencies (better planning, increased use of contractors), better extension and research programs, expanded imports of improved seeds and appropriate equipment, and increased availability of institutional credit, particularly for small and medium-scale farmers.

40. The demands of an export-oriented approach have led to a change of emphasis in Government policy from food self-sufficiency to increased net agricultural contribution to the balance of trade. Thus imports of certain foods in which Turkey does not have a comparative advantage have been permitted. Increasing agricultural exports has involved appropriate pricing signals, maintenance of a competitive exchange rate, reduction of export regulations, and improved marketing. Other important issues in the sector include improved sectoral planning, continued progress in the reduction of subsidies, and reform of agricultural SEEs and marketing agencies. In parallel, general economic stabilization must continue to provide a foundation for uninterrupted sectoral growth. With continued progress on these issues and adherence to policies designed to encourage exports, agricultural GDP is expected to achieve a growth rate of about 3.0 percent annually during the remainder of the 1980s, with agricultural exports (excluding agroindustries) growing at 5-8 percent annually.

1/ In each case, one year of above average and one of below average weather has been averaged to produce an approximation of normal performance. Thus the difference between 1980/81 and 1982/83 is real and not weather related.

2/ Turkey - Agricultural Development: Alternatives for Growth with Exports (Report No.4204-TU), dated June 30, 1983.

The Irrigation Subsector

41. Irrigation investment represents about 65 percent of the public sector agricultural investment program and has been a major factor in increasing and stabilizing agricultural production. While about 18 percent of arable land is irrigated, roughly 40 percent of all plant output and about 25 percent of agricultural exports are grown under irrigation. In many respects, however, irrigated agriculture has performed considerably below its potential. Newly developed irrigation projects have often failed to produce expected benefits due to (i) lack of adequate drainage works leading to waterlogging and salinity; (ii) lack of adequate extension services and cropping systems research; (iii) delays in completing on-farm development works which are required for optimum utilization of the water supplied; and (iv) inadequate maintenance of some completed works. The increase in irrigated crop areas has therefore lagged significantly behind the expansion of irrigation infrastructure. The underutilization of this infrastructure, built at comparatively high cost, results in a large loss to the economy.

42. The irrigated area varies considerably from year to year, since wheat is not usually irrigated in years of adequate rainfall. The maximum area under irrigation in recent years is estimated at about 4.7 million hectares (out of 28 million ha of arable land) and much of this area is inadequately operated with low water efficiency and less than optimal yields. The Government has estimated, based on technical criteria only, that an additional 4.0 million ha could be irrigated. However, it is likely that only a smaller area could be developed economically. The highest potential for increasing irrigated production in the near future lies in (i) concentrating resources on completing projects near to completion; (ii) providing drainage and on-farm works in areas where major irrigation facilities have been completed; (iii) improving the maintenance of completed works; and (iv) developing effective extension services to introduce appropriate irrigation techniques to first time users and to farmers currently using inappropriate methods and cropping patterns.

43. Two public agencies are responsible for the construction of irrigation facilities. The General Directorate of State Hydraulic Works (DSI) of the Ministry of Energy and Natural Resources is responsible for the construction of the basic irrigation infrastructure for large-scale projects. The General Directorate of Rural Services (GDRS) of the Ministry of Agriculture, Forestry and Rural Affairs (MAFRA) is responsible for the construction of on-farm development works on large-scale irrigation projects and the development of small-scale projects. These agencies have not been able to contribute fully to agricultural productivity increases because of the thin spread of scarce budget resources over too many projects, excessive reliance upon force account work, inadequate coordination between the two agencies in project design and implementation, and poor supporting services, resulting in slow project completion and limited agricultural benefits.

44. Irrigation investment levels have been growing gradually at about 4 percent per year in real terms since 1981. The DSI investment program has averaged about twice that of GDRS. Since 1980, when DSI resources were spread thinly over 142 projects, considerable progress has been made in concentrating resources on a smaller number of projects. As a result, the new irrigation area put into operation each year by DSI has increased from 18,000 ha in 1981 to 86,000 ha in 1984. However, GDRS has recently been able to complete only 10-12,000 ha per year of the key components of on-farm development, namely farm drains and subsurface drains. The estimated backlog of subsurface drainage on completed DSI schemes would exceed 300,000 ha by 1989. This increasing backlog between irrigation infrastructure development by DSI and the completion of GDRS' on-farm development works suggests the need to revise the allocation of public resources for irrigation investment.

45. The problems referred to above are recognized by the Government, which has agreed to carry out an Irrigation Development Study and formulate a 10-year Irrigation Development Master Plan (1986-1995) using funds made available under the IAEE Irrigation Project (Loan 2433-TU, approved in June 1984). The Master Plan would be based on a detailed project-by-project inventory and an assessment of existing and projected irrigation and on-farm development investments and financial and implementation constraints. It would detail the issues and targets to be reached, including additional works required, cost and timing, arrangements for improving the sustainability of irrigation works and better cost recovery. To facilitate coordination, the Government has indicated that it intends to use the consulting firm to be selected under this project to provide assistance (financed under Loan 2433-TU) for preparation of the Master Plan. In parallel, and with financing from the Bank-assisted Agricultural Extension and Applied Research Project (Loan 2405-TU, approved in April 1984), the Government is also implementing a program to improve agricultural extension, with priority for irrigated areas.

46. Significant progress has been made in implementing agreements reached under the IAEE Irrigation Project (Loan 2433-TU) for overcoming problems in irrigation cost recovery. Under the IAEE Project the Government agreed to (i) adjust DSI capital recovery charges under existing legislation to include interest; (ii) progressively increase DSI assessments for operation and maintenance (O&M) to achieve 100 percent recovery of the preceding year's cost by 1986; and (iii) increase penalties for overdue payments. It was further agreed that action would be taken to permit GDRS to recover its capital costs for on-farm works. DSI's O&M assessments have been increased by 254 percent in real terms in 1984 over 1978 levels. These assessments were increased further in 1985 to cover 75 percent of the prior year's costs, and are scheduled to reach 100 percent this year. In 1983, the Government increased the penalties for late payment so that if payment is late by one year, a total penalty is levied equal to 54 percent of the initial assessment as compared to 10 percent previously. This penalty was increased to 75 percent in 1985. The Government has also enacted legislation in accordance with the IAEE agreement permitting GDRS for the first time to collect water charges to recover costs on its irrigation investments. Draft regulations for implementation of this legislation have been prepared and are being reviewed by the concerned ministries. The Government has agreed to collect adequate water charges on

both DSI and GDRS works in the area served by this loan, in accordance with the same criteria agreed for the IAEE Project, namely full recovery of DSI O&M expenditure for the prior year, recovery of DSI capital costs over a period not to exceed 50 years, and recovery of GDRS costs over 20 years. Since most maintenance of GDRS works is carried out by the farmers concerned, no O&M charge is considered necessary for such works. Arrangements satisfactory to the Bank for carrying out GDRS cost recovery obligations (expected to be established through Government approval of the regulations referred to above) would be a condition of loan effectivensss.

Public Investment Rationalization

47. In a period of constrained public resources, it is important for Turkey to concentrate on projects which can be brought into production quickly and for which the incremental investment in completion would result in high economic returns. This policy is particularly appropriate for irrigation investment. In connection with the recently approved Agriculture Sector Adjustment Loan (ASAL) 1/, a Core Program of drainage and on-farm development investments was agreed, designed to bring about adequate drainage in the command area of DSI's ongoing and completed projects, the completion of highest priority on-farm works, and the provision of adequate O&M to insure the optimum utilization of the command area. The Government agreed to complete this Core Program and indicated its intention to increase the share of its investment allocations for this type of investment. Specific works to be completed under this program would be selected in accordance with criteria agreed with the Bank. The Government indicated its intent to maintain funding levels beginning in 1986 to permit GDRS to complete 100,000 ha/year of on-farm works. 2/ This would also be facilitated by increased reliance on contract construction work. In order to supplement current staff capacity for implementing this program, the ASAL provides funds to finance engineering consultants for a period of about two years to assist in operational programming, scheduling and design of approved works in the Core Program, and in monitoring their implementation. In view of the complexity of the task, the ASAL also finances independent internationally recruited consultants to review the economic, agricultural, and engineering work of the consulting engineering firms. To assist DSI in implementing its portion of the Core Program (rehabilitation and maintenance of surface drains over an area of about 1.3 million ha, and subsequent continuation of maintenance through improved O&M), the ASAL also finances the imported machinery and equipment needed for the rehabilitation and maintenance of surface drains. The draft consultants' terms of reference and equipment tender documents have been reviewed with the Bank and are being revised to incorporate Bank comments. Employment of the consultants would be a condition of effectiveness of this loan.

1/ Loan 2545-TU, approved in June 1985.
2/ The 100,000 ha/year target includes some land-leveling and other on-farm works which are not part of the Core Program.

48. Although the Government intends to place increased emphasis in its investment program on completing on-farm works, the construction of headworks for selected priority investments would continue. Under the indicative investment program reviewed by the Bank, it is expected that DSI would be able to complete irrigation infrastructure for about 475,000 ha during the next five to six years. Under the ASAL, the Government agreed to review during 1986, with the help of consultants, all ongoing DSI projects in accordance with the current criteria for screening new projects, based upon economic and technical viability. The findings of this review will be furnished to the Bank, to be followed by an exchange of views on the proposed 1987 irrigation investment and recurrent expenditure program.

Performance under Previous Irrigation Projects

49. The Bank and IDA have provided financing for six irrigation projects in Turkey through loans and credits totalling about $274 million. Some of these projects also included power components. All but one (the IAEE Irrigation Project, approved in June 1984) have been completed. Aside from components under rural development projects, no irrigation lending took place between 1973 and 1984 due to the lack of an agreement on adequate measures regarding cost recovery. The most recently completed Project Performance Audit Reports (PPARs) on two irrigation projects found them to have been generally successful and to have yielded high economic benefits. But, in addition to the issue of cost recovery, the PPARs noted inadequate provision of extension services, initial delays in establishing project implementing units and periodic delays in providing adequate local cost financing. The proposed loan has been designed to take full account of these findings. In the areas served by the Ceyhan-Aslantas project (Loan 883-TU/Credit 360-TU, FY 1973) and the Corum-Cankiri Rural Development Project (Loan 1130-TU, FY 1975) the extension service is performing well using an improved approach pioneered under several Bank-assisted projects. The Government has recognized the need to reorganize and strengthen its extension activities and is developing programs for introducing the new extension system on a nationwide basis. Loan 2405-TU (Agricultural Extension and Applied Research Project), approved in 1984, assists in financing a first phase program to introduce improved extension and research methods in 16 of Turkey's 67 provinces. A second extension and research project is currently under preparation. Since the proposed Drainage and On-Farm Development Project would finance completion or improvement of services for on-going irrigation programs, most of the major implementation units required already exist. Arrangements are proposed for Bank review of proposed project budget provisions (para. 55), which would provide an early warning system and help to provide adequate financial support for the project.

PART IV - THE PROJECT

History

50. In connection with the preparation of the ASAL, a Core Program of high priority investments was identified to increase yields in the command areas of DSI projects for which the headworks have been completed or are close

to completion (para. 47). The proposed loan would assist in financing the first time slice of this Core Program. The outline of the Core Program and the preliminary engineering and agricultural/economic preparation was carried out by DSI and GDRS staff, with assistance from Bank staff and the FAO/World Bank Cooperative Program. The project was appraised in May/June 1985. A Staff Appraisal Report entitled "Turkey - Drainage and On-Farm Development Project" (No. 5869-TU, dated February 6, 1986) is being distributed separately to the Executive Directors. The key features of the proposed project are listed in the Loan and Project Summary and in Annex III. Negotiations took place in Washington in January 1986, with a delegation headed by Mr. Hikmet Ulugbay, Chief Counselor for Economic and Commercial Affairs of the Turkish Embassy in Washington, and including representatives of the Treasury, DSI, GDRS, and the State Planning Organization.

Project Objectives and Features

51. The proposed project would support the strategy agreed under the Core Program which involves placing priority on investments designed to improve the productivity of subprojects for which DSI headworks and irrigation systems are completed or close to completion. Waterlogging and salinity due to inadequate drainage has been identified as a major factor limiting production in irrigated areas, reducing yields by a minimum of 25 percent from those observed in similar areas having adequate drainage. These estimates do not take into account the progressive additional areas which would be affected by waterlogging without remedial measures. The Core Program involves investments to (i) overcome the backlog of on-farm drainage works (para. 44); (ii) rehabilitate existing surface drains, construct new drains where required, and improve maintenance of major drainage works; (iii) reclaim land suffering from salinity due to inadequate drainage; and (iv) provide access roads required for maintenance of the irrigation and drainage systems.

52. The estimated total cost of the Core Program, including physical and price contingencies, is about $1.2 billion. This includes about $117 million for DSI drainage maintenance equipment and technical assistance and training financed under the ASAL. A time slice within the Core Program has been identified consisting of works expected to be initiated during the next three years and to be completed by December 31, 1991. The proposed project would finance this time slice consisting of rehabilitation and construction of new drains over about 668,000 ha, subsurface drainage over about 137,500 ha, and other related works as summarized below:

(i) Rehabilitation of existing surface drainage systems where drains are choked with silt deposits and weed growth (resulting primarily from lack of appropriate maintenance equipment);

(ii) Installation of additional surface drains in areas where the initial intensity of surface drains has proven to be inadequate to prevent salinity and waterlogging;

(iii) Installation of subsurface drainage facilities to drain clay soils which cannot be adequately served by surface drains;

(iv) Installation of additional subsurface collector drains in existing areas served by subsurface drains;

(v) Reclamation of land damaged by salinity due to previous inadequate drainage;

(vi) Construction of feeder roads to provide adequate access for maintenance and to otherwise connect with the public road system, and of minor field offices, stores, workshop facilities and other buildings needed for the operation and maintenance of the system;

(vii) Installation of piezometers and other groundwater level monitoring devices;

(viii) Provision of buildings and equipment for two drainage research stations; and

(ix) Technical assistance and staff training programs.

Items (i) and (ii) above would be implemented by DSI, (iii)-(viii) by GDRS, and (ix) by both. It is anticipated that the remainder of the Core Program (consisting of works to be initiated from mid-1989 to 1991 and completed by about 1993) would be considered for financing under a second Bank loan.

53. The Government's program for the first year, which consists only of rehabilitation of surface drains, would be selected from an overall program for surface drainage rehabilitation which has been reviewed (on a sample basis) by the Bank and is considered appropriate. All design work for this program for rehabilitation of surface drains has been completed. The specific list of subprojects selected to be carried out during the first year of the project would be submitted to the Bank for approval in early 1986. Criteria have also been agreed for the selection of subprojects for inclusion in subsequent years' programs. Prior to initiating procurement for the second year's program, and annually thereafter, the subprojects to be included would be selected by the Government in accordance with the agreed criteria and, together with designs prepared with the assistance of the consultants financed under the ASAL (para. 47), submitted to the Bank for approval. Since the ASAL financing of these consultants is expected to be completed in about two years, the proposed Drainage and On-Farm Development Loan includes funds for continuing the service of these consultants, who would be retained until the end of the implementation period.

Riparian Rights

54. It has been agreed that the subprojects to be financed under the loan would be selected from an agreed list of 155 completed or on-going DSI irrigation and drainage schemes. None of these 155 schemes is located on an international river and therefore no riparian rights issues are involved.

Cost Estimates and Financing

55. The estimated total cost of first time slice of the Core Program to be financed under the proposed loan is about $480.5 million, excluding about $23 million of taxes and duties and the drainage maintenance equipment, technical assistance and training financed under ASAL. The foreign exchange component, both direct and indirect, is estimated at about $255 million or 53 percent of the total cost. Physical contingencies at 15 percent of the base cost have been included for civil works. Price contingencies in dollar terms have been compounded annually for the years 1986 to 1991 at 7, 7, 7.5, 7.7, 7.6 and 4.5 percent respectively, for both local and foreign costs. (While local costs in TL are expected to increase at a faster rate, it is assumed that the Government will maintain current exchange rate policies which compensate for differences between local and foreign inflation.) The proposed Bank loan of $255 million would finance the equivalent of the estimated foreign exchange cost of the project. The remaining costs would be financed by the Government. The Bank has reviewed the allocations for the various project components included in the 1986 budget and found them to be adequate. For later years the Government would, by September 30 each year, provide to the Bank for comment an annual updated financing plan giving the proposed budget allocations for the project, and updated project schedules and cost estimates.

Contracting and Procurement

56. The rapid increase envisaged in GDRS' implementation capacity for drainage and on-farm development works is expected to be achieved through the use of contractors for types of work previously carried out primarily by force account. About $307 million of such works would be implemented by contractors employed through international competitive bidding (ICB). Subprojects (other than about $2 million for buildings for the research stations and construction of minor buildings for operation and maintenance of the drainage systems) would be regionally combined to form groups sufficiently large to attract international bidders, with a minimum contract size of $15 million equivalent. For drainage works, contracts need to be large enough to justify the contractor's purchases of equipment. Subcontracting would be allowed. Land leveling (for which small locally tendered contracts would be appropriate) would not be financed under this loan. DSI rehabilitation of surface drains (estimated to cost about $122 million) would be carried out by force account, using equipment procured through ICB and financed under the ASAL. These works are spread throughout Turkey, and are too small to be of interest to international contractors. After rehabilitation, the same equipment would be used for periodic maintenance of the drains. The rehabilitation work would be carried out by existing DSI staff employed by its 25 regional directorates. DSI is considered fully competent to carry out these activities in an efficient manner. DSI force account would also be used for about $0.8 million of expenditure for the installation of groundwater monitoring devices. DSI has already installed such equipment in 38 existing schemes and the arrangements for this ongoing program are considered appropriate. Consultants' services (about $7.6 million equivalent) would be provided by firms recruited in accordance with the Bank's guidelines.

Equipment for the research stations and for monitoring groundwater (about $0.20 million) would be procured after soliciting at least three price quotations.

Summary of Procurement Plans
($ million equivalent)

Project Element	ICB	Force Account	Price Quotations	N/A	Total Cost
Civil Works	307.1 (166.1)	164.9 (80.4)	-	-	472.0 (246.5)
Equipment	-	-	0.2 (0.2)	-	0.2 (0.2)
Services	-	-	-	7.6 (7.6)	7.6 (7.6)
Training	-	-	-	0.7 (0.7)	0.7 (0.7)
Total	307.1 (166.1)	164.9 (80.4)	0.2 (0.2)	8.3 (8.3)	480.5 (255.0)

Note: Figures in brackets are the amounts to be financed by the Bank.

Disbursement and Audit

57. The Bank loan would be disbursed against (i) 57 percent of the costs of GDRS civil works; (ii) 45 percent of the costs of DSI civil works; (iii) 100 percent of expenditures for consultants' services; (iv) 100 percent of expenditures for overseas training; and (v) 100 percent of foreign expenditure and local expenditure ex-factory for equipment and for library materials for the research stations. Disbursements would be made against full documentation, except for reimbursements for DSI force account work and contracts below $10,000 for equipment and below $20,000 for civil works, for which statements of expenditure would be used. A revolving fund Special Account would be established in the Central Bank of Turkey, to which the Bank would make an initial deposit of $20 million, so as to avoid the need for the Government to prefinance contracts and then await Bank reimbursement. The loan is expected to be disbursed within about seven years. This corresponds to about 95 percent of the disbursements under the standard agriculture sector profile for Turkey.

58. DSI and GDRS would each maintain separate accounts for the project. Staff of the two agencies would prepare at the end of each quarter a detailed statement of project expenditures during the period and submit each statement to the Bank within 45 days after the end of each quarter. Such statements would, inter alia, be used as the basis for Bank review of progress and

supervision of costs of DSI force account works. An annual audit would be carried out by auditors of the Undersecretariat for Treasury and Foreign Trade and submitted to the Bank within nine months of the end of each fiscal year.

Other Project Features

59. The Government would implement an agreed extension system in the areas served by the project, upon completion of the irrigation works for each subproject area. This extension system would be based upon the model introduced in 16 provinces under the Agricultural Extension and Applied Research Project (Loan 2405-TU). A second extension and research project is under preparation and would be expected to place special emphasis on raising productivity in irrigated areas. The Government would take measures to ensure adequate maintenance of facilities constructed or rehabilitated under this loan. DSI has adequate maintenance staff, and is fully capable of providing appropriate maintenance with the provision of the equipment financed under the ASAL (para. 47). GDRS has no maintenance staff and is expected to organize farmer cooperatives to maintain the facilities it constructs. Most of the GDRS drainage facilities constructed under this project would be subsurface drains and would not require regular maintenance. However, the collector drains constructed by GDRS would require periodic inspection and occasional maintenance. GDRS operates a special fund for repairs financed through annual budget allocations, and has agreed to use this fund for financing such occasional maintenance work by contractors.

Environmental Impact

60. The proposed project is confined to areas which are already developed and served by fully or partially completed irrigation and drainage systems. In the coastal areas, which predominate, the project is likely to have beneficial effects by providing drainage to the waterlogged land in several subproject areas with effluent going into the sea. In the case of inland rivers which open into lakes, the salts and other pollutants carried would be inconsequential and there would be no significant detrimental effects. The improved drainage provided under the project would also be expected to reduce mosquito breeding areas and lead to a reduction in the incidence of malaria.

Benefits and Risks

61. The proposed program, at full development, would lead to improved agricultural production on 220,000 ha[1/] of waterlogged land which would benefit from improved drainage. The project is expected to benefit directly

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1/ This estimate and the resulting economic benefits are conservative in that they exclude the additional areas which would progressively become waterlogged without the project. The extent of such area is difficult to predict. The estimated benefitted area is less than the 668,000 ha shown in para. 52 since only part of the total area without adequate drainage becomes waterlogged, through collection of the excess water from other parts of the area.

over 97,000 farm families. The net disposable farm incomes of these farmers at full development would average about three to six times higher than without the project. In addition, as a result of the intensification of cropping patterns and practices under the project, the annual demand for seasonal labor would increase; it is estimated that at full development, about 350,000 more people will find temporary employment on farms in the project area during the off-peak farm labor season. Additional non-quantifiable benefits include a strengthening of irrigation operations and investment management through provision of staff training and improvements in investment selection criteria, and a reduction in malaria incidence due to the improved drainage.

62. Full development would be achieved in the tenth year of the project (1996). At that time total incremental production would amount to about $107 million per year equivalent in 1985 economic prices. Of this, about 70 percent would be derived from increased production of cotton, 15 percent from wheat, and the remainder from fodder and broad beans. No problem is anticipated in the marketing of the additional output. Additional exports of cotton and pulses and reduced imports of wheat are expected to generate about $160 million of foreign exchange earnings/savings (net of about $17 million of incremental imports of fertilizer and other inputs).

63. The economic rate of return for the first time slice of the Core Program is estimated at about 22 percent. Sensitivity analysis indicates that satisfactory returns would be achieved even with substantial increases in investment costs or farm production costs. The benefits are sensitive to variation in assumed yield levels and prices. However, the assumed yield levels have already been achieved in similar areas not affected by waterlogging, and do not take account of expected improvements through improved technology. Changes in international prices are considered more likely to affect the cropping pattern than to affect the economic viability of all suitable crops in the project area. Thus the economic benefits from the proposed investment program are relatively secure.

Project Risks

64. The proposed investment program would entail lower risk than many others in Turkey because it would support tested technical improvements in areas already supported by major irrigation infrastructure. Projected cropping practices and yield levels for the areas to be improved already are achieved in adjacent areas not effected by waterlogging and salinity. Domestic and export market prospects are good and marketing channels are well established. The main risks to achieving project objectives are:

(a) Institutional capacity to prepare, evaluate and select priority investments;

(b) DSI and GDRS' ability to coordinate overlapping implementation plans and schedules;

(c) Availability of funding for the irrigation and drainage subsector and the Core Program; and

(d) Availability of adequate funding for O&M.

Measures are included to minimize these risks. Consultants' services and training programs financed under the ASAL and this proposed loan are expected to make a major contribution in increasing the capacity of DSI and GDRS to carry out the selection and preparation of subprojects. DSI and GDRS would evaluate the individual subprojects using criteria and methodology agreed with the Bank. The availability of adequate local budgetary support, the absence of which delayed some projects in the past, would also be a risk under the proposed subloan. However, current economic conditions are substantially improved over conditions in the past. The Government's indicative planning figures for the irrigation subsector, in line with Government's policy statements recorded in connection with the ASAL, show agriculture receiving about 10 percent of the public investment budget, with about two-thirds of this amount allocated for irrigation and drainage. Within the irrigation subsector, the Government's planning figures provide for progressive increases in real terms of the share allocated for drainage and on-farm development. To minimize the risk of a funding shortfall, assurances have been received (see para 55) that the Government would, for each year of the implementation period, give the Bank an opportunity to comment on the proposed allocations for the project prior to finalization of the budget. If a shortfall in annual program funding should occur, selected subprojects in the program could be deferred, thus extending program completion, without jeopardizing the realization of individual project benefits or subsector objectives. Recent progress (para. 46) in assessing and collecting water charges should also be helpful in increasing availability of funds for maintenance.

PART V - RECOMMENDATION

65. I am satisfied the proposed loan would comply with the Articles of Agreement of the Bank and recommend that the Executive Directors approve the proposed loan.

A. W. Clausen
President

Attachment
February 24, 1986
Washington D. C.

TABLE 3A

TURKEY - SOCIAL INDICATORS DATA SHEET

	TURKEY			REFERENCE GROUPS (WEIGHTED AVERAGES) /a (MOST RECENT ESTIMATE) /b	
	TURKEY				
	1960 /b	1970 /b	MOST RECENT ESTIMATE /b	MIDDLE INCOME EUROPE	INDUSTRIAL MARKET ECONOMIES
AREA (THOUSAND SQ. KM)					
TOTAL	780.6	780.6	780.6	.	.
AGRICULTURAL	368.7	381.8	366.8	.	.
GNP PER CAPITA (US$)	..	..	1240.0	2144.3	11062.9
ENERGY CONSUMPTION PER CAPITA					
(KILOGRAMS OF OIL EQUIVALENT)	170.0	362.0	570.0	1119.8	4991.3
POPULATION AND VITAL STATISTICS					
POPULATION,MID-YEAR (THOUSANDS)	27509.0	35321.0	47279.0	.	.
URBAN POPULATION (% OF TOTAL)	29.7	32.9	45.1	47.5	76.7
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILL)			65.4	.	.
STATIONARY POPULATION (MILL)			111.0	.	.
POPULATION MOMENTUM			1.8	.	.
POPULATION DENSITY					
PER SQ. KM.	35.2	45.2	60.6	84.7	140.8
PER SQ. KM. AGRI. LAND	74.6	92.5	126.3	166.9	522.2
POPULATION AGE STRUCTURE (%)					
0-14 YRS	41.2	41.0	37.6	31.2	21.3
15-64 YRS	55.2	54.3	57.9	61.5	66.6
65 AND ABOVE	3.5	4.6	4.3	7.2	12.0
POPULATION GROWTH RATE (%)					
TOTAL	2.8	2.5	2.2	1.6	0.8
URBAN	6.1	3.6	4.8	3.7	1.3
CRUDE BIRTH RATE (PER THOUS)	43.1	37.9	30.6	23.4	13.5
CRUDE DEATH RATE (PER THOUS)	15.8	12.2	8.6	8.9	8.9
GROSS REPRODUCTION RATE	2.9	2.6	2.0	1.5	0.9
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUS)	..	65.6	..	.	.
USERS (% OF MARRIED WOMEN)	5.3 /c	32.0 /d,e	38.0 /f	..	71.1
FOOD AND NUTRITION					
INDEX OF FOOD PROD. PER CAPITA					
(1969-71=100)	96.0	100.0	110.0	109.1	107.2
PER CAPITA SUPPLY OF					
CALORIES (% OF REQUIREMENTS)	109.0	112.0	125.0	131.5	132.9
PROTEINS (GRAMS PER DAY)	84.0	80.0	83.0	92.4	101.0
OF WHICH ANIMAL AND PULSE	25.0	23.0	25.0 /g	34.5	61.4
CHILD (AGES 1-4) DEATH RATE	42.5	27.5	8.0	4.7	0.4
HEALTH					
LIFE EXPECT. AT BIRTH (YEARS)	50.5	55.9	63.2	67.2	75.5
INFANT MORT. RATE (PER THOUS)	177.8	136.2	82.0	53.3	9.9
ACCESS TO SAFE WATER (%POP)					
TOTAL	..	52.0	76.0 /h	70.2	..
URBAN	..	51.0	95.0 /h	89.4	..
RURAL	..	53.0	62.0 /h	57.0	..
ACCESS TO EXCRETA DISPOSAL					
(% OF POPULATION)					
TOTAL	..	..	..	59.6	..
URBAN	..	..	60.1 /h	65.9	..
RURAL	..	..	..	47.6	..
POPULATION PER PHYSICIAN	2800.0	2230.0	1630.0 /h	1070.6	553.2
POP. PER NURSING PERSON	16300.0 /i	1880.0	1130.0 /h	769.5	166.8
POP. PER HOSPITAL BED					
TOTAL	600.0	490.0	490.0 /f	328.3	120.9
URBAN	340.0 /i	270.0 /i	270.0 /g	201.9	143.2
RURAL	5100.0 /i	6510.0 /i	5650.0 /g	4519.7	778.8
ADMISSIONS PER HOSPITAL BED	..	20.2	22.3 /g	20.0	17.8
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	5.7 /k	5.9	..	..	..
URBAN	..	..	..	..	..
RURAL	..	..	..	..	..
AVERAGE NO. OF PERSONS/ROOM					
TOTAL	2.4 /k	2.2	..	..	..
URBAN	2.0 /k	1.9	..	..	..
RURAL	2.7 /k	..	..	..	..
PERCENTAGE OF DWELLINGS WITH ELECT.					
TOTAL	29.0	41.1	..	..	..
URBAN	..	78.2	..	..	..
RURAL	2.0	18.0	..	..	..

TABLE 3A

TURKEY - SOCIAL INDICATORS DATA SHEET

	TURKEY			REFERENCE GROUPS (WEIGHTED AVERAGES) /a (MOST RECENT ESTIMATE) /b	
	1960/b	1970/b	MOST RECENT ESTIMATE/b	MIDDLE INCOME EUROPE	INDUSTRIAL MARKET ECONOMIES
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	75.0	110.0	102.0	101.9	101.2
MALE	90.0	124.0	110.0	106.2	102.6
FEMALE	58.0	95.0	95.0	97.5	102.4
SECONDARY: TOTAL	14.0	27.0	39.0	57.5	87.1
MALE	20.0	38.0	50.0	64.9	80.3
FEMALE	8.0	15.0	27.0	50.0	84.1
VOCATIONAL (% OF SECONDARY)	17.7	13.7	21.9	21.0	18.4
PUPIL-TEACHER RATIO					
PRIMARY	46.0	38.0	28.0	25.1	16.7
SECONDARY	19.0	28.0	19.0	19.1	11.6
CONSUMPTION					
PASSENGER CARS/THOUSAND POP	1.7	3.9	11.5 /1	54.2	366.3
RADIO RECEIVERS/THOUSAND POP	49.1	87.7	93.0	170.7	1093.2
TV RECEIVERS/THOUSAND POP	0.0	1.8	105.8	149.3	492.3
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	51.3	40.6	89.1 /m	97.0	320.4
CINEMA ANNUAL ATTENDANCE/CAPITA	1.1	7.0	1.4 /h	2.7	3.3
LABOR FORCE					
TOTAL LABOR FORCE (THOUS)	13782.0	15829.0	20660.0	.	.
FEMALE (PERCENT)	40.2	37.0	36.3	36.3	36.2
AGRICULTURE (PERCENT)	78.5	67.7	53.5 /h	40.8	6.2
INDUSTRY (PERCENT)	10.5	12.1	12.8 /h	23.3	37.7
PARTICIPATION RATE (PERCENT)					
TOTAL	50.1	44.8	43.7	43.1	46.0
MALE	58.7	55.7	54.8	55.1	59.5
FEMALE	41.2	33.6	32.2	31.4	32.7
ECONOMIC DEPENDENCY RATIO	0.9	1.0	1.0	0.9	0.7
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5% OF HOUSEHOLDS	33.0 /c	32.8 /d	..	..	..
HIGHEST 20% OF HOUSEHOLDS	61.0 /c	60.6 /d	..	..	43.1
LOWEST 20% OF HOUSEHOLDS	4.2 /c	2.9 /d	..	..	5.4
LOWEST 40% OF HOUSEHOLDS	10.6 /c	9.4 /d	..	..	16.4
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US$ PER CAPITA)					
URBAN	..	..	342.0 /f	..	..
RURAL	..	..	270.0 /f	..	..
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US$ PER CAPITA)					
URBAN	..	..	..	..	..
RURAL	..	..	220.0 /f	..	..
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)					
URBAN	..	..	..	..	..
RURAL	..	..	..	..	..

.. NOT AVAILABLE
. NOT APPLICABLE

NOTES

/a The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.

/b Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1981 and 1983.

/c 1963; /d 1968; /e Ages 15-44; /f 1978; /g 1977; /h 1980; /i 1962; /j 1972; /k 1965; /l 1976; /m 1979.

DEFINITIONS OF SOCIAL INDICATORS

Notes: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "High Income Oil Exporters" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the averages are population weighted arithmetic means for each indicator and shown only when majority of the countries in a group has data for that indicator. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time among the country and reference groups.

AREA (thousand sq.km.)

Total—Total surface area comprising land area and inland waters; 1960, 1970 and 1983 data.

Agricultural—Estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow, 1960, 1970 and 1982 data.

GNP PER CAPITA (US$)—GNP per capita estimates at current market prices, calculated by same conversion method as *World Bank Atlas* (1981-83 basis); 1983 data.

ENERGY CONSUMPTION PER CAPITA—Annual apparent consumption of commercial primary energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of oil equivalent per capita; 1960, 1970, and 1982 data.

POPULATION AND VITAL STATISTICS

Total Population, Mid-Year (thousands)—As of July 1; 1960, 1970, and 1983 data.

Urban Population (percent of total)—Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1983 data.

Population Projections

Population in year 2000—The projection of population for 2000, made for each economy separately. Starting with information on total population by age and sex, fertility rates, mortality rates, and international migration in the base year 1980, these parameters were projected at five-year intervals on the basis of generalized assumptions until the population became stationary.

Stationary population—Is one in which age- and sex-specific mortality rates have not changed over a long period, while age-specific fertility rates have simultaneously remained at replacement level (net reproduction rate = 1). In such a population, the birth rate is constant and equal to the death rate, the age structure is also constant, and the growth rate is zero. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

Population Momentum—Is the tendency for population growth to continue beyond the time that replacement-level fertility has been achieved; that is, even after the net reproduction rate has reached unity. The momentum of a population in the year *t* is measured as a ratio of the ultimate stationary population to the population in the year *t*, given the assumption that fertility remains at replacement level from year *t* onward, 1985 data.

Population Density

Per sq.km.—Mid-year population per square kilometer (100 hectares) of total area; 1960, 1970, and 1983 data.

Per sq.km. agricultural land—Computed as above for agricultural land only, 1960, 1970, and 1982 data.

Population Age Structure (percent)—Children (0-14 years), working age (15-64 years), and retired (65 years and over) as percentage of mid-year population; 1960, 1970, and 1983 data.

Population Growth Rate (percent)—total—Annual growth rates of total mid-year population for 1950-60, 1960-70, and 1970-83.

Population Growth Rate (percent)—urban—Annual growth rates of urban population for 1950-60, 1960-70, and 1970-83 data.

Crude Birth Rate (per thousand)—Number of live births in the year per thousand of mid-year population; 1960, 1970, and 1983 data.

Crude Death Rate (per thousand)—Number of deaths in the year per thousand of mid-year population; 1960, 1970, and 1983 data.

Gross Reproduction Rate—Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1983.

Family Planning—Acceptors, Annual (thousands)—Annual number of acceptors of birth-control devices under auspices of national family planning program.

Family Planning—Users (percent of married women)—The percentage of married women of child-bearing age who are practicing or whose husbands are practicing any form of contraception. Women of child-bearing age are generally women aged 15-49, although for some countries contraceptive usage is measured for other age groups.

FOOD AND NUTRITION

Index of Food Production Per Capita (1969-71 = 100)—Index of per capita annual production of all food commodities. Production excludes animal feed and seed for agriculture. Food commodities include primary commodities (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded); they comprise cereals, root crops, pulses, oil seeds, vegetables, fruits, nuts, sugarcane and sugar beets, livestock, and livestock products. Aggregate production of each country is based on national average producer price weights; 1961-65, 1970, and 1982 data.

Per Capita Supply of Calories (percent of requirements)—Computed from calorie equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds for use in agriculture, quantities used in food processing, and losses in distribution. Requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distribution of population, and allowing 10 percent for waste at household level; 1961, 1970 and 1982 data.

Per Capita Supply of Protein (grams per day)—Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by USDA provide for minimum allowances of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Supply; 1961, 1970 and 1982 data.

Per Capita Protein Supply From Animal and Pulse—Protein supply of food derived from animals and pulses in grams per day; 1961-65, 1970 and 1977 data.

Child (ages 1-4) Death Rate (per thousand)—Number of deaths of children aged 1-4 years per thousand children in the same age group in a given year. For most developing countries data derived from life tables; 1960, 1970 and 1983 data.

HEALTH

Life Expectancy at Birth (years)—Number of years a newborn infant would live if prevailing patterns of mortality for all people

at the time of of its birth were to stay the same throughout its life; 1960, 1970 and 1983 data.

Infant Mortality Rate (per thousand)—Number of infants who die before reaching one year of age per thousand live births in a given year; 1960, 1970 and 1983 data.

Access to Safe Water (percent of population)—total, urban, and rural—Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to Excreta Disposal (percent of population)—total, urban, and rural—Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

Population per Physician—Population divided by number of practising physicians qualified from a medical school at university level.

Population per Nursing Person—Population divided by number of practicing male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.

Population per Hospital Bed—total, urban, and rural—Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private, general and specialized hospitals and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities.

Admissions per Hospital Bed—Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING

Average Size of Household (persons per household)—total, urban, and rural—A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes.

Average Number of Persons per Room—total, urban, and rural—Average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

Percentage of Dwellings with Electricity—total, urban, and rural—Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATION

Adjusted Enrollment Ratios

Primary school - total, male and female—Gross total, male and female enrollment of all ages at the primary level as percentages of respective primary school-age populations. While many countries consider primary school age to be 6-11 years, others do not. The differences in country practices in the ages and duration of school are reflected in the ratios given. For some countries with universal education, gross enrollment may exceed 100 percent since some pupils are below or above the country's standard primary-school age.

Secondary school - total, male and female—Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instructions for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.

Vocational Enrollment (percent of secondary)—Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions.

Pupil-teacher Ratio - primary, and secondary—Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.

CONSUMPTION

Passenger Cars (per thousand population)—Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

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

TV Receivers (per thousand population)—TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

Newspaper Circulation (per thousand population)—Shows the average circulation of "daily general interest newspaper," defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.

Cinema Annual Attendance per Capita per Year—Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

LABOR FORCE

Total Labor Force (thousands)—Economically active persons, including armed forces and unemployed but excluding housewives, students, etc., covering population of all ages. Definitions in various countries are not comparable; 1960, 1970 and 1983 data.

Female (percent)—Female labor force as percentage of total labor force.

Agriculture (percent)—Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1980 data.

Industry (percent)—Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1980 data.

Participation Rate (percent)—total, male, and female—Participation or activity rates are computed as total, male, and female labor force as percentages of total, male and female population of all ages respectively; 1960, 1970, and 1983 data. These are based on ILO's participation rates reflecting age-sex structure of the population, and long time trend. A few estimates are from national sources.

Economic Dependency Ratio—Ratio of population under 15, and 65 and over, to the working age population (those aged 15-64).

INCOME DISTRIBUTION

Percentage of Total Disposable Income (both in cash and kind)—Accruing to percentile groups of households ranked by total household income.

POVERTY TARGET GROUPS

The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.

Estimated Absolute Poverty Income Level (US$ per capita)—urban and rural—Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated Relative Poverty Income Level (US$ per capita)—urban and rural—Rural relative poverty income level is one-third of average per capita personal income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

Estimated Population Below Absolute Poverty Income Level (percent)—urban and rural— Percent of population (urban and rural who are "absolute poor."

Comparative Analysis and Data Division
Economic Analysis and Projections Department
June 1985

TURKEY - COUNTRY DATA

Population: 46.8 million (1984)
GNP Per Capita: US$1200 (1984)

Indicator	Amount (million US$ at current prices) 1984	Average Annual Increase (%) (at constant 1980 prices) 1965-70	1970-75	1975-80	1980-84	Share of GDP Market Prices (%) (at current prices) 1965	1970	1975	1980	1984
NATIONAL ACCOUNTS										
Gross domestic product a/	49,600	6.6	7.5	2.8	4.7	100.0	100.0	100.0	100.0	100.0
Agriculture	9,199	3.1	4.4	2.7	2.5	30.7	26.4	26.2	21.4	18.5
Industry b/	13,952	9.5	9.5	2.8	7.4	16.6	17.2	18.0	28.6	28.1
Services	24,304	8.2	8.0	3.7	4.6	42.9	46.5	46.0	44.3	48.9
Consumption	41,970	5.8	7.0	1.7	3.5	84.6	82.8	85.2	81.8	84.5
Gross investment	10,100	11.7	12.9	-0.1	2.9	16.7	20.1	23.3	26.4	20.2
Exports of goods and NFS	8,615	7.9	7.3	4.4	28.8	6.1	5.8	6.1	7.1	17.4
Imports of goods and NFS	11,085	11.2	13.8	-3.1	8.1	7.4	8.7	14.5	15.2	22.1
Gross national savings	8,630	11.6	11.9	9.8	10.8	15.8	18.8	18.1	18.3	17.4

	1984	Average Annual Increase (%) (At constant 1980 prices) 1972-75	1975-80	1980-84	Composition of Merchandise Trade (%) (at current prices) 1972	1975	1980	1984
MERCHANDISE TRADE c/								
Merchandise exports	7,134	-6.1	2.8	33.2	100.0	100.0	100.0	100.0
Primary	1,989	-6.3	4.0	15.5	72.6	64.1	64.0	27.9
Industrial products	5,145	-5.8	0.9	45.3	27.4	35.9	36.0	72.1
Merchandise imports	10,757	11.2	1.2	10.7	100.0	100.0	100.0	100.0
Agriculture and livestock	418	27.9	-23.8	87.1	2.2	4.3	0.7	3.9
Mining and quarrying	271	17.4	6.8	22.2	1.2	1.6	1.8	2.5
Petroleum	3,373	5.4	11.0	-1.2	9.9	17.1	48.8	31.3
Machinery and equipment	2,252	14.0	-12.1	18.5	45.0	35.6	18.2	20.1
Other industrial products	4,443	9.9	4.5	15.1	41.7	41.4	30.5	42.2

	1978	1979	1980	1981	1982	1983	1984
PRICES AND TERMS OF TRADE							
GDP deflator (1980 = 100)	29.0	49.4	100.0	142.1	181.8	233.3	351.1
Exchange rate	24.3	31.1	76.0	111.2	162.6	225.5	366.7
Export price index	63.0	78.2	100.0	95.8	94.4	82.6	83.6
Import price index	61.2	71.9	100.0	101.2	100.3	93.4	94.0
Terms of trade index	102.9	108.8	100.0	94.7	94.1	88.4	88.9

	As % of GDP (at current prices) 1965	1970	1975	1980	1984
PUBLIC FINANCE (Central Government)					
Current revenue	15.0	22.6	22.0	19.8	15.5
Current expenditure	10.0	11.8	12.6	11.5	10.1
Surplus (+) or deficit (-)	-2.0	-2.3	-0.4	-4.8	-4.9
Investment expenditure	4.7	5.7	4.2	3.9	3.7
Transfers	5.0	7.5	5.5	9.2	6.6
Foreign financing	1.8	1.6	0.3	0.2	1.8

	1965-70	1970-75	1975-80	1980-84
OTHER INDICATORS				
GNP growth rate (%)	6.8	7.7	2.6	4.7
GNP per capita growth rate (%)	4.1	5.0	0.3	2.1
ICOR	2.9	2.9	5.7	4.7
Marginal savings rate (%)	28.2	19.5	30.8	27.5
Import elasticity	1.7	1.8	0.5	1.8

a/ At market prices; components are expressed at factor cost and will not add due to exclusion of net indirect taxes and subsidies.
b/ Includes mining and quarrying, manufacturing, and electricity, gas, and water.
c/ In accordance with Turkish Government's specifications, which are not compatible with SITC's.

TURKEY - BALANCE OF PAYMENTS, EXTERNAL CAPITAL, AND DEBT /a
(million US$ at current prices)

Population: 48.8 million (1984)
GNP Per Capita: US$1200 (1984)

	Actual						Estimate	Projected			
	1972	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
BALANCE OF PAYMENTS /b											
Net exports of goods & NFS	-674	-4627	-3230	-1867	-2250	-2470	-2086	-1876	-1705	-1521	-1851
Exports of goods & NFS	1153	4171	6486	7744	7950	8615	9512	10926	12794	15043	17727
Imports of goods & NFS	1827	8798	9716	9611	10240	11085	11598	12802	14499	16564	19578
Workers' remittances	740	2071	2490	2167	1554	1791	2190	2321	2437	2535	2636
Net transfers	46	-	-	-	-	228	250	-	-	-	-
Current account balance	15	-3272	-1982	-1188	-2122	-1426	-750	-718	-416	-213	-499
Direct private investment	82	128	113	90	143	96	100	120	140	160	180
Public M&LT (gross) /c	294	2350	2237	2504	2155	2649	2836	3134	3360	3613	3841
Amortization on M&LT /c	-117	-436	-560	-954	-1513	-1242	-2006	-2175	-2261	-2674	-3005
Public M&LT (net) /c	177	1914	1677	1550	642	1407	830	959	1099	939	836
Other capital /d	292	1837	462	30	1389	-206	763	80	56	-41	87
Change in reserves (- = increase)	-566	-607	-270	-482	-52	129	-943	-441	-879	-845	-603
International reserves	1325	1209	1658	1960	2253	2124	3067	3509	4388	5232	5835
Reserves as months of imports	9	2	2	2	3	2	3	3	4	4	4

	Actual					
	1972	1980	1981	1982	1983	1984
GROSS DISBURSEMENTS						
Gross disbursements	369	2268	2148	2241	1748	2424
Official grants	-	-	300	200	150	-
Concessional	269	612	622	429	364	400
Bilateral	248	784	599	402	340	325
IDA	4	-	-	-	-	-
Other multilateral	17	29	23	27	24	75
Non-concessional	100	1455	1226	1613	1234	2024
Official export credits	1	273	275	262	155	516
IBRD	25	313	454	500	486	628
Other multilateral	27	154	167	207	127	158
Private	47	715	330	644	466	722
EXTERNAL DEBT						
Debt outstanding and disbursed	2450	15228	15519	15930	15444	15774
Official	2273	10055	10598	10997	10751	11018
IBRD	92	1158	1546	1962	2336	2823
IDA	99	189	188	187	184	181
Other	2082	7671	7975	7673	8231	8014
Private	177	5173	4921	4933	4693	4756
Debt outstanding including undisbursed	3560	18704	19087	18721	18969	19911
DEBT SERVICE						
Total debt service /e	224	1019	1315	1753	2184	2226
Payments	161	406	524	836	1059	1178
Interest	63	613	792	918	1125	1048
Total debt service as % exports of GNFS + workers' remittances	11.8	16.3	14.6	17.7	23.0	21.4
Average interest rate on new loans (%)	4.4	8.2	7.6	11.1	8.3	9.6
Official	4.5	5.9	6.7	10.0	7.7	8.3
Private	6.8	17.5	15.5	14.9	9.4	11.2
Average maturity of new loans (years)	22.1	16.0	15.3	13.2	14.2	12.2
Official	26.0	19.1	16.5	15.6	18.0	14.8
Private	11.0	4.5	5.6	5.5	6.3	9.1
BANK GROUP EXPOSURE (%)						
IBRD DOD/total DOD	3.7	7.6	10.0	12.3	15.1	17.9
IBRD disbursements/total gross disbursements	6.7	13.8	21.0	22.3	27.8	25.9
IBRD debt service/total debt service /e	5.1	13.1	12.4	11.9	12.5	15.3
IDA DOD/total DOD	3.9	1.2	1.2	1.2	1.2	1.1
IDA disbursements/total gross disbursements	1.1	-	-	-	-	-
IDA debt service/total debt service /e	0.4	0.2	0.2	0.2	0.2	0.2

	As % of Debt Outstanding at End of Most Recent Year (1984)
TERMS STRUCTURE	
Maturity structure of debt outstanding (%)	
Maturities due within 5 years	47.2
Maturities due within 10 years	81.5
Interest structure of debt outstanding (%)	
Interest due within first year	6.1

/a All entries on external capital debt section are defined as in the Bank's Debtor Reporting System (only public and private guaranteed M&LT debt).
/b Based on new balance of payments classification, for the period 1984-89.
/c Includes private guaranteed and non-guaranteed debt and grants.
/d Includes errors and omissions, and for projected years it includes net IMF, short-term, and unidentified capital inflows.
/e Takes account of debt relief due to debt rescheduling, and excludes interest on short-term debt and private non-guaranteed debt.

STATUS OF BANK GROUP OPERATIONS IN TURKEY

A. STATEMENT OF BANK LOANS AND IDA CREDITS /a
(As of September 30, 1985)

Loan Number	Fiscal Year	Borrower	Purpose	Amount ($ millions) /b Bank	IDA	Undisbursed
Forty-seven loans and fourteen credits fully disbursed				3064.98	196.15	
1585-TU	1978	Republic of Turkey	Northern Forestry	86.00		39.65
1586-TU	1978	Republic of Turkey	Livestock IV	24.00		11.78
1606-TU	1978	Republic of Turkey	Erdemir Steel Stage II	95.00		17.42
1742-TU	1979	Republic of Turkey	Grain Storage	79.00		74.59
1754-TU	1980	Industrial Development Bank of Turkey (TSKB)	Private Sector Textiles	65.00		4.15
1755-TU	1980	Industrial Investment and Credit Bank (SYKB)	Private Sector Textiles	15.00		3.44
1844-TU	1980	Republic of Turkey	Karakaya Hydropower	120.00		3.65
1847-TU	1980	Republic of Turkey	Sumerbank Cotton Textiles	83.00		10.22
1862-TU	1980	Republic of Turkey	Livestock V	51.00		31.42
1916-TU	1981	Republic of Turkey	Petroleum Exploration	25.00		9.83
1917-TU	1981	Republic of Turkey	Oil Recovery	62.00		16.55
1952-TU	1981	Republic of Turkey	Labor Intensive Industry	40.00		7.22
1967-TU	1981	Republic of Turkey	Second Fruit and Vegetables	40.00		24.50
1985-TU	1981	Republic of Turkey	Fertilizer Industry Rehabilitation	110.00		56.47
1998-TU	1981	State Investment Bank (DYB)	State Industrial Enterprise Finance	70.00		37.26
2093-TU	1982	TSKB	Export-Oriented Industries	100.00		28.75
2094-TU	1982	Republic of Turkey	Erzurum Rural Development	40.00		28.76
2131-TU	1982	Republic of Turkey	Second Fertilizer Rehabilitation	38.00		31.21
2137-TU	1982	Republic of Turkey	Highway	71.10		27.03
2159-TU	1982	Istanbul Water Supply and Sewerage General Directorate (ISKI)	Istanbul Sewerage	88.10		82.89
2318-TU	1983	TKZB	Second Agricultural Credit	150.40		107.28
2322-TU	1983	Turkish Electricity Authority (TEK)	Third TEK Transmission	163.00		143.09
2327-TU	1983	Turkish Petroleum Corporation (TPAO)	Thrace Gas Exploration	55.20		48.27
2399-TU	1984	Republic of Turkey	Industrial Training	36.80		34.59
2400-TU	1984	Republic of Turkey	Technical Assistance for SEEs	4.65		4.54
2405-TU	1984	Republic of Turkey	Agr.Extension and Research	72.20		67.44
2433-TU	1984	Republic of Turkey	GAP Irrigation	115.30		108.86
2439-TU	1984	Republic of Turkey	Second Highway	186.40		174.50
2535-TU	1985	Republic of Turkey	Third Ports	134.50		- /c
2536-TU	1985	Republic of Turkey	Industrial Schools	57.70		57.70
2537-TU	1985	Republic of Turkey	Cukurova Reg. Urban Devt.	9.20		7.17
2545-TU	1985	Republic of Turkey	Pulp and Paper Rehab.	55.10		55.10
2585-TU	1985	Republic of Turkey	Agric. Sector Adjustment Ln.	300.00		250.41
2586-TU	1985	Turkish Electricity Authority (TEK)	Fourth TEK Transmission	142.00		- /d
2602-TU	1986	Turkish Electricity Authority (TEK)	Power System Operations Asst.	140.00		- /e
		Total		5989.63	196.15	1605.74
		of which has been repaid		733.42	17.36	
		Total now outstanding		5256.21	178.79	
		Amount sold	3.55			
		of which has been repaid	3.55	- 0 -	- 0 -	
		Total now held by Bank and IDA /f		5256.21	178.79	
		Total undisbursed		1605.74	- 0 -	

/a The status of the projects listed in Part A is described in a separate report on all Bank/IDA financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.
/b Net of cancellations.
/c Loan Agreement became effective 10/4/85.
/d Loan Agreement became effective 10/7/85.
/e Loan Agreement became effective 10/8/85.
/f Prior to exchange adjustments.

STATUS OF BANK GROUP OPERATIONS IN TURKEY

B. STATEMENT OF IFC INVESTMENTS
(As of September 30, 1985)

Fiscal Year	Obligor	Type of Business	Amount $ Millions Loan	Equity	Total
1964/67/69/ 72/73/75/76/ 77/80/83	TSKB	DFC	60.00	4.77	64.77
1966/69/ 71/72	SIFAS I	Nylon Yarn	3.15	1.42	4.57
1970/71/ 82/83	Viking I	Pulp and Paper	2.50	0.82	3.32
1970	ACS	Glass	10.00	1.58	11.58
1971/76/ 83/84	NASAS	Aluminum	8.58	1.46	10.04
1973	Akdeniz	Tourism	0.33	0.27	0.60
1974/77	Borusan	Steel Pipes	3.60	0.49	4.09
1974	AKSA	Textiles	10.00	-	10.00
1975	Kartaltepe	Textiles	1.30	-	1.30
1975	Sasa	Nylon Yarn	15.00	-	15.00
1975	Aslan	Cement	10.60	-	10.60
1975/78/83	DOKTAS	Steel	7.50	1.53	9.03
1976/79	Asil Celik	Steel	12.00	4.00	16.00
1979	Ege Mosan	Engines for Mopeds	2.15	-	2.15
1979/80/82/ 84/85	ISAS	Motor Vehicles & Access.	8.85	2.34	11.19
1979/81/ 83/84	Trakya Cam	Glass	33.15	3.23	36.38
1980	MENSA	Textiles and Fibers	4.00	-	4.00
1981	Kirklareli Cam Sanayii A.S.	Glass Tableware	12.95	-	12.95
1982	M.A.N. Motors	Motor Vehicles & Access.	7.88	-	7.88
1984	Pinar	Food and Food Processing	3.90	-	3.90
1985	MANAS	Motor Vehicles & Access.	6.47		6.47
	Total Gross Commitments		223.91	21.91	245.82
	Less Cancellations, Terminations, Exchange Adjustments, Repayments and Sales		172.20	9.78	181.98
	Total Commitments now held by IFC		51.71	12.13	63.84
	Total Undisbursed		-	-	-

TURKEY - DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

Supplementary Project Data Sheet

Section I: Timetable of Key Events

(a)	Time taken by Government to prepare project:	About one year
(b)	Agency which prepared the project:	DSI and GDRS
(c)	Project first identified:	July 1984
(d)	Date of Bank Appraisal Mission:	May/June 1985
(e)	Negotiations completed:	January 1986
(f)	Planned date of effectiveness:	June 1986

Section II: Special Bank Implementation Actions

Consultants financed under the Agricultural Sector Adjustment Loan (2545-TU) to assist DSI and GDRS in preparing program and supervising implementation. Equipment financed under the same loan to assist DSI in carrying out drainage improvement program.

Section III: Special Conditions

A. Special Conditions of Effectiveness

(i) Satisfactory arrangements for GDRS cost recovery (para. 46); and

(ii) Appointment of consultants (para. 47).

B. Other Special Conditions

(i) Government to recover adequate water charges, on an agreed basis, on DSI and GDRS works in the areas served by this loan (para 46);

(ii) Subprojects to be selected and designs prepared in accordance with agreed criteria, and submitted to the Bank for approval (para. 53);

(iii) Government to provide annually to the Bank for comment updated implementation plan and proposed budget allocations (para. 55);

(iv) Government to provide extension services, under an agreed system, in areas served by this project (para. 60); and

(v) Government to provide adequate maintenance for facilities constructed or rehabilitated under this project (para. 60).

IBRD 19280

TURKEY
DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

Devegeçidi 10,600

LARGE SCALE IRRIGATION PROJECTS (area in hectares):

Project Stage	Gross Project Area (Ha.)	Number of Units
Existing	1,111,630	146
Under Construction	437,400	52
Designed	488,470	38
Being Designed	285,720	31

NOTE: Only large scale irrigation projects supplied by surface water are shown.

Rivers
Dams/Reservoirs
Diversion Weirs
Pumping Stations
Main Irrigation Canals
Groundwater Irrigation
International Boundaries

0 50 100 Kilometers
0 25 50 75 Miles

ROMANIA · U.S.S.R. · Black Sea · BULGARIA · GREECE · IBRD 19280 · IBRD 19281 · TURKEY · ISLAMIC REP. OF IRAN · SYRIAN ARAB REP. · IRAQ · CYPRUS

SEPTEMBER 1985

IBRD 19281

TURKEY
DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

Selvir 8,080

LARGE SCALE IRRIGATION PROJECTS (area in hectares):

Project Stage	Gross Project Area (Ha.)	Number of Units
Existing	1,111,630	146
Under Construction	437,400	52
Designed	488,470	38
Being Designed	285,720	31

NOTE: Only large scale irrigation projects supplied by surface water are shown.

Rivers
Dams/Reservoirs
Diversion Weirs
Pumping Stations
Main Irrigation Canals
International Boundaries

0 50 100 Kilometers
0 25 50 75 Miles

SEPTEMBER 1985

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

ES F/127

Received 11/15/85

Comments by 11/19/85

DATE November 14, 1985

TO The Loan Committee

FROM Willi A. Wapenhans, Regional Vice President, EMENA

EXTENSION 3-2676

SUBJECT TURKEY - Proposed Loan to the Republic of Turkey for a Drainage and On-Farm Development Project

1. The Committee is requested to consider the attached draft President's Report, Staff Appraisal Report, and Loan Agreement which were submitted under cover of the attached memorandum with which I concur. Questions should be directed to Mr. Henry Gassner, Extension 3-2850.

2. The Issues Paper for this Project is dated June 17, 1985 and the Decision Memorandum is dated July 8, 1985. In the absence of objection by the close of business on November 19, 1985, I plan to inform the Executive Directors of the Bank's intention to invite negotiations for the proposed loan on the terms and conditions set forth in the attached documents.

Attachment

Distribution: Messrs. Stern (3)(SVPOP)
Qureshi (2)(SVPFI)
Husain (4)(OPSVP)
Shihata (2)(VPG)
Dherse (1)(EISVP)

cc: Messrs./Mesdames Hasan, Patel, Reitter (EMNVP), Hittmair (CTRVP), Rotberg (TREVP), Stoutjesdijk, Asfour, Suzuki, O'Donnell (EM2), Picciotto, Pranich, Goffin, Jones, Liebenthal, Harris, Bhatia, Tirmazi, Tellez (EMP), Rovani (2)(EGY), Chaffey, Roy, Anand (EM2DA), Hunt (LEG), Van Praag (LOA)

Reports Desk (3)

HGassner:hp

TURKEY - PROPOSED LENDING PROGRAM FY86-90 /1
($ MILLION)

FY86		FY87		FY88		FY89		FY90	
LENDING									
Elbistan Rehab. *	10.9	Sec.Voc.Tng. II *	100.0 S	Izmir Wat.Sup.& Sew./2	100.0 S	Telecommunications	100.0	Railways III	150.0
Fin.Sect.Adj.Ln. *	250.0	Ag.Ext. & Res. II *	100.0	Gas Distribution	70.0	Egy.Sect.Adj.Ln. II	250.0 S	Ports IV	150.0
Drain/On-Farm Dev.*	250.0	Egy.Sect.Adj.Loan /2	250.0	Ind.Restructuring *	200.0	Bati Raman II	100.0	Ind. Restruct. II	200.0
Kayraktepe Hydro.*/3	250.0	Cukurova Reg.Urban *	200.0	Trans.Sect.Adj.Ln. /2	200.0	Drain/On-Farm Dev. II	200.0	Ag.Sect.Adj.Ln.III	250.0
Power Sys.Op. *	140.0 S	Railways II *	170.0	Ag.Sect.Adj.Ln.II	250.0	Urban Sect.Adj.Ln.	150.0	Water Supply II	200.0
Small & Med.Ind. *	100.0 S	Sir Hydro Power *	146.6 S	Ag.Credit III *	200.0 S	Fin.Sect.Adj.Ln.II	250.0	Power Unident.	150.0
				Boyabat-Kepez Hydro *	150.0	Ind.Trng. & Tech *	100.0 S	Health & Pop.Unident.	50.0
(6)	1000.9	(6)	966.6	(7)	1170.0	(7)	1150.0	(7)	1150.0
STANDBY									
Railways II	170.0	Ag.Credit III	200.0	Fin.Sect.Adj.Ln.II	250.0	Ports IV	150.0		To be determined.
Sir Hydro Power	146.6	Izmir Wat.Sup.& Sew.	100.0	Telecommunications	100.0	Health & Pop.Unident.	50.0		
(2)	316.6	(2)	300.0	(2)	350.0	(2)	200.0	(0)	0.0
OPERATIONS (8)	1317.5	(8)	1266.6	(9)	1520.0	(9)	1350.0	(7)	1150.0
RESERVE									
		PIRL	200.0						
		Power Distr.	100.0						

FY86-90 LENDING TOTAL: $ 5437.5 million (33)

* PB or IPB issued.
/1 This lending program incorporates adjustments
agreed at the Quarterly Operations Program Review on October 22, 1985.
/2 PB or IPB under preparation.
/3 Includes $50 m. Bank participation in proposed B-loan.

FILE: TURLEND
Date: 11/5/1985

SKia:zv

RC. the Steer
E1227

FORM NO. 75
(6–83)

THE WORLD BANK/IFC

ROUTING SLIP	DATE: 11/15/85

NAME	ROOM NO.
Distribution	

	APPROPRIATE DISPOSITION		NOTE AND RETURN
	APPROVAL		NOTE AND SEND ON
	CLEARANCE		PER OUR CONVERSATION
	COMMENT		PER YOUR REQUEST
	FOR ACTION		PREPARE REPLY
	INFORMATION		RECOMMENDATION
	INITIAL		SIGNATURE
	NOTE AND FILE		**URGENT**

REMARKS:

TURKEY: Drainage and On-Farm Development Project

The attached memo was inadvertently left out of the Loan Committee package distributed this morning.

FROM:	ROOM NO.:	EXTENSION:
Henry P. Gaesner	H-8-043	3-2848

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE November 14, 1985

TO Mr. Willi A. Wapenhans, Regional Vice President, EMENA

FROM A Stoutjesdijk, Director, EM2

EXTENSION 3-2400

SUBJECT TURKEY - Drainage and On-Farm Development Project

1. Please find attached, for your approval and subsequent distribution to the Loan Committee, drafts of the President's and Staff Appraisal Reports and the draft Loan Agreement for a proposed loan of $250 million to the Government of Turkey. The attached documents, as well as this memorandum, have been cleared by the Departments concerned. A copy of the latest five-year lending program is also attached.

2. The attached documents are in accord with the recommendations of the Decision Memorandum, with the modifications noted in paragraphs 3 - 5 below.

Cost Estimates and Loan Amount

3. The earlier disagreements concerning project design standards and cost estimates have been resolved during a follow-up mission in October 1985. The amount of the proposed Bank Loan has been increased to $250 million, which will cover all but $24 million of the estimated foreign exchange cost. The Borrower has indicated agreement to financing the remaining foreign exchange cost and the estimated $239 million equivalent of local costs. However, the Government has indicated that, if it is satisfied with the results of its first "B" Loan experience with the Kayraktepe project, it would consider a possible "B" Loan to finance the remaining foreign costs and a portion of the local costs for the project. Such a "B" loan could be arranged after the "A" loan has been approved by the Board. However, the Bank's sounding out of potential participants in the proposed Kayraktepe "B" loan will be completed before the negotiations for the proposed loan are started, thereby enabling the Government and the Bank to review the matter of "B" loan financing for the proposed project during negotiations. If we proceed with a "B" loan, the currently proposed "A" loan amount would be reduced by the amount of our share in the "B" loan financing.

Status of Hiring of Consultants

4. Progress in hiring the project consultants, to be financed through about June 1987 under the Agriculture Sector Adjustment Loan (2585-TU) and thereafter under this proposed loan, has been slower than originally anticipated. However, based upon the discussions of the follow-up mission in October we expect to receive the draft terms of reference and the invitation to submit proposals during this month, for our approval. It should be possible to complete hiring of consultants by January/February 1986. However, in order to be protected if this schedule is not achieved, we would include hiring of the consultants as a condition of loan effectiveness, which we would drop if the consultants are hired prior to Board distribution.

Cost Recovery

5. Cost recovery provisions would be similar to the assurances obtained under the IAEE Irrigation Project (Loan 2433-TU). DSI (responsible for major irrigation works) has been increasing water charges in accord with this agreement. New legislation was enacted in May 1985, allowing for the first time cost recovery by GDRS (responsible for on-farm development works). However, the required implementing rules and regulations require Council of Ministers' approval and are currently before the Council. We would review these regulations when they are issued to ensure conformity to undertakings under the IAEE agreement (recovery of costs over not more than 20 years from completion of works). In any case, issuance of implementing regulations in compliance with the IAEE agreement would be a condition of Board presentation.

Progress under the ASAL

6. Aside from the delays in hiring consultants (referred to in para 4), progress to date under the ASAL has been satisfactory. Fertilizer price increases announced in August, combined with reductions in world market prices, have effectively eliminated (at least for the time being) retail price subsidies on the most important types of fertilizer, with the subsidies on other fertilizers reduced to between 10 -20 percent. Progress in reducing inflation combined with interest increases affecting about half (by amount) of direct lending to farmers have resulted in significant progress in moving toward positive real interest rates. The Government has assured us that the fertilizer decree being prepared for issuance in January will include measures initiating a phased opening of fertilizer distribution to the private sector. We will report further on the adequacy of progress under the ASAL at the time of proposing this loan for Board consideration.

Recommendation

7. I recommend that the Bank invite negotiations on the basis of the terms and conditions set out in the attached documents.

Attachments

Cleared with and cc: Messrs./Mesdames: Goffin (EMP), Chaffey (EM2), Hunt (LEG), Van Praag (LOA)

cc: Mr. Qureshi (SVPF)

HGassner:hp

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE April 1, 1987

TO Mr. W. A. Wapenhans, Regional Vice President, EMENA

Through Ardy J. Stoutjesdijk, Director, EM2

FROM James Chaffey, Division Chief, EM2DA

EXTENSION 3-2848

SUBJECT TURKEY - Drainage and Onfarm Development Project (Loan 2663-TU)
Second Extension of Effectiveness Deadline

1. The original effectiveness deadline for this loan was June 27, 1986. We have agreed subsequently to two extensions of the effectiveness deadline to March 30, 1987. There are two conditions that are causing the delay:

(i) approval by the Council of Ministers of cost recovery rules and regulations for the General Directorate of Rural Services; and

(ii) appointment of project consultants.

2. With regard to the first condition, rules and regulations were published in the November 8, 1986 Official Gazette providing for the first time for recovery of capital costs of onfarm development works constructed by the General Directorate of Rural Services in connection with irrigation projects. However, cost recovery is provided for up to 75 percent of capital costs (and up to 50 percent in less developed regions) rather than the full cost recovery stipulated in Loan Agreement. The Bank has requested that the Government submit a substantive explanation for their decision to obtain less than 100 percent cost recovery, to enable us to make a recommendation on how to treat this matter.

3. With regard to the second condition, the implementing agencies required a longer time than expected and substantial technical assistance to prepare acceptable terms of reference for the consultants. For each of the four sets of consultants to be hired under the project, proposal invitations to consultants on approved short lists were issued in November 1986. Proposals were scheduled to be received by January/February 1987. However, on request from several consulting firms and the implementing agency, the Bank agreed to extend the deadline for submission of proposals by one month. The Government's evaluation of the two sets of consultants' proposals submitted on February 6, 1987 has been completed and the recommendations and related documents have been sent to the Bank for review. Evaluation of two other sets of consultants' proposals, submitted on March 12, 1987, is expected to be completed shortly. Taking into account the time required for Bank review and contract negotiations, it is expected that the contracts will be signed by the end of May 1987.

4. Under these circumstances the Government has requested that, if the Bank is not prepared to consider progress to date sufficient to declare the loan effective, the effectiveness deadline be extended by two months to May 31, 1987. We recommend that the effectiveness deadline be extended to June 15, 1987. We have informed the Government that no further extension of effectiveness date will be considered and that every effort should be made to satisfy the effectiveness conditions within this period. If you concur with our recommendation, please sign the attached telex.

5. Since the effectiveness deadline of this loan has been delayed beyond nine months from the date of Board Presentation (March 20, 1987), a copy of this memo would be sent to Mr. Stern for information in accordance with his instructions of July 19, 1983.

Cleared with and cc: Messrs. Tsui (EM2DA), Bhatia, Thavaraj (EMP)
Abu-Akeel (LEG), Mills (LOA)

cc: Messrs. Stern (SVPOP), Rajagopalan, Goffin, Pranich, Sodhi (EMP)

HGassner/TMinhas:hp

WDIAL
.EM2DA
OINFO

-SUBJECT: TUR - DRAINAGE AND ONFARM DEVELOPMENT (LOAN 2663-TU)
-DRAFTED BY: HGASSNER:TMINHAS:HP , EXT: 3-2850
-AUTHORIZED BY: W. A. WAPENHANS, RVP, EMENA
-CW/CC: HARRIS, THAVARAJ (EMP), CHAFFEY (EM2), ABU-AKEEL (LEG)
- MILLS (LOA)
-CC: ULUGBAY (EMBASSY)
-

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821 42689 =
-MR. GAZI ERCEL, ACTING DIRECTOR GENERAL, EXTERNAL ECONOMIC AFFAIRS
-TREASURY, ANKARA
821 42305 =
-MR. EROL ENACAR, DIRECTOR GENERAL, DEVLET SU ISLERI, ANKARA
-PLEASE FORWARD COPY ALSO TO
-MR. GAZI BARUT, DIRECTOR GENERAL OF RURAL SERVICES, MAFRA, ANKARA
BT
WASHINGTON DC 1 APRIL 1987

MR. GAZI ERCEL, ACTING DIRECTOR GENERAL, TREASURY, COPY TO
MR. EROL ENACAR, DIRECTOR GENERAL, DSI AND
MR. GAZI BARUT, DIRECTOR GENERAL OF RURAL SERVICES (GDRS), MAFRA.

RE DRAINAGE AND ONFARM DEVELOPMENT PROJECT (LOAN 2663-TU)

IN CONSIDERATION OF REASONS FOR DELAY BANK HAS EXTENDED PERIOD WITH WHICH LOAN AGREEMENT OF LOAN SHOULD BECOME EFFECTIVE AND HAS ESTABLISHED JUNE 15, 1987 AS LATER DATE FOR PURPOSES OF SECTION 12.04 OF GENERAL CONDITIONS. TRUST EVERY EFFORT WILL BE MADE TO EXPEDITE HIRING OF PROJECT CONSULTANTS WITHIN THIS PERIOD. IN ADDITION, AS DISCUSSED BY TELEPHONE, WE ARE ALSO LOOKING FORWARD TO RECEIPT OF GOVERNMENT'S EXPLANATION OF THE REASONS BEHIND DECISIONS TO OBTAIN LESS THAN 100 PERCENT COST RECOVERY FOR GDRS ONFARM DEVELOPMENT WORKS, TO ENABLE US TO CONSIDER OUR POSITION ON THIS ISSUE.

REGARDS, WAPENHANS, REGIONAL VICE PRESIDENT, WORLD BANK.

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE November 26, 1986

TO Mr. Ardy J. Stoutjesdijk, Director, EM2

FROM James Chaffey, Division Chief, EM2DA

EXTENSION 3-2848

SUBJECT TURKEY - Drainage and Onfarm Development Project (Loan 2663-TU)
Second Extension of Effectiveness Deadline

1. The original effectiveness deadline for this loan was June 27, 1986. In late June we agreed to a Government request for a 5-month extension of the effectiveness deadline to November 27, 1986. There are two conditions that are causing the delay:

(i) approval by the Council of Ministers of cost recovery rules and regulations for the General Directorate of Rural Services; and

(ii) appointment of project consultants.

In addition, we are awaiting receipt of the legal opinion.

2. With regard to the first condition, rules and regulations were published in the November 8, 1986 Official Gazette providing for the first time for recovery of capital costs of onfarm development works constructed by the General Directorate of Rural Services in connection with irrigation projects. However, cost recovery is provided for up to 75 ~~percent~~ of capital costs (and up to 50 percent in less developed regions) rather than the full cost recovery provided for in Loan Agreement. The Bank is examining the implications of these regulations, but more time will be required to complete our review and make a recommendation on how to treat this matter.

3. With regard to the second condition, the implementing agencies required longer than expected and substantial technical assistance to prepare acceptable terms of reference and selection documents for the consultants. For each of the four sets of consultants to be hired under the project, invitations to approved short lists of consultants to submit proposals were issued during the first half of November 1986. Proposals are scheduled to be received between the first week of January and the first week of February 1987. With expeditious review of the consultants' proposals, it should be possible for the Government to submit its recommendations to the Bank by the first week of March 1987. Bank review will take a minimum of 15 days and therefore it is unlikely that final contracts will be signed prior to the end of March 1987.

4. The Government has asked, informally, whether the Bank would be willing to amend the Loan Agreement to make hiring of consultants a condition of disbursement rather than of effectiveness. This would have no substantial effect on project implementation. However, it is not recommended that we

agree to this request at this time, since no work can be done under the project until at least the DSI consultants arrive in Turkey. If good progress is made in the Government's review of the consultants' proposals and in making recommendations for contract award, we might agree to some modification of this proposal at a later date, to enable DSI consultants to start work without waiting for selection of all remaining consultants.

5. In the above circumstances, we recommend extending the effectiveness deadline to March 31, 1987. If you concur with our recommendation, would you please sign the attached telex.

6. Since the effectiveness deadline of this loan has been delayed beyond nine months from the date of Board Presentation (March 20, 1987), a copy of this memo would be sent to Mr. Stern in accordance with his instructions of July 19, 1983.

Cleared with and cc: Messrs. Bhatia (EMP), Abu-Akeel (LEG),
Ms. van Praag (LOA)

cc: Messrs. Stern (SVPOP), Rajagopalan, Thavaraj, Tirmazi (EMP)

HGassner:hp

WDIAL
.EM2DA
OINFO

-SUBJECT: TUR - DRAINAGE AND ONFARM DEVELOPMENT (LOAN 2663-TU)
-DRAFTED BY: HGA[illegible]ER:HP EXT: 3-2850
-AUTHORIZED BY: A/STOUTJESDIJK, DIRECTOR, EM2
-CW/CC: BHATIA (EMP), CHAFFEY (EM2), ABU-AKEEL (LEG),
- VAN PRAAG (LOA)
-CC: THAVARAJ (EMP), ULUGBAY, TURKISH EMBASSY
-

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821 42689 =
-MR. YALCIN BURCAK, DIRECTOR GENERAL, EXTERNAL ECONOMIC AFFAIRS,
-TREASURY, ANKARA
821 42305
-MR. EROL ENACAR, DIRECTOR GENERAL, DEVLET SU ISLERI, ANKARA
821 44116 =
-MR. GAZI BARUT, DIRECTOR GENERAL OF RURAL SERVICES, MAFRA, ANKARA
BT
WASHINGTON DC 26 NOVEMBER 1986

MR. YALCIN BURCAK, DIRECTOR GENERAL, TREASURY COPY TO
MR. EROL ENACAR, DIRECTOR GENERAL, DSI AND
MR. GAZI BARUT, DIRECTOR GENERAL OF RURAL SERVICES (GDRS), MAFRA.

RE DRAINAGE AND ONFARM DEVELOPMENT PROJECT (LOAN 2663-TU)

IN CONSIDERATION OF REASONS FOR DELAY BANK HAS EXTENDED PERIOD WITH WHICH LOAN AGREEMENT OF LOAN SHOULD BECOME EFFECTIVE AND HAS ESTABLISHED MARCH 31, 1987 AS LATER DATE FOR PURPOSES OF SECTION 12.04 OF GENERAL CONDITIONS. TRUST ALL POSSIBLE STEPS WILL BE TAKEN TO EXPEDITE HIRING OF PROJECT CONSULTANTS. MEANWHILE WE ARE REVIEWING RECENTLY ISSUED GDRS COST RECOVERY REGULATIONS AND WILL COMMUNICATE BANK REACTION SHORTLY. WE ARE ALSO AWAITING RECEIPT OF LEGAL OPINION. REGARDS, STOUTJESDIJK, DIRECTOR, COUNTRY PROGRAMS DEPARTMENT, INTBAFRAD.

SecM86-233

From: Vice President and Secretary

February 24, 1986

STATUS OF NEGOTIATIONS

TURKEY

DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

Negotiations have been substantially completed and documents will be submitted to the Executive Directors for consideration on a date to be determined.

The following is a description of the proposed loan:

Borrower:	Republic of Turkey
Amount:	US$255 million equivalent
Interest Rate:	Standard variable
Commitment Charge:	Standard
Term:	17 years including four years of grace.
Purpose:	To assist in financing the first phase of the Government's program for completing drainage and on-farm development works for irrigation projects for which the major irrigation investments are completed or close to completion. The proposed investments would eliminate waterlogging and salinity and restore the irrigated areas to full production.

Distribution:

Executive Directors and Alternates
President
Senior Vice Presidents
Senior Management Council
Vice Presidents, IFC
Directors and Department Heads, Bank and IFC

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE February 20, 1986

DATE RECEIVED: 2/21/86

TO Mr. Ernest Stern, Senior Vice President, Operations

FROM W. A. Wapenhans, Vice President, EMENA

EXTENSION 3-2850

SUBJECT TURKEY - Proposed $255 million loan for a Drainage and On-Farm Development Project

OK ES 2/21/86
Mr. Gassner informed 2/24

1. I attach for your approval the draft President's Report on a proposed loan to Turkey for a Drainage and On-Farm Development Project. This report and the related Staff Appraisal Report are scheduled to be distributed to the Executive Directors on February 27, 1986 for consideration at the Board meeting on March 18, 1986. The Government's approval of the negotiated legal documents is expected to be received shortly. We will inform your office as soon as it has been received. Govt. clearance rec'd.

2. The changes from the proposals forwarded to the Loan Committee under my covering memorandum of November 14, 1985 were summarized in Mr. Stoutjesdijk's memorandum to you dated February 13, 1986.

3. This loan will be presented by Mr. Henry Gassner. The subject of his presentation will be "Policies and Programs for Increasing Irrigated Production".

4. This memorandum and the accompanying document have been cleared by the Departments concerned.

Attachment

Cleared with and cc: Messrs/Mesdames: El-Rifai, Murli (EM2), Harris, Tirmazi (EMP), Hunt (LEG), Van Praag (LOA)

cc: Messrs: Husain (OPSVP), Schuh (AGR-2), Rahkonen (SEC), Stoutjesdijk (o/r), Chaffey (o/r), Suzuki (EM2), Goffin, Pranich (EMP)
Mesdames: Anand, O'Donnell (EM2)

HGassner:hp

Mr. Stein EK OK

please note par. 6.
( ) think it's alright but you may
want to know about it.)

E. Kitt 2/18

THE WORLD BANK INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE February 13, 1986

TO Mr. Ernest Stern, Senior Vice President, Operations
(through Mr. Willi Wapenhans, Vice President, EMENA

FROM Ghassan El-Rifai, Acting Director, EM2

EXTENSION 3-2400

SUBJECT TURKEY - Proposed Drainage and On-Farm Development Project

1. Negotiations for the above-mentioned project were substantially completed on January 13, 1986, except for the item referred to in paragraph 6. The negotiated documents are substantially the same as those forwarded to the Loan Committee with Mr. Wapenhans' memorandum of November 14, 1985, except for the changes noted in paragraphs 2-6 below.

2. The implementation schedule and the Closing Date were extended by one year (from 5 years to 6 years). This resulted from a change to more equal distribution of the work under the Core Program between the proposed project and a proposed second phase program. These changes were based upon a detailed evaluation of the feasability of the overall program, given budgetary constraints. They have no effect on the economic or financial viability of the project, since individual subprojects are still to be carried out within a three-year period, while the schedule for initiation of subprojects would be spread out. The total cost of the Core Program would increase by $83 million, due to increased price contingencies. But the foreign exchange cost of the first phase would decrease from $274 million to $255 million due to the transfer of some work to the second phase. The loan amount was increased by $5 million to cover the full foreign costs.

3. While there is only a remote possibility that any drainage subprojects for ongoing irrigation schemes on international rivers might cause appreciable harm to other riparians, the Bank had required submission of sufficient technical data on each subproject to be financed so as to enable the Bank to make its own assessment as to whether the carrying out of that subproject was likely to cause harm to other riparians. Since the Government was unwilling to commit itself to providing such data, the first phase project was confined to subprojects selected from an agreed list which excludes all subprojects on international rivers.

4. Upto $4.5 million of retroactive financing was agreed for civil works on approved subprojects undertaken after January 1, 1986.

5. Civil works for installation of ground water measuring devices (about $0.8 million equivalent) would be carried out by force account rather than by contractors selected by LCB as previously proposed. The current experience with force account installation of such measuring devices is satisfactory and no change in these procedures is considered necessary. About $1.9 million of

civil works for construction of research stations and minor buildings for operation and maintenance of irrigation facilities will be constructed by contractors selected by ICB rather than by LCB as originally proposed. The Government prefers to use ICB for these works to avoid the need for special LCB procedures modified from its normal civil works LCB procedures to meet Bank requirements.

6. Legislation was passed in May 1985 to permit, for the first time, cost recovery by GDRS (responsible for on-farm development works). However, the implementing regulations require Council of Ministers' approval. The Turkish authorities stated that regulations (in conformity with the cost recovery provision in the IAEE agreement and in the proposed Drainage and On-Farm Development agreement) had been drafted by the Ministry of Agriculture. They expressed the hope that Council of Ministers' approval would be obtained within two to three months, but could not make a firm commitment on this. Despite this, the Turkish authorities emphasized that the Government was firmly committed to implementing the new cost-recovery legislation as quickly as possible. Following further discussions in Ankara, it was decided to accede to the Government's request that satisfactory arrangements for implementing the GDRS cost recovery covenant (i.e. the Council of Ministers' approval of appropriate draft regulations) become a condition of effectiveness rather than of Board presentation as earlier proposed. We will also postpone the date in the IAEE agreement by which cost recovery measures are to be implemented to be consistent with the above. Government officials expressed confidence that this should provide sufficient time for the Council of Ministers' approval of the regulations.

Cleared with and cc: Messrs. Chaffey (EM2), Harris, Tirmazi (EMP)
Ms. Hunt (LEG)

cc: Messrs. Husain (OPSVP), Shihata (VPG), Picciotto, Goffin (o/r),
Pranich (EMP)
Ms. Van Praag (LOA)

HGassner:hp

THE WORLD BANK/INTERNATIONAL F \NCE CORPORATION

OFFICE MEMORANDUM

Köpp
E1231

DATE November 22, 1985

TO Files

FROM Henry [illegible], Senior Loan Officer, EM2DA

EXTENSION 3-2850

SUBJECT TURKEY - Drainage and On-Farm Development Project
Loan Committee Comments

1. Mr. Köpp called on November 19 to inform me that Mr. Stern had cleared the Loan Committee package for this project. Mr. Köpp had also asked for some clarifications concerning the project; these, and my responses, are set out below:

(i) Irrigation Investment Program: I confirmed that the Core Program does not include all irrigation investments which we consider appropriate. Rather the Core Program consists of drainage and on-farm development works which are to receive increased emphasis to balance prior overemphasis on construction of headworks. As noted in paragraph 47 of the draft President's Report (PR), the Bank considers that the construction of headworks for selected high priority investments should continue. In connection with the preparation of the Agricultural Sector Adjustment Loan (ASAL), Bank staff had reviewed the irrigation investment program in general terms and considered that, with the proposed increase in investment for the Core Program, the overall size and balance of the investment program would be appropriate. Under ASAL the Government agreed to conduct during 1986, with the help of consultants, a detailed project-by-project review of all on-going headworks investments in accordance with criteria (considered appropriate by us) which are currently employed by the Government for screening new projects;

(ii) Maintenance: I agreed to clarify, in paragraph 59 in the PR, that with the equipment provided under ASAL (para 46) DSI would have adequate equipment for carrying out appropriate maintenance of its facilities. Provision of adequate maintenance funds is covered under the General Conditions, but we would have detailed discussions of this point during negotiations;

(iii) Size of Program: (footnote pg. 22 of PR). I explained that the total area without adequate drainage does not become water-logged. Rather the excess water collects in part of the area. Thus the area which would receive drainage under the project is larger than the area which would remain water-logged in the absence of the project.

2. Mr. Stichenwirth called earlier to convey Mr. Husain's clearance of the Loan Committee package.

Cleared with and cc: Messrs. Köpp (SVPOP), Harris, Tirmazi (EMP)

cc: Messrs./Mesdames Stern (4)(SVPOP), Qureshi (2)(SVPFI), Husain (OPSVP), Shihata (VPG), Dherse (EISVP), Wapenhans, Hasan, Patel, Reitter (EMNVP), Hittmair (CTRVP), Rotberg (TREVP), Stichenwirth (PPD), Stoutjesdijk, Asfour, Suzuki, O'Donnell (EM2), Picciotto, Pranich, Goffin, Jones, Liebenthal, Bhatia, Tellez (EMP), Rovani (2)(EGY), Chaffey, Murli, Roy, Anand (EM2DA), Hunt (LEG), Van Praag (LOA)

HGassner:mfp

International .nk for Reconstruction an Development

SecM85-1242

FROM: The Deputy Secretary

November 20, 1985

NOTICE OF INTENTION TO NEGOTIATE

TURKEY - DRAINAGE AND ON-FARM DEVELOPMENT PROJECT

The Bank is planning to invite representatives of the Republic of Turkey to negotiate a proposed loan of $250 million for a Drainage and On-Farm Development Project.

The proposed loan would assist in financing the first phase of the Government's program for completing drainage and on-farm development works for irrigation projects for which the major irrigation investments are completed or close to completion. The proposal investments would eliminate waterlogging and salinity and restore the irrigated areas to full production.

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Directors and Department Heads, Bank and IFC

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE July 25, 1985

TO Files

FROM Henry P. Gassner, Senior Loan Officer, EM2DA

EXTENSION 3-2850

SUBJECT TURKEY - Drainage and On-farm Development Subsector Loan
Decision Memorandum

Mr. Köpp called me on July 22 to convey Mr. Stern's comments on the Decision Memorandum dated July 8, 1985, as follows:

1. It appears that there is not yet agreement with the Government on some issues of project design and cost estimates. Particularly in view of past experience we should make sure that the Government fully subscribes to our proposals on project design and cost estimates before we go to the Board.

2. The covering page to the Decision Memorandum indicates agricultural interest rates as a covenant not in compliance, but reports that a revised schedule has been agreed in connection with the SAL V tranche review. We should make sure this is not an issue at the time we go to the Board for this proposed loan.

Cleared with and cc: Mr. Köpp (SVPOP - 3)

cc: Messrs. Harris, Tirmazi (EMP), Chaffey (EM2), Jabri, Ms. Hunt (LEG)

HGassner:hp

ES

Received: 7/12/85

Circulated by C.O.B.: 7/24/85

FORM NO. 1527
(9-84)

THE WORLD BANK

DECISION MEMORANDUM TRANSMITTAL SHEET

TO: Distribution

DATE: July 8, 1985

FROM: James Chaffey, Division Chief, EM2DA

Chairperson, Decision Meeting

COUNTRY/PROJECT: TURKEY - Drainage and On-farm Development Subsector Loan

Issues Paper Date:	Decision Meeting Date:	Loan Committee Date:	Scheduled Board Presentation Date:	Yellow Cover Review:
June 17, 1985	June 24, 1985	November 1, 1985	February 2, 1986	Waived ☐ Not Waived ☒
Estimated Costs: Total: $515 million Foreign: $275 million	**Proposed Loan/Credit Amount:** $150 million	**Amount in Approved Lending Program:** $150 million	**Amount and Source of Co-Financing:** To be determined	

1. DECISIONS SOUGHT

None; however, the amount of the Loan remains subject to review in the light of the continuing discussion with the Turkish authorities on cofinancing.

2. SPECIAL FEATURES

Subsector loan covering the first time slice (contracts to be initiated within the next two years and completed over the next four years) of a Core Program of Drainage and On-farm Development investments selected according to agreed criteria.

3. SECTOR POLICY ISSUES

(a) List major covenants not in compliance in sector:

Adequacy of movement to positive real interest rates - revised schedule has been agreed in connection with SAL V tranche review.

cond. of Board

(b) List major policy issues covered by proposed project. Use simple descriptions, e.g. prices, staffing, maintenance, etc.:

Investment criteria, irrigation water charges, use of private contractors and consultants to accelerate implementation.

(c) List problem projects in sector *(name and Loan/Credit number)*:

Loan 1585-TU Northern Forestry
Loan 1967-TU Second Fruit and Vegetable

(d)

	In Sector	In Country
No. of Problem Projects:	2	4
Total No. of projects under supervision:	10	35

DISTRIBUTION

1. Mr. Stern, SVPOP, through RVP *(initial)* 7/11 (3 copies with Issues Paper and Project Brief)
2. Standard Distribution: See attached memo.

THE WORLD BANK/INTERNATIONAL F. .NCE CORPORATION

OFFICE MEMORANDUM

DATE July 8, 1985

TO Distribution

FROM James Chaffey, Division Chief, EM2DA

EXTENSION 32848

SUBJECT TURKEY - Proposed Drainage and On-Farm Development Subsector Loan Decision Memorandum

1. A Decision Meeting was held under my chairmanship on June 24, 1985, to discuss the Issues Paper dated June 17, 1985. The meeting was attended by representatives from AGR-OPS, TRP-OPS, EMPDR, EMPA3, EM2 and LEG (see attached attendance list). The recommendations contained in the Issues Paper were approved with the modifications and clarifications described below.

Reason for Bank Group Involvement

2. Much of Turkey's completed irrigation works were performing significantly below their potential due to (i) inadequate drainage leading to water logging and salinity, and (ii) failure to complete the most urgent on-farm development works to complement the completed headworks. A backlog of over 300,000 ha of development works has been built up. The most effective way to increase yields was to concentrate a larger share of resources on completing these investments. The Bank had persuaded the Government to place higher priority on a Core Program of drainage and on-farm development investments selected in accordance with agreed criteria. With the entities concerned agreeing to select investments in accordance with agreed criteria, subsector lending was appropriate.

Loan Amount (Para 9(a) of Issues Paper)

3. It was agreed that the Bank would press the Government to consider "B" Loan financing for this project. The Bank would also explore other co-financing, including Arab funds.

Cost Recovery (Para 9(b) of Issues Paper)

4. It was agreed that no new cost recovery conditionality would be required beyond that under the IAEE Loan (2433-TU), but that those provisions should also apply to the beneficiaries of this project. With regard to past delinquencies in the collection of DSI water charges, it was explained that these had been due to the low level of penalties in relation to the high interest available on deposits. The recent sharp increase in penalties had resulted in a major improvement in recovery.

International Water Rights (Para 9(c) of Issues Paper)

5. Further to Mr. Wapenhans's memorandum of May 2, 1985 to Mr. Stern, it was clarified that the Bank's position in this case of excluding all land reclamation on international rivers was based upon the inconsequential effect of this particular exclusion.

Procurement (Para 9(d) of Issues Paper)

6. The rapid increase envisaged in drainage and on-farm development investment is expected to be achieved through the use of contractors (in place of force account) and the use of consultants for design work to supplement DSI and GDRS staff. There would be 10 to 15 contracts for on-farm civil works each in the $15 - $20 million range. Land leveling (for which small contracts would be appropriate) would not be covered under this loan. For drainage works, contracts needed to be large enough to justify the contractor's purchases of equipment. Subcontracting would be allowed. Tender documents would be provided in both English and Turkish with blanks for the bidders to fill in numbers, so that Turkish contactors would not be discouraged from participation. On this basis it was agreed that the Bank would seek the Government's agreement to ICB procurement procedures prior to negotiations. The Bank would similarly seek confirmation prior to negotiations of the Government's agreement to international recruitment of reviewing consultants.

Tertiary Surface Drains (Para 9(f) of the Issues Paper)

7. It was agreed that in any areas where, due to excessive cost, the consultants recommended against changing surface tertiary drains to subsurface pipe collectors, adequate arrangements for maintenance of the surface drains would be required. These arrangements would probably involve DSI staff since GDRS currently had no staff for such purposes.

Design of Works

8. It was confirmed that detailed designs and construction drawings for the first year's work program would be ready prior to Board presentation. Total cost of access roads, mostly minor earth roads alongside drains, would be less than $10 million. General but not detailed design standards for these roads needed to be agreed upon.

Appraisal of Subprojects

9. The appraisal mission had carried out a preliminary appraisal of a sample of 10 subprojects out of the 242 expected to be financed under the project. Of these, six representative subprojects had been selected for detailed analysis. For the remaining subprojects, the Bank would rely on the appraisal of subprojects by DSI/GDRS, in accordance with agreed criteria, and the review of these appraisals by the reviewing consultants. The quality of these appraisals would also be reviewed by the supervision missions.

Lee clearance?

Environmental Considerations

10. It was noted that there were no adverse effects from drainage return flows except for inland rivers which opened into lakes, and in these cases the amounts of salts and other pollutants carried would be inconsequential.

Project Timing and Processing Responsibilities

11. The following timetable was agreed:

Yellow Cover SAR	September 27, 1985
Loan Committee	November 1, 1985
Board Presentation	February 20, 1986

EMENA Programs agreed to prepare the draft sector and project sections of the President's Report.

Cleared with and cc: Messrs. Bhatia, Tirmazi (EMP), Collins (AGR), Fossberg (TRP), Ms. Hunt (LEG).

cc: Messrs. Stern (SVPOP)(3), Hittmair (CTRVP), Hasan, Patel, Reitter (EMNVP)
Stoutjesdijk, Asfour, Suzuki (EM2),
Picciotto, Dewey, Jones, Goffin, Liebenthal, Harris (EMP)
Rajagopalan (PPD)(3), de Azcarate (CPD), Schuh (AGR)(5)
Jansen (PBD), Baneth (2), Lee (EPD),
Mesdames: Krueger (VPERS), Van Praag (LOA), O'Donnell (EM2)
EM2DA Staff.

HGassner:hp

Attendance

Mr. Goffin	EMPDR
Mr. Liebenthal	EMPDR
Mr. Bhatia	EMPA3
Mr. Tirmazi	EMPA3
Mr. Tellez	EMPA3
Mr. Hunting	EMPA3
Mr. Collins	AGR/OPS
Mr. Fossberg	TRP/OPS
Ms. Hunt	LEG
Mr. Chaffey	EM2
Mr. Gassner	EM2
Ms. Anand	EM2
Ms. O'Donnell	EM2
Mr. Ali	FAO/CP
Mr. Bakhtri	FAO Consultant

THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE: June 17, 1985

TO: Mr. S. R. Freiberg, Acting Division Chief, EMPA3

FROM: Mahmud Tirmazi, Javier Tellez, Edgar Hunting, Hussein Akhavan (EMPA3), Naceur Bakhtri (FAO/CP), Barkat Ali (FAO Consultant)

SUBJECT: Turkey: Appraisal of Drainage & On-Farm Development Subsector, FY1986 - Issues Paper.

1. In accordance with the Terms of Reference dated May 3, 1985, the mission visited Turkey from May 9, 1985 to June 4, 1985, for appraisal of the Drainage and On-Farm Development Subsector (DODS). The issues arising out of this appraisal and the recommendations of the mission are discussed in this memorandum.

Background

2. Irrigation has been a major factor in both increasing and stabilizing agricultural production in Turkey. Approximately 40% of all crop output depends on either full or supplemental irrigation. Irrigation under publically constructed systems is now about 2.3 million ha. The General Directorate of Rural Services (GDRS) has achieved about 1.0 million ha of irrigation development through various independent small projects, while the General Directorate of State Hydraulic Works (DSI) has brought under command another 1.3 million ha by the end of 1984. This is an impressive performance considering that in 1968 only 657,000 ha were under irrigation. However, the increase in the irrigated crop areas has lagged significantly behind the expansion of irrigation infrastructure, as cropping intensities of only about 70% have been achieved. The underutilization of infrastructure, built at comparatively high cost, results in a large loss to the economy.

3. A number of constraints have also impeded the successful implementation of the ongoing irrigation and drainage program. These include: (i) the spreading of available funds over a large number of widely dispersed projects; (ii) inadequate application of evaluation criteria in project selection; (iii) lack of planning coordination between DSI and GDRS, with the result that only 70% of the command area of completed irrigation projects of DSI is irrigated; (iv) imbalance between DSI's and GDRS's implementation capacities and (v) limited design and supervision capacities of both agencies which has resulted in GDRS's back-log of drainage and on-farm development works which will exceed 300,000 ha by the end of 1989, while it has been able to complete only 10,000 - 12,000 ha per year since 1977.

4. It is, therefore, essential that during the remainder of the Fifth Five Year Plan period (1985-89) the available resources are concentrated on projects which can be brought into production most quickly and for which the incremental investment in completion would result in high economic returns. This would require re-orientation of the public investment policies whereby a substantial share of annual expenditures would be allocated towards: (i) providing equipment and other assistance to rehabilitate the existing surface drainage systems and to improve their level of maintenance; (ii) overcoming the back-log of on-farm works on all projects, in particular drainage and reclamation; (iii) providing assistance on land reclamation so as to avoid serious deterioration; and (iv) providing access roads. In addition, the public investment policies would encourage institution building to improve implementation capacity, design efficiency, planning and coordination, and training. The strategy would, therefore, shift to one of coordinated development of the drainage and on-farm subsector by completing drainage and reclamation followed by other priority works. The Government, therefore, has accepted a development strategy concentrating a portion of available resources on completion of on-farm development components of the completed or ongoing irrigation program, rather than spreading those resources, as in the past, on a large number of new irrigation infrastructure projects without ensuring realization of the potential benefits from completed investments. Following this strategy, a core program has been formulated with the following main objectives for continued Bank involvement in the drainage and on-farm development subsector:

(i) to accelerate completion of ongoing irrigation and drainage projects so as to maximize production from past investments as quickly as possible;

(ii) to help induce a concentration of Government resources in the subsector to those drainage and land reclamation subprojects where they can have fastest and greatest impact in raising productivity; and

(iii) to assist in institution building to improve implementation capacity, design efficiency, planning and coordination in the subsector.

5. Completion of priority elements of the back-log of drainage and other on-farm works would comprise a Core Program of investments within the re-oriented irrigation and drainage subsector investment program which would form the basis for future Bank assistance. The Core Program is estimated to cost about US$ 1,234 million equivalent. Under the recently negotiated Agricultural Sector Adjustment Loan (ASAL), the Government has agreed to make sufficient budgetary allocations for this purpose and to fully implement the Program under agreed selection criteria. These allocations, which are primarily for on-farm development works, would be an average of 35% of the total annual budget allocations for irrigation and drainage. The timely implementation of the Core Program requires that certain works be completed and advance actions taken during 1985. The following portion of the Core Program costs which cover these advance actions are expected to be financed from the proposed ASAL:

(two to ASAL)

(i)	Equipment for rehabilitation and maintenance of surface drains	111.0
(ii)	Consulting and reviewing consulting services for DSI	2.0
(iii)	Consulting and reviewing consulting services for GDRS	2.0
(iv)	Training program for DSI & GDRS	2.0
	Total	117.0

Scope & Estimated Cost of the Drainage and On-Farm Development Subsector and Cost

6. It was in the above setting that the Government of Turkey invited an appraisal mission to appraise a time slice of the priority elements of the drainage and on-farm development subsector constituting the Core Program. The Core Program as accepted by the Government under the proposed ASAL consists of the following components:

(a) Rehabilitation of surface drains over an area of about 250,000 ha to restore these channels to their planned performance and subsequent maintenance through provision of machinery and equipment;

(b) Excavation of main, secondary and tertiary surface drains by DSI over an area of about 125,000 ha;

(c) Excavation of farm drains by GDRS over an area of about 150,000 ha;

(d) Installation of subsurface drains over about 340,000 ha of waterlogged land;

(e) Land reclamation through construction of small dykes and leaching over an area of about 78,000 ha;

(f) Construction of access roads along the irrigation and drainage system covering an area of about 170,000 ha;

(g) Implementation of an operation and maintenance program for drainage;

(h) Employment by GDRS of an engineering consulting firm, for the programming, preparation of inception reports, feasibility studies, final design and bidding documents for execution of Core Program works through contractors and employment of reviewing consulting firm for review of the work done by the engineering consulting firm;

(i) Employment by DSI of an engineering consulting firm, for the programming, preparation of inception reports, feasibility studies, final designs and bidding documents for execution of surface drainage works by contractors; review and evaluation of DSI's annual public investment programs according to agreed criteria; and assistance to DSI to set up monitoring and evaluation programs for the investment

portfolio, and employment of reviewing consulting firms to review the work done by the engineering consulting firm; and

(j) Training of GDRS and DSI headquarters and regional staff in selected fields in appropriate countries.

7. The mission carried out the economic, financial and technical appraisal of all components of the Core Program. Selection of the first time slice included those contracts which can be initiated during the next two years and completed within the next four years. The following procedure was adopted to select the first time slice:

(i) selected those projects where irrigation infrastructure by DSI has been physically completed, and the works of on-farm development can be started immediately;

(ii) accorded first priority to rehabilitation of surface drainage works, which are a prerequisite for any subsurface drainage;

(iii) also, included those projects where DSI is expected to complete the infrastructure during the next one/two years;

(iv) provided minimum requirements for institution building in terms of consultants and training.

The mission is of the opinion that a time slice of the Core Program, as shown in the following table, would represent a well conceived and coordinated priority investment which can be implemented through funds made available under the ASAL and the presently proposed loan.

Table Showing Phasing of the Core Program

Item	Total Cost (Core Program)				Financed Under the ASAL			First Time Slice Financed Under Proposed DODS Loan		
	Local	Foreign	Total	FE %	Local	Foreign	Total	Local	Foreign	Total
	------US$ Million----				------US$ Million-----			------US$ Million----		
Rehabilitation of Existing Surface Drains by DSI	70.8	113.4	184.2	62	-	111.0	111.0	31.2	2.4	33.6
Construction of New Drains by DSI	55.2	67.2	122.4	55	-	-	-	27.6	33.6	61.2
Construction of New Drains (or installation of collector pipes by GDRS)	65.5	79.8	145.3	55	-	-	-	20.5	25.0	45.5
Subsurface Drainage Works by GDRS	172.4	258.7	431.1	60	-	-	-	90.8	136.2	227.0
Land Reclamation - Completed Systems	3.7	2.7	6.4	40	-	-	-	3.8	2.6	6.4
- New Systems	1.1	0.7	1.8	40	-	-	-	-	-	-
Access Roads	10.7	7.2	17.9	40	-	-	-	5.0	3.3	8.3
Facilities for O&M and Monitoring	0.6	0.4	1.0	40	-	-	-	0.6	0.4	1.0
Computer Equipment & Software for Monitoring & Evaluation	-	1.0	1.0	100	-	-	-	-	-	-
Consulting & Reviewing Services for DSI	3.7	12.1	15.8	77	-	2.0	2.0	0.5	1.5	2.0
Consulting & Reviewing Services for GDRS	3.7	12.1	15.8	77	-	2.2	2.0	0.5	1.5	2.0
Training of DSI & GDRS Staff	-	2.6	2.6	100	-	2.2	2.0	-	0.6	0.6
Total Base Cost	387.4	557.9	945.3	59	-	117.0	117.0	180.5	207.1	387.6
Physical Contingencies (15% on Civil Works)	57.0	64.4	121.4	-	-			26.9	30.5	57.4
Base Cost + Physical Contingencies	444.4	622.3	1,066.7	58	-	-	-	207.4	237.6	445.0
Price Contingencies	69.8	97.9	167.7	58	-	-	-	32.6	37.4	70.0
GRAND TOTAL	514.2	720.2	1,234.			117.0	117.0	240.0	275.0	515.0

ABSTRACT

	Local	Foreign	Total
	--------US$ million-----		
1. Equipment for Surface Drainage Rehabilitation & Institutional Support Financed Under the Agricultural Sector Adjustment Loan (ASAL		117.0	117.0
2. Proposed Drainage & On-Farm Development Subsector Loan (DODS) - First Time Slice	240.0	275.0	515.0
Subtotal	240.0	392.0	632.0
3. Future Drainage & On-Farm Development Subsector Loan - Second Time Slice	274.2	328.2	602.4
TOTAL	514.2	720.2	1,234.4

8. The cost of the first time slice of the Drainage and On-Farm Development Subsector has been estimated as US$ 515 million, with a foreign exchange component of US$ 275 million. The cost estimate includes physical contingencies (15% on civil works only) and international price contingencies for the years 1985 to 1989 at 5%, 7.5%, 8%, 8% and 8% respectively for local and foreign costs. It is assumed that the Government will continue its current policy of adjusting the value of its currency to compensate for the difference between the local inflation and average international inflation. The quantities of works for the first time slice as well as the estimated costs are the mission's first estimation and would be refined in due course.

Principal Issues

9. Principal issues and the mission's recommendations are given below:

(a) Loan Amount The mission has made a preliminary estimation of the requirements of direct and indirect foreign exchange for the implementation of the first time slice. In the mission's judgement, the foreign exchange component is expected to be about US$ 275 million, or about 53% of the total estimated cost. Since in a project of this type goods which could be financed under a supplier's credit, are negligible, cofinancing appears to have limited possibilities. Since it is unlikely that the Bank can finance the full foreign exchange costs, the possibility of "B" loan financing should be explored.

(b) Cost Recovery The Government has made good progress in meeting the obligations covenanted under IAEE Irrigation Project (Loan 2433-TU). The GDRS Law governing the assessment and collection of on-farm development investments, from the farmers, has been passed on May 9, 1985. The rules and regulations for the implementation of this law would now be framed and codified by GDRS. In addition, DSI has progressively increased the annual assessment of water charges, from users of irrigation facilities constructed by DSI from 21.3% of the O&M costs in 1981 to 55.5% in 1984. The remaining issues are (i) increased cost recovery of capital cost including interest thereon, and (ii) reduction of delinquencies on collection of DSI accounts and instituting appropriate legal procedures against delinquent users. The mission does not recommend any new cost recovery covenants under the DODS Loan. However, the covenants under IAEE Loan 2433-TU should be made applicable to this project as well, (including the GDRS cost recovery which under the IAEE agreement was only required for beneficiaries under that project).

(c) International Water Rights The proposed loan (DODS) is expected to concentrate a substantial proportion of available investment resources on a program consisting of surface and subsurface drainage, land reclamation and access roads in areas where the main irrigation works are either completed or close to completion. About two-thirds of the investment schemes in this program have been identified. Approximately 5 percent of these schemes is located on international rivers (including tributaries). However, to the extent that the rehabilitation of these 5 percent involve surface and subsurface drainage (i.e., excluding access roads and land reclamation), this would normally improve the quantity and quality of water flows for

downstream riparians. Less than 1 percent of expenditures under the Core Program would be for land reclamation, which is designed to clear the soil of excess salts and thus could increase salinity downstream. However, none of the identified land reclamation works that the Bank expects to finance falls within the 5 percent of schemes on international waters. There remain some 17,000 ha of land reclamation unidentified (about 22 percent of total land reclamation in the Core Program). For this exigency, the Bank has required that the Government must exclude land reclamation on international rivers for Bank financing. For the one-third of investment schemes presently unidentified, it is conceivable that works on international rivers might, for one reason or another, raise the possibility of adverse effects on other riparians. To cover this eventuality, the mission, according to the instructions of the Bank[1/], has proposed that the Government, assisted by the project consultants, prepare data to enable the Bank to assess the potential impact of such works on other riparians. This information would be provided to the Bank prior to the Bank's approval of the investments to be financed under the core program in the following year. Only projects which are for the rehabilitation of existing works or ongoing schemes and which in the Bank's judgement, would not adversely change the quality or quantity of water flows, would be considered for inclusion in the Bank financed Core Program. The Government officials in GDRS, SPO and Treasury indicated that stipulations would be acceptable..

(d) Procurement The mission recommends the following procurement procedures which were discussed by the mission and accepted by the implementing agencies of the Government:

(i) Equipment All equipment for rehabilitation and maintenance of surface drains would be procured under International Competitive Bidding (ICB) procedures consistent with the World Bank and IDA Guidelines (1984). The actual execution of rehabilitation works through utilization of this equipment would be carried out by the existing staff of DSI through force account. This procedure would be the most economical and consistent with Bank procedures as it would permit procurement of equipment through international competitive bidding, while the rehabilitation works which are complex and spread over the whole of Turkey would be carried out by the existing 25 Regional Directorates of DSI.

(ii) Civil Works (On-Farm Development) Civil works, which constitute the bulk of the agreed Core Program, would be carried out under ICB procedures consistent with Bank Guidelines (1984). Annual procurement packages of priority on-farm development works would be prepared and the works carried out through contractors employed under the above procedure.

(iii) Consulting & Reviewing Firms Employment of consulting engineering firms and reviewing consulting firms by DSI and GDRS would be carried out according to Bank Guidelines and under

1/ Memorandum dated May 2, 1985 from Mr. Willi Wapenhans addressed to Mr. Ernest Stern.

terms of reference and scope of work acceptable to the Bank. Employment of local consultants, for feasibility studies and final design would be encouraged. In case sufficient local expertise is not forthcoming, the local firms would be required to enter into consortium agreements with outside firms. However, independent reviewing consulting firms would be recruited internationally to permit objective review and advice. During the final meeting, however, some reservations were expressed by the Treasury. It was stated that a question mark should be placed against ICB procedures for civil works (item ii) and reviewing consultants (item iii) above. The mission, however, found no basis for changing its recommendations.

(e) Cost Estimates During the negotiations for the ASAL, GDRS and the State Planning Organization (SPO) had stated that the mission's estimate of the Core Program was excessive. During appraisal the mission has carried out a detailed analysis of the operation of various types of equipment, prepared revised bills of quantities, established updated prices of goods and materials and prepared revised estimate of cost. The following omissions were noticed in the GDRS estimates presented to the appraisal mission:

(i) The cost of equipment for example trencher, dozer etc. have not been updated.

(ii) The prices of materials are not the prevailing prices, but lower rates from the previous years. For example, the prices of diesel oil, petrol, steel, cement have all been under estimated when compared with the market rates.

(iii) No price has been ascribed to gravel and sand. It may perhaps be free for the Government, but the contractors will have to pay the market price.

(iv) Transportation costs are so low that they do not cover even the cost of diesel oil used by the transport vehicles.

However, the overriding reason for the low cost is GDRS's design assumption whereby tile drains have been spaced at 100 meter intervals. While this may be cost effective, it would not serve to drain the waterlogged areas in the present conditions of soils and watertables. The mission considers that an average spacing of 30-35 meters between tile drains would be necessary for effective drainage of the system, permitting the benefits which have been ascribed to the project. Due to the above reasons, the mission considers its estimate of cost to be correct and recommends that these should be adopted. These views have been conveyed to the SPO and GDRS who have agreed to go along with these estimates. Final costs would be established when the feasibility studies and final designs are prepared by the consultants. However, during the final meeting the officials of the Treasury stated that a question mark should be placed against this item as well. The mission, however, found no basis for changing its recommendation.

(f) Tertiary Surface Drains Constructed by GDRS In many projects surface drains constructed by GDRS form the collector link between the

subsurface network and DSI's outlet surface drains. However, due to absence of maintenance (cleaning, weed removal, etc), these drains constructed by GDRS are unable to perform their functions rendering the subsurface drainage networks ineffectual. The mission was informed that GDRS has no funds, staff or authority to maintain these drains. In the mission's opinion most of these open surface drains should have been subsurface collectors to start with. Perhaps this design was adopted to save on investment costs, irrespective of the difficulties of maintenance. The mission recommends that an economic analysis of surface drains versus the subsurface collectors be included in the scope of work for the consulting firms. The mission discussed the subject with the GDRS and DSI where there is a full understanding of the magnitude of the problem. The mission further recommends that subject to the recommendations of the consultants, the existing surface tertiary drains constructed by GDRS, should be redesigned and constructed as subsurface pipe collectors.

10. Critical Path for further Processing of the Project The mission recommends that the project should be processed according to the existing Project timetable, which is as follows:

Decision Meeting	June 24, 2985
Decision Memorandum	July 1, 1985
Yellow Cover SAR	September 27, 1985
Submission to Loan Committee	November 1, 1985
Start Negotiations	December 2, 1985
Final Agreement	January 2, 1986
Board Presentation	February 20, 1986

Cleared with & cc: Mr. Gassner
Messrs. Rajagopalan (PPDDR) (5), Schuh (AGRDR) (5), Pouliquen (TRP), Wapenhans (EMNVP), Hasan (EMNVP), Krueger (VPERS), de Azcarate (CPPDR) (2), Stoutjesdijk (EM2DR), North (PHNDR), Asfour (EM2DR), Goffin (EMPDR), Grosdidier de Matons (EMPDR), Schertz (EMPDR), Dewey (EMPDR), Liebenthal (EMPDR), Swahn (EDCPT), Jansen (PBDCP), Harris (EMPA3) (2), Chaffey (EM2DA) (6), Jones (EMPDR), Jabri (LEGDD) (2), Gassner (EM2DA), Roy (EM2DA), Mayer (LOACS), Hittmair (CTRVP), Staff (EMPA3)
Mmes. Van Praag (LOALE), de Sanchez (EMPA3), Langham Butts (EMPA3) (2), Csekey (EMPA3)
EMENA Files
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THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE: June 17, 1985

TO: Mr. S. R. Freiberg, Acting Division Chief, EMPA3

FROM: Mahmud Tirmazi, Javier Tellez, Edgar Hunting, Hussein Akhavan (EMPA3), Naceur Bakhtri (FAO/CP), Barkat Ali (FAO Consultant)

SUBJECT: Turkey: Appraisal of Drainage & On-Farm Development Subsector, FY1986 - Issues Paper.

1. In accordance with the Terms of Reference dated May 3, 1985, the mission visited Turkey from May 9, 1985 to June 4, 1985, for appraisal of the Drainage and On-Farm Development Subsector (DODS). The issues arising out of this appraisal and the recommendations of the mission are discussed in this memorandum.

Background

2. Irrigation has been a major factor in both increasing and stabilizing agricultural production in Turkey. Approximately 40% of all crop output depends on either full or supplemental irrigation. Irrigation under publically constructed systems is now about 2.3 million ha. The General Directorate of Rural Services (GDRS) has achieved about 1.0 million ha of irrigation development through various independent small projects, while the General Directorate of State Hydraulic Works (DSI) has brought under command another 1.3 million ha by the end of 1984. This is an impressive performance considering that in 1968 only 657,000 ha were under irrigation. However, the increase in the irrigated crop areas has lagged significantly behind the expansion of irrigation infrastructure, as cropping intensities of only about 70% have been achieved. The underutilization of infrastructure, built at comparatively high cost, results in a large loss to the economy.

3. A number of constraints have also impeded the successful implementation of the ongoing irrigation and drainage program. These include: (i) the spreading of available funds over a large number of widely dispersed projects; (ii) inadequate application of evaluation criteria in project selection; (iii) lack of planning coordination between DSI and GDRS, with the result that only 70% of the command area of completed irrigation projects of DSI is irrigated; (iv) imbalance between DSI's and GDRS's implementation capacities and (v) limited design and supervision capacities of both agencies which has resulted in GDRS's back-log of drainage and on-farm development works which will exceed 300,000 ha by the end of 1989, while it has been able to complete only 10,000 - 12,000 ha per year since 1977.

4. It is, therefore, essential that during the remainder of the Fifth Five Year Plan period (1985-89) the available resources are concentrated on projects which can be brought into production most quickly and for which the incremental investment in completion would result in high economic returns. This would require re-orientation of the public investment policies whereby a substantial share of annual expenditures would be allocated towards: (i) providing equipment and other assistance to rehabilitate the existing surface drainage systems and to improve their level of maintenance; (ii) overcoming the back-log of on-farm works on all projects, in particular drainage and reclamation; (iii) providing assistance on land reclamation so as to avoid serious deterioration; and (iv) providing access roads. In addition, the public investment policies would encourage institution building to improve implementation capacity, design efficiency, planning and coordination, and training. The strategy would, therefore, shift to one of coordinated development of the drainage and on-farm subsector by completing drainage and reclamation followed by other priority works. The Government, therefore, has accepted a development strategy concentrating a portion of available resources on completion of on-farm development components of the completed or ongoing irrigation program, rather than spreading those resources, as in the past, on a large number of new irrigation infrastructure projects without ensuring realization of the potential benefits from completed investments. Following this strategy, a core program has been formulated with the following main objectives for continued Bank involvement in the drainage and on-farm development subsector:

(i) to accelerate completion of ongoing irrigation and drainage projects so as to maximize production from past investments as quickly as possible;

(ii) to help induce a concentration of Government resources in the subsector to those drainage and land reclamation subprojects where they can have fastest and greatest impact in raising productivity; and

(iii) to assist in institution building to improve implementation capacity, design efficiency, planning and coordination in the subsector.

5. Completion of priority elements of the back-log of drainage and other on-farm works would comprise a Core Program of investments within the re-oriented irrigation and drainage subsector investment program which would form the basis for future Bank assistance. The Core Program is estimated to cost about US$ 1,234 million equivalent. Under the recently negotiated Agricultural Sector Adjustment Loan (ASAL), the Government has agreed to make sufficient budgetary allocations for this purpose and to fully implement the Program under agreed selection criteria. These allocations, which are primarily for on-farm development works, would be an average of 35% of the total annual budget allocations for irrigation and drainage. The timely implementation of the Core Program requires that certain works be completed and advance actions taken during 1985. The following portion of the Core Program costs which cover these advance actions are expected to be financed from the proposed ASAL:

(i)	Equipment for rehabilitation and maintenance of surface drains	111.0
(ii)	Consulting and reviewing consulting services for DSI	2.0
(iii)	Consulting and reviewing consulting services for GDRS	2.0
(iv)	Training program for DSI & GDRS	2.0
	Total	117.0

Scope & Estimated Cost of the Drainage and On-Farm Development Subsector and Cost

6. It was in the above setting that the Government of Turkey invited an appraisal mission to appraise a time slice of the priority elements of the drainage and on-farm development subsector constituting the Core Program. The Core Program as accepted by the Government under the proposed ASAL consists of the following components:

(a) Rehabilitation of surface drains over an area of about 250,000 ha to restore these channels to their planned performance and subsequent maintenance through provision of machinery and equipment;

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(c) Excavation of farm drains by GDRS over an area of about 150,000 ha;

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(e) Land reclamation through construction of small dykes and leaching over an area of about 78,000 ha;

(f) Construction of access roads along the irrigation and drainage system covering an area of about 170,000 ha;

(g) Implementation of an operation and maintenance program for drainage;

(h) Employment by GDRS of an engineering consulting firm, for the programming, preparation of inception reports, feasibility studies, final design and bidding documents for execution of Core Program works through contractors and employment of reviewing consulting firm for review of the work done by the engineering consulting firm;

(i) Employment by DSI of an engineering consulting firm, for the programming, preparation of inception reports, feasibility studies, final designs and bidding documents for execution of surface drainage works by contractors; review and evaluation of DSI's annual public investment programs according to agreed criteria; and assistance to DSI to set up monitoring and evaluation programs for the investment

portfolio, and employment of reviewing consulting firms to review the work done by the engineering consulting firm; and

(j) Training of GDRS and DSI headquarters and regional staff in selected fields in appropriate countries.

7. The mission carried out the economic, financial and technical appraisal of all components of the Core Program. Selection of the first time slice included those contracts which can be initiated during the next two years and completed within the next four years. The following procedure was adopted to select the first time slice:

(i) selected those projects where irrigation infrastructure by DSI has been physically completed, and the works of on-farm development can be started immediately;

(ii) accorded first priority to rehabilitation of surface drainage works, which are a prerequisite for any subsurface drainage;

(iii) also, included those projects where DSI is expected to complete the infrastructure during the next one/two years;

(iv) provided minimum requirements for institution building in terms of consultants and training.

The mission is of the opinion that a time slice of the Core Program, as shown in the following table, would represent a well conceived and coordinated priority investment which can be implemented through funds made available under the ASAL and the presently proposed loan.

Table Showing Phasing of the Core Program

Item	Total Cost (Core Program)			FE	Financed Under the ASAL			First Time Slice Financed Under Proposed DODS Loan		
	Local	Foreign	Total	%	Local	Foreign	Total	Local	Foreign	Total
	------US$ Million----				------US$ Million-----			------US$ Million----		
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Training of DSI & GDRS Staff	=	2.6	2.6	100	=	2.2	2.0	=	0.6	0.6
Total Base Cost	387.4	557.9	945.3	59	-	117.0	117.0	180.5	207.1	387.6
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GRAND TOTAL	514.2	720.2	1,234.	—	—	117.0	117.0	240.0	275.0	515.0

ABSTRACT

	Local	Foreign	Total
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(d) Procurement The mission recommends the following procurement procedures which were discussed by the mission and accepted by the implementing agencies of the Government:

(i) Equipment All equipment for rehabilitation and maintenance of surface drains would be procured under International Competitive Bidding (ICB) procedures consistent with the World Bank and IDA Guidelines (1984). The actual execution of rehabilitation works through utilization of this equipment would be carried out by the existing staff of DSI through force account. This procedure would be the most economical and consistent with Bank procedures as it would permit procurement of equipment through international competitive bidding, while the rehabilitation works which are complex and spread over the whole of Turkey would be carried out by the existing 25 Regional Directorates of DSI.

(ii) Civil Works (On-Farm Development) Civil works, which constitute the bulk of the agreed Core Program, would be carried out under ICB procedures consistent with Bank Guidelines (1984). Annual procurement packages of priority on-farm development works would be prepared and the works carried out through contractors employed under the above procedure.

(iii) Consulting & Reviewing Firms Employment of consulting engineering firms and reviewing consulting firms by DSI and GDRS would be carried out according to Bank Guidelines and under

1/ Memorandum dated May 2, 1985 from Mr. Willi Wapenhans addressed to Mr. Ernest Stern.

terms of reference and scope of work acceptable to the Bank. Employment of local consultants, for feasibility studies and final design would be encouraged. In case sufficient local expertise is not forthcoming, the local firms would be required to enter into consortium agreements with outside firms. However, independent reviewing consulting firms would be recruited internationally to permit objective review and advice. During the final meeting, however, some reservations were expressed by the Treasury. It was stated that a question mark should be placed against ICB procedures for civil works (item ii) and reviewing consultants (item iii) above. The mission, however, found no basis for changing its recommendations.

(e) Cost Estimates During the negotiations for the ASAL, GDRS and the State Planning Organization (SPO) had stated that the mission's estimate of the Core Program was excessive. During appraisal the mission has carried out a detailed analysis of the operation of various types of equipment, prepared revised bills of quantities, established updated prices of goods and materials and prepared revised estimate of cost. The following omissions were noticed in the GDRS estimates presented to the appraisal mission:

(i) The cost of equipment for example trencher, dozer etc. have not been updated.

(ii) The prices of materials are not the prevailing prices, but lower rates from the previous years. For example, the prices of diesel oil, petrol, steel, cement have all been under estimated when compared with the market rates.

(iii) No price has been ascribed to gravel and sand. It may perhaps be free for the Government, but the contractors will have to pay the market price.

(iv) Transportation costs are so low that they do not cover even the cost of diesel oil used by the transport vehicles.

However, the overriding reason for the low cost is GDRS's design assumption whereby tile drains have been spaced at 100 meter intervals. While this may be cost effective, it would not serve to drain the waterlogged areas in the present conditions of soils and watertables. The mission considers that an average spacing of 30-35 meters between tile drains would be necessary for effective drainage of the system, permitting the benefits which have been ascribed to the project. Due to the above reasons, the mission considers its estimate of cost to be correct and recommends that these should be adopted. These views have been conveyed to the SPO and GDRS who have agreed to go along with these estimates. Final costs would be established when the feasibility studies and final designs are prepared by the consultants. However, during the final meeting the officials of the Treasury stated that a question mark should be placed against this item as well. The mission, however, found no basis for changing its recommendation.

(f) Tertiary Surface Drains Constructed by GDRS In many projects surface drains constructed by GDRS form the collector link between the

subsurface network and DSI's outlet surface drains. However, due to absence of maintenance (cleaning, weed removal, etc), these drains constructed by GDRS are unable to perform their functions rendering the subsurface drainage networks ineffectual. The mission was informed that GDRS has no funds, staff or authority to maintain these drains. In the mission's opinion most of these open surface drains should have been subsurface collectors to start with. Perhaps this design was adopted to save on investment costs, irrespective of the difficulties of maintenance. The mission recommends that an economic analysis of surface drains versus the subsurface collectors be included in the scope of work for the consulting firms. The mission discussed the subject with the GDRS and DSI where there is a full understanding of the magnitude of the problem. The mission further recommends that subject to the recommendations of the consultants, the existing surface tertiary drains constructed by GDRS, should be redesigned and constructed as subsurface pipe collectors.

10. Critical Path for further Processing of the Project The mission recommends that the project should be processed according to the existing Project timetable, which is as follows:

Decision Meeting	June 24, 2985
Decision Memorandum	July 1, 1985
Yellow Cover SAR	September 27, 1985
Submission to Loan Committee	November 1, 1985
Start Negotiations	December 2, 1985
Final Agreement	January 2, 1986
Board Presentation	February 20, 1986

Cleared with & cc: Mr. Gassner
Messrs. Rajagopalan (PPDDR) (5), Schuh (AGRDR) (5), Pouliquen (TRP), Wapenhans (EMNVP), Hasan (EMNVP), Krueger (VPERS), de Azcarate (CPPDR) (2), Stoutjesdijk (EM2DR), North (PHNDR), Asfour (EM2DR), Goffin (EMPDR), Grosdidier de Matons (EMPDR), Schertz (EMPDR), Dewey (EMPDR), Liebenthal (EMPDR), Swahn (EDCPT), Jansen (PBDCP), Harris (EMPA3) (2), Chaffey (EM2DA) (6), Jones (EMPDR), Jabri (LEGDD) (2), Gassner (EM2DA), Roy (EM2DA), Mayer (LOACS), Hittmair (CTRVP), Staff (EMPA3)
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TURKEY

DRAINAGE & ON-FARM DEVELOPMENT SUBSECTOR LOAN

SUBSECTOR BRIEF

Sector	: Agriculture	Date of this Brief:	May 3, 1985
Sub-sector Code	: 5TURAI08	Date of last Brief:	Sept. 23,1984
Appraisal Date	: April 1984	Program Officer:	H. Gassner
Project Officer	: Mahmud H. Tirmazi	OPS Lead Advisor:	G. Le Moigne

A. Sectoral Context

1. Sector Development Issues, Objectives and Strategy

1.01 Agriculture in Turkey. Agriculture's importance in the economy, although declining, is still very significant. The sector contributes about 23% of the GDP, about 33% of exports, and about 50% of employment. It also supplies much of the raw materials for industry and will have major importance in expanding foreign earnings and providing employment for Turkey's growing labor force. Prior to 1980, agriculture had a subordinate role supplying low cost inputs to industry and guaranteed food supplies for the urban work force. Export performance was poor in the Agricultural Sector, as in other sectors of the economy, while the import content of production increased as a result of programs which encouraged widespread mechanization and indiscriminate use of chemical inputs. Also, the agricultural sector did not benefit as much as others from public investment. Investment which occurred, mainly in the irrigation sub-sector, gestated very slowly because resources were spread thinly. Budgetary and financial subsidies to guarantee high producer prices, low cost inputs and cheap credit to stimulate agricultural production and private investment in the sector could not be sustained through the 1970s as a result of the strain placed on the budget, the banking system, and the competing demands for resources from the manufacturing sectors.

1.02 Between 1972 and 1975, real agricultural GDP increased at an annual average rate of 4.7%, falling off to only 0.9% in 1980 and 1981. However, in 1982 and 1983, real growth in agricultural GDP recovered to an average growth rate of 3.1% and reached 3.6% in 1984. In contrast with this domestic production, however, agricultural exports during 1980 and 1981 jumped to unprecedented levels in response to new export incentives, increasing by an annual average rate of 17.7% over the two-year period. In the face of poor domestic markets, commercial farmers sought foreign marketing opportunities, with some success. In 1982 and 1983, for agriculture and agroindustries combined, the average annual rate of export growth remained at a healthy 9.5%. Aided by good weather, but also amidst strong indications that farmers were adjusting to exposure to market determined prices, agricultural GDP recovered somewhat in 1982. For agricultural performance to continue to be encouraging, however, it must also be supported by strong institutional measures, new technology, improved extension services to farmers, more effective public investments, higher levels of private capital formation, provision of credit, and improvements in marketing and inputs distribution systems. A more effective irrigation, drainage and on-farm development program is one of the integral parts of such a program since it will allow increased cropping intensities and higher yields at reasonable costs.

1.03 Land Use. By 1981, about 44% of Turkey's agricultural land was occupied by permanent pastures and meadows. These are most important in the North East, South East and Central East regions, where these constitute well over half of the agricultural land. Grazing and forage lands are still quite important in the remainder of the Central Anatolian Plateau and in the Black Sea region, but become secondary in the western and southern coastal areas, where these account for less than 30% of the agricultural land. The remaining 56% of agricultural land represents the crop land, which is occupied by field crops (about 63%), fallow (about 24%) and vineyards, orchards and vegetable gardens (about 13%). The dominant system of cultivation in rainfed areas consists of a rotation including fallow 1 year out of 2, especially for the interior regions. Fallow is of lesser importance in the coastal regions, which benefit from higher rainfall and are usually better equipped with irrigation facilities. Increases of areas under crops are no longer possible as expansion has reached economic limits. Further developments would be dependent on increases in productivity through introduction of irrigation at an increasing rate, coordinated with efficient use of land and water resources.

Distribution of Arable Land (1982)

Particulars	Area ha '000	Area %
Area sown	17,157	63
Area fallow	6,614	24
Crop area	23,771	87
Vegetable gardens	618	2
Vineyards	655	3
Orchards	1,426	5
Olive groves	811	3
Total	27,281	100

Source: Statistical Year Book 1983

An additional area of 20,199,000 ha is also under forests.

1.04 Total Irrigated Area. The report of a special survey of private irrigation in 1980 shows irrigation in all but one of the 67 provinces. The main irrigated areas are along the Mediterranean coast and southern reaches of the Aegean coast. The total area put under irrigation has increased in recent years and is presently estimated to be about 4.7 million ha, which includes private irrigation (2.4 million ha), GDRS schemes (1 million ha) and DSI projects (1.3 million ha)[1/].

1.05 Irrigation Potential. In Turkey, the constraint on irrigation potential is water and not the availability of land. According to the last available comprehensive study by GDRS, an estimated 8.7 million ha total could be irrigated from the established water resources of Turkey. This study gives

1/ GDRS - General Directorate of Rural Services with the Ministry of Agriculture
DSI - General Directorate of State Hydraulic Works within the Ministry of Energy.

consideration to the competitive use of water for domestic and industrial purposes and, to some extent, technical feasibility. The application of economic criteria would likely considerably reduce this potential.

1.06 The Government is presently engaged in a very aggressive program to further develop irrigation. The irrigation and drainage completed to date and that scheduled for completion by end 1989 is given in the following table:

Irrigation and Drainage Development
Achieved through 1983 and Planned for Completion by end 1989

	By DSI	By GDRS
	ha	
End 1983	1,265,065	1,007,184
1984	114,777	39,873
1985-89	475,000	325,000
Total end 1989	1,854,842	1,372,057

The achievements in irrigation and drainage development by DSI and GDRS have been quite impressive. Moreover, private irrigation has also been expanding rapidly primarily from the use of ground water.

1.07 Performance of Irrigated Agriculture. Irrigation has played a crucial role in the recent agricultural development of Turkey, especially in those amongst the major agricultural regions that have low and erratic rainfall. Precipitation, which comes generally during the winter months, is subject to wide year to year and regional fluctuations, which result in unreliable production mainly of the cereal food grains. Irrigation has been a major factor in both increasing and stabilizing agricultural production. Roughly 40% of all plant output depends on either full or supplemental irrigation. An estimated 25% of all agricultural exports are grown under irrigation. In many respects, however, irrigated agriculture has performed considerably below its capacity. Newly developed irrigation projects have often failed to meet expectations in way of yield increases, double cropping and the adoption of higher-valued more intensive crops. Among the factors that explain this relatively low performance are: (i) lack of adequate drainage works in large areas. Farmers beginning with surface irrigation tend to use excessive water. The consequence all too frequently has been water logging and an increase in salinity problems; (ii) the lack of adequate extension and cropping systems research; and (iii) the lag in on-farm development works. The increase in irrigated crop areas has, therefore, lagged significantly behind the expansion of irrigation infrastructure, as shown in the following table:

Use of Areas Developed and Operated for Irrigation by DSI
(1965 - 1984)

Year	Area Developed ('000 ha)	Area Utilized ('000 ha)	(%)	Area Not Utilized ('000 ha)	(%)
1965	289	161	56	128	44
1966	309	199	64	110	36
1967	397	220	56	177	44
1968	447	247	55	200	45
1969	499	236	47	263	53
1970	521	285	55	236	45
1971	524	314	60	210	40
1972	563	363	65	200	35
1973	584	397	68	187	32
1974	628	464	74	164	26
1975	671	420	63	251	37
1976	711	421	59	290	41
1977	742	483	65	259	35
1978	763	499	65	266	35
1979	779	508	65	271	35
1980	755	494	65	261	35
1981	773	561	73	212	27
1982	814	606	74	208	26
1983	879	623	71	256	29
1984	965	699	72	266	28

Source: DSI's Statistical Sources.

The under-utilization of this infrastructure, built at comparatively high cost, results in a large loss to the economy.

Organizational Roles and Functions

1.08 Organizational Roles. Responsibility for the bulk of irrigation and drainage resides in the public sector with two Government agencies: The General Directorate of State Hydraulic Works (DSI) within the Ministry of Energy and Natural Resources, and the Irrigation Department of the General Directorate of Rural Services (GDRS) within the Ministry of Agriculture, Forestry and Rural Affairs. Budget allocations to these two agencies are reviewed by the State Planning Organization (SPO) under policies and guidelines issued by the High Planning Council (HPC), which is headed by the Prime Minister and composed of representatives of the Government Ministers, the SPO, and the Treasury.

1.09 General Directorate of Rural Services (GDRS) - Irrigation Department. The predecessor of the current Irrigation and Drainage Department was established in 1952 as the Irrigation and Drainage section of the Ministry of Agriculture. It was reorganized as the General Directorate of Soil Conservation and Farm Irrigation (TOPRAKSU) within the Ministry of Village Affairs in 1964. With the integration of the latter Ministry and the Ministry of Agriculture and Forests, in June 1984, into the new Ministry of

Agriculture, Forests and Rural Affairs, TOPRAKSU was absorbed by the MAFRA's newly formed Directorate General for Rural Services. While GDRS organization and scope of work currently are under review, the main responsibilities of its Irrigation and Drainage Department are to construct subsurface drainage and carry out on-farm works on publicly constructed irrigation and drainage schemes, to develop small water resources (up to 500 l/s) for irrigation, to carry out surveys, soil analyses, soil classification and soil maps, conduct research on soil, water, plants and fertilizer, and control erosion and floods in arable land.

1.10 GDRS Irrigation and Drainage Department to date retains largely its size and structure prior to the recent merger. At the time of the merger, it mainly consisted of a central organization, 18 regional planning offices, three project offices, 11 research centres, three training centres. Present permanent staff total about 9,200 of whom about 1,200 are technical, 800 are other and 7,200 are laborers. About 20% of the technical staff are located at headquarters.

1.11 GDRS staff are involved primarily in force account works and to a lesser extent in design and contract construction of minor works. With the expected increase in the on-farm development program, (para 2.9), GDRS would be charged with the implementation of a large program for subsurface drainage design and identification of most severely affected areas.

1.12 General Directorate of State Hydraulic Works (DSI). DSI was established in 1954 and brought under the Ministry of Energy and Natural Resources in 1964. Its responsibilities include the multiple utilization of surface and groundwater resources, and the prevention of soil erosion and flood control. Specifically, on major irrigation and drainage projects, DSI is responsible for planning and construction of primary, secondary and tertiary canals, surface drainage systems and the subsequent operation and maintenance of completed works, other than those works which DSI hands over to other institutions and cooperative groups. DSI operates about 80% of the irrigation works which it constructs.

1.13 DSI is headed by a Director-General with four assistants, a bureau and council of advisers. The headquarters' organization has 13 departments concerned with planning and implementation of activities, the operation and maintenance of services, research and planning, land expropriation, accounts, administration etc. Operations at field level are carried out through 25 regional directorates. DSI has 24,500 permanent employees (1984), of whom 3,380 are technical staff. Of the latter, 17% are located at headquarters.

1.14 DSI's technical staff are experienced and adequate for its continuing program of operation and maintenance and construction supervision. However, the concentration of resources in the coming five year program would require a sustained and intensive input involving updating feasibility studies for new projects, initiating new studies for ongoing projects, reassessing agricultural and economic factors on a micro geographical basis, and determining project priorities under a more rigorous selection criteria.

Public Investment Policy

1.15 The major constraint to effective development of irrigation and drainage has been the poor investment allocation. Public investment policies in the past have led to the financing of a large number of projects located in widely dispersed parts of the country and, therefore, the annual allocations to most of the ongoing projects have been such a small part of the total project cost that little progress towards completion could be made and benefits had to be deferred. Recognizing the importance of achieving maximum benefits as quickly as possible, the Government began in 1980 to identify priority investments and to concentrate its limited resources by providing full funding for projects scheduled for completion within one year. Thus, the Government commendably reduced the number of irrigation and flood control projects from 142 in 1980 to 83 in 1985, so as to expedite the completion of projects (see Table below).

Projects under Implementation with DSI
(1980 - 1985)

Year	Number of Projects Under Implementation
1980	142
1981	108
1982	98
1983	91
1984	88
1985	83

It is essential to follow a similar policy in formulating the future investment program as there still are a number of projects scheduled for completion which are likely to be carried over to succeeding year's program.

1.16 Criteria for selection of new projects. The SPO selects new projects in the irrigation and drainage sub-sector on the basis of the following eight criteria:

(a) Internal Rate of Return (IRR);
(b) Population density;
(c) Ratio of agricultural population to total population;
(d) Level of annual precipitation;
(e) Location in underdeveloped area;
(f) Ratio of irrigated land to irrigable land;
(g) Irrigation Intensity;
(h) Cost per hectare.

In applying the above criteria for the 1985 budget exercise, the SPO gave a greater weight to the IRR and locations in under-developed areas and lesser weight to the other six criteria. On the basis of these composite priorities, the SPO ranked the 40 irrigation and drainage projects submitted by DSI in descending order of priority. Twelve irrigation and drainage project works were selected for the 1985 budget from the top of the ranking list, while another seven were selected from the lower ranking for extenuating reasons. Another four flood control projects were selected which did not include irrigation, and hence were not in the ranking list. These criteria have been applied since 2 years and are generally adequate and acceptable and would be followed by SPO in the future. However it is too early to assess their impact on the investment program.

1.17 Criteria for Allocations to On-going Projects. Once a project enters the investment stream, annual allocations are made subject to the availability of funds, albeit following certain broad guidelines. Full allocation is given to those projects that are to be completed in one year. Every effort is made to provide a full or nearly full allocation to project considered important, such as World Bank projects and large projects located in under-developed areas. Large but partial allocations are made to projects which are to be completed within two or three years. The balance is spread over the remaining on-going projects. Application of the above guidelines, however, has given rise to a large number of on-going projects some of which have been under implementation since the sixties and the early seventies.

1.18 Investment & Budgeting Procedures. In early June every year, the SPO revises and issues the policy guidelines governing investment policies for the coming year. These policy guidelines include the forecasts of revenue receipts, the historical rate of inflation, the growth rate expected in each sector during the year and the size and scope of the annual sectoral investment plans. Major policy decisions on investment issues are made by the High Planning Council (HPC) which is headed by the Prime Minister and is composed of representatives of the Ministries, the SPO and the Treasury. The agencies within the Ministries submit to the SPO by the end of June their proposals on investment program consisting of the lists of projects and detailed project documents for new projects. The SPO reviews and analyses the investment programs and conducts review meetings with the concerned agencies in order to match the proposals with the available funds. By August/September the SPO submits the agreed investment plans to the HPC. Simultaneously, the Ministry of Finance and the Treasury submit the estimates of revenue and expenditures to the HPC. The HPC subsequently submits a balanced budget proposal for approval by mid-October at a special session of the Parliament.

1.19 Public Investments in Irrigation and Drainage Responsibility for the large bulk of irrigation development resides in the public sector. Two agencies of the Government, the State Hydraulic Works Agency (DSI) within the Ministry of Energy and Natural Resources (MENA), and the General Directorate of Rural Services' (GDRS) Irrigation Department (formerly known as TOPRAKSU), within the Ministry of Agriculture, Forestry and Rural Affairs (MAFRA), undertake large scale programs for developing irrigation infrastructure throughout the country. On major irrigation projects, DSI has responsibility for constructing headworks, distribution canals, and main pumping and drainage works, while GDRS is basically responsible for on-farm works. The DSI investment program on the average is about twice that of GDRS. The investment program in current and constant prices for both agencies has been as follows in recent years.

Public Investment of Irrigation and Drainage Subsector

	Current Prices			Constant 1985 Prices		
	DSI	GDRS	Total	DSI	GDRS	Total
	---------TL Billion-----			--------TL Billion--------		
1979	8.1	5.3	13.4	60.4	39.3	99.7
1980	16.9	8.6	25.5	60.0	30.5	90.5
1981	37.0	19.9	56.9	88.8	47.8	136.6
1982	42.2	23.8	66.0	81.0	45.6	126.6
1983	58.7	31.4	90.1	94.0	50.3	144.3
1984	78.3	42.2	120.5	98.0	52.8	150.8
1985	112.4	50.3	162.7	112.4	50.3	162.7

Note: Actual expenditures from 1979 to 1984, and budget allocations in 1985.

Although investment in current terms appears to have increased at a very rapid rate, investment in real terms has been increasing gradually, except for 1981.

1.20 DSI's Investment and Recurrent Budget (1979-1985). DSI's irrigation and drainage budget has shown an overall real increase of 86% since 1979. The 1985 Investment Program indicates a continued significant increase in the investment allocations to DSI. The personnel budget of DSI as contained in the Investment Budget and as shown below in 1985 constant prices have, however, undergone a slight reduction between 1979 and 1985. The personnel budget as a percentage of the total budget has declined from 24% to 11%. The personnel budget does contain a small element of expenditures for completed irrigation projects which should normally be included in the recurrent budget.

DSI Investment Budget in Agriculture
(Irrigation and Drainage)

Current and Constant 1985 Prices

Year	Construction		Personnel		Miscellaneous		Total	
	Current	Constant	Current	Constant	Current	Constant	Current	Constant
	(TL Billion)							
1979	6.2	45.7	1.9	14.4	0.0	0.3	8.1	60.4
1980	11.5	40.7	5.3	19.0	0.1	0.3	16.9	60.0
1981	29.8	71.5	7.0	16.9	0.2	0.4	37.0	88.8
1982	34.9	67.0	7.1	13.6	0.2	0.4	42.2	81.0
1983	48.8	78.1	9.7	15.6	0.2	0.3	58.7	94.0
1984	64.8	81.1	13.3	16.6	0.2	0.3	78.3	98.0
1985	100.1	100.1	12.0	12.0	0.3	0.3	112.4	112.4

Note: 1979 - 1984 - actual expenditures and 1985 - allocations

1.21 DSI does not prepare a separate recurrent budget for irrigation and drainage. The following table includes the provision for agriculture as well as energy and services sub-sectors:

DSI's Recurrent Budget
(including Agriculture, Energy and Services)

Current and Constant 1985 Prices

Year	Personnel				Supplementary Works		O&M		Total	
	Headquarters		Region							
	Curr.	Const.	Curr.	Const.	Curr.	Const.	Curr.	Const.	Curr.	Const.
	TL Billions									
1979	0.3	1.9	-	-	1.7	12.6	0.2	1.5	2.2	16.0
1980	0.4	1.3	-	-	2.0	7.4	0.3	1.0	2.7	9.7
1981	0.4	0.8	0.6	1.4	4.0	9.7	0.9	2.2	5.9	14.1
1982	0.2	0.5	0.6	1.2	3.0	5.7	0.9	1.8	4.8	9.2
1983	0.3	0.4	0.7	1.2	4.8	7.6	1.6	2.5	7.3	11.7
1984	0.4	0.5	1.0	1.3	4.5	5.6	1.9	2.4	7.8	9.8
1985	0.6	0.6	1.7	1.7	10.1	10.1	4.6	4.6	17.0	17.0

Note: 1979-1984 - actual expenditures; and 1985 - allocations

In 1985 prices, the recurrent budget for 1985 shows hardly any increase since 1979. On the other hand, the allocations were considerably reduced during 1980 to 1984 when compared to the 1979 figures. The personnel budget of DSI, for the headquarters and the regions has also been relatively constant, showing an increase of about 20% since 1979. However, the concern of the planners to provide adequate financing for O&M is evident from the 200% increase in the budget since 1979.

GDRS's Investment and Recurrent Budget for Irrigation, Drainage and other On-farm Development (1979-1985)

1.22 The investment and the recurrent budget of the Irrigation Department of GDRS for the years 1979 to 1984, is given below. Due to the merger of the former TOPRAKSU with GDRS, separate allocations under the recurrent budget of 1985, for the irrigation department of GDRS, are not available.

GDRS' Investment and Recurrent Budget
(Irrigation, Drainage and Other On-farm Development)

Current and Constant 1985 Prices

	Investment		Recurrent		Transfer Payment		Total	
	Current	Constant	Current	Constant	Current	Constant	Current	Constant
	TL Billion							
1979	5.3	39.3	0.3	2.4	0.0	0.1	5.6	41.8
1980	8.6	30.5	1.0	3.7	0.0	0.0	9.6	34.2
1981	19.9	47.8	1.1	2.7	0.0	0.0	21.0	50.5
1982	23.8	45.6	1.7	3.3	0.0	0.0	25.5	48.9
1983	31.4	50.3	1.7	2.8	0.0	0.0	33.1	53.1
1984	42.2	52.8	2.3	2.9	0.0	0.0	44.5	55.7
1985	50.3	50.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: 1979-1984 - actual expenditures; 1985 - allocations

While GDRS's budget in the crisis year of 1980 showed a significant reduction in constant 1985 terms, overall since 1979 the budget has shown an increase of about 30%. This increase has been reflected entirely in the investment portion of the budget. However, this does not reflect the high priority placed on on-farm development works in the five year plan or affect the allocations of 1984 which have been somewhat reduced in 1985.

Review of Large On-going Projects and Completion Program from 1980 to 1984

1.23 Review Methodology. Historical data in current terms on project cost, accumulative expenditure and annual allocations was tabulated for the entire life of each of the 27 large project, the estimated cost of which exceeds TL 9 billion (US$19 million).

1.24 Trends in Estimated Cost, Allocations and Expenditures. The estimated cost, in constant 1985 prices, shows that 23 of the 27 projects have remained within acceptable ranges of initial planning estimates. The changes in cost, in the case of the three program-type projects, have been phenomenal:

Name of Project	Estimated Cost in 1985 Constant Prices		
	1977/78	1980	1985
TAMAMLAMA ISLERI (Completion Works)	5.2	12.8	27.2
TASKIN KORUMA (Flood Control)	11.8	18.6	32.9
ALACAK BARAJ (Low Dams	2.9	6.7	19.8

It appears obvious that these programs are not definitive and have a tendency to increase in extent every year. In addition, the estimated cost of IGDIR Irrigation Project has risen from TL 9.3 billion in 1968 to TL 34.4 billion in 1985. The annual allocations have always been a fraction of the amounts required to achieve the scheduled completion targets, resulting in a continuous postponement of the completion dates. Consequently, the expenditures, and therefore the physical completion, of these works have lagged far behind the scheduled completion targets.

1.25 Completion Program 1980 to 1984. The achieved rate of completion of the overall investment program, similarly, is low considering that priorities were accorded to completing projects each year. From 1980 to 1984, out of 78 projects to be completed, only 47 projects were completed as shown below:

Year	No. Programmed for Completion	No. actually Completed
1980	16	6
1981	7	6
1982	11	6
1983	19	17
1984	25	12
	78	47

During 1985, 16 projects have been targeted for completion, 13 of which had been scheduled for completion in 1984 or earlier and have slipped into the 1985 program.

1.26 Non-Realization of Benefits. Review of information furnished on the 27 large projects and projects in the completion program indicates that, as a result of continual low annual expenditures at a given site, in many cases large expenditures may have accumulated over extensive periods while minimal or no benefits have been realized to date.

Objectives of the Irrigation and Drainage Subsector

1.27 The development of irrigation and drainage is crucial to attaining the planned growth in agricultural output through both an increase in the area cropped as well as through a rise in productivity (yields). Responsibility for the bulk of irrigation development resides with the public sector and a high priority has been accorded in the Fifth Plan to investment in irrigation and drainage as part of the Government's policy of directing public investment to infrastructural works. The Government's strategy for irrigation and drainage during the Fifth Plan relies on a considerable increase in areas, improved utilization of water and a greater emphasis on land development and drainage works. The planned targets for new irrigation and associated works are listed below:

Five Year Development Plan 1985-89
(Development of Areas)

		(ha)
(1)	New Irrigation (including drainage)	
	-Large Schemes	475,000
	-Small Schemes	325,000
	Subtotal	800,000
(2)	On-farm Development	300,000
(3)	Flood Protection	130,000
(4)	Soil Conservation	200,000

1.28 1985 Investment Program. The objectives and policies governing the 1985 Investment Plan are completely in line with the fifth Five Year Plan (para 1.24). The 1985 Program investment allocation for the agricultural sector is 9.9% of total public investment as compared with the overall Five Year Plan allocation of 9.7%. The share of investment in irrigation and drainage is about 66% of public investment in agriculture. Of this 66% over two-thirds (69%) has been allocated to DSI for construction of irrigation and drainage infrastructure. The remaining 31% has been allocated to GDRS for the construction of small scale irrigation schemes, small dams, valley development and on-farm development. Of the total allocations to GDRS, only 29% are meant for on-farm development works. Details of the DSI and GDRS investment budget for 1985 are summarized below:

Investment Program 1985
Allocations to Irrigation and Drainage

DSI	(TL Million)	(%)
Major Works	71,557	64
Small Scale & Completion Works	15,920	14
Operation, Maintenance & Repairs	8,349	7
Machinery & Supply Services	12,344	11
Project Planning & Design	2,297	2
Other	1,933	2
Subtotal	112,400	100
		69
GDRS		
On-farm Development	13,376	27
Drainage & Soil Reclamation	1,189	2
Small Scale Irrigation	16,274	32
Small Dams & Valley Development	17,611	35
Project Preparation & Mapping	950	2
Research & Other	900	2
Subtotal	50,300	100
		(31)
Total	162,700	100

1.29 The SPO has taken cognizance of the relatively low level of allocations to GDRS for on-farm works, and pointed out that, 1985 being a transitional year, the 1985 allocations has been limited to cover about 50,000 ha. SPO has given assurances that in 1986 and thereafter, these allocations would be increased to enable GDRS to complete 100,000 ha of on-farm development works.

Irrigation Development Constraints

1.30 Budget Allocation. The major constraint to effective development of irrigation and drainage is the spreading of available investment funds over a large number of widely dispersed projects. The Government, in order to achieve maximum benefits as quickly as possible, began in 1980 to identify priority investments and to concentrate its limited resources. Thus, the Government commendably reduced the number of projects from 142 in 1980 to 83 in 1985 so as to more rapidly complete projects than would otherwise have been possible. This effort will need to be stressed in the future investment program.

1.31 Lack of Planning Coordination Between DSI and GDRS. GDRS generally does not commence with its investigation, design and implementation of on-farm works until the major works have been completed by DSI. While the need of some aspects of on-farm development such as subsurface drainage is often not manifest until after some years of irrigation, other aspects could best be implemented concurrently with the construction of the major irrigation network by DSI. Advance joint planning by the two agencies could much improve the present situation where on the average only 70% of the command area of completed DSI projects is irrigated. A project cannot be considered as completed with only DSI constructed headworks and distribution canals. Also required is the completion of associated field channels and on-farm works by GDRS.

1.32 Limited Construction Supervision and Inspection Staff. Another constraint is the limited design and supervision capacity of DSI and GDRS which appears insufficient to complete the backlog of partially completed schemes, let alone commencing new schemes. GDRS' backlog of works for on-farm development under drainage now exceeds 220,000 ha, while it appears to have been only able to complete 10,000 ha per year since 1977.

1.33 Maintenance and Repairs--Shortage of Machinery and Equipment. The lack of appropriate types and numbers of maintenance equipment with DSI has become an acute problem especially in the older schemes, where losses of considerable magnitude are evident due to inadequate maintenance, especially of drainage ditches and outlets.

1.34 Lack of Post-Implementation Services. The importance of post-implementation services for the realization of optimum levels of irrigation farming appears not to be fully appreciated. Of equal importance to the provision of needed on-farm development on a more timely basis, is the provision of technical guidance and other farmers services to encourage the uptake of irrigation and cultural practices that will lead to a realization of the production levels made possible by irrigation. Of first importance is the uniform and timely application of water to growing crops, which will vary from crop to crop and from season to season. next is the selection of varieties

and fertilizer applications which perform best under irrigation, supplemented by technical guidance for dealing with the increased week infestation associated with irrigated agriculture. These and other post-construction requirements and inputs for maximum irrigation development require improved adaptive research and extension services.

2. Performance under Previous Projects and Bank's Lending Strategy.

2.1 The Bank and IDA have provided financing in 4 credits and 4 loans for 6 irrigation projects in Turkey, as detailed below:

Name of Project	Year	Loan Credit	Amount ($ mil) Loan	Credit
1. Seyhan Multipurpose Dam	1952	-/63-TU	22.8	-
2. Seyhan Irrigation I	1963	-/38-TU	-	20.0
3. Seyhan Irrigation II	1969	587-TU/43-TU	12.0	12.0
4. Irrigation Rehab. & Compl.	1972	-/281-TU	-	18.0
5. Ceyhan Aslantas Multipurp.	1973	883-TU/360-TU	44.0	30.0
6. IAEE Irrigation Project	1983	2433-TU	115.3	-

In addition, Corum-Cankiri Rural Development Project (Loan 1130-TU) also includes 5 irrigation and drainage systems to be constructed by DSI and 13 small irrigation schemes, to be constructed by GDRS, involving on-farm development works and 17 dams (under 15m in height). These irrigation works constitute 21% of the project cost. Another project, namely, Erzurum Rural Development Project (Loan 2094-TU) includes 56 irrigation and drainage systems to be constructed by GDRS. The cost of these works has been estimated to be about 16% of the total project cost.

2.2 The elimination of a major constraint to production by providing reliable source of water had a major impact on agricultural production in the completed Bank and IDA financial projects. However, newly developed irrigation projects have not achieved the expected yields due to absence of adequate drainage and other on-farm development works, and lack of adequate extension and cropping systems research (see paras 1.07, and 1.30 to 1.34).

B. Drainage & On-farm Development Subsector Program Formulation and Preparation

3. Drainage & On-farm Development Subsector Loan Origin and Status of Preparation

3.01 Origin of the Subsector The proposed subsector loan has its origin in the Government's request for Bank support to irrigation schemes under construction presented to the 1980 Subsector Identification Mission [1/]. It was agreed that those incomplete schemes would be selected, where DSI has already fully or substantially completed construction and where GDRS's on-farm development related to those irrigation works needs to be completed. Bank's sector mission of 1983 further analyzed the progress of irrigated agriculture and attributed the slow rate of progress to sharp decline in public investments, lack of on-farm development and absence of adequate supporting services in the command areas [2/]. Bank's economic missions on 'Public Sector Investment Reviews' provided the criteria for rationalization and prioritization of the Investment Programs [3/]. However, it was under the Agricultural Adjustment Sector Loan that specific objectives were defined and an adjustment program was prepared, which would strengthen and accelerate irrigation and drainage implementation and rationalize investment priorities and programming [4/].

3.02 Status of Preparation GDRS would be charged with the implementation of the program for subsurface and farm drainage in the most severely affected areas. In this connection, GDRS will have to intensify its monitoring, and data collection and engineering design facilities. These tasks, under the expanded program would require assistance from local consulting firms (and, if necessary, local firms in consortium with international firms). In addition GDRS would be further assisted by outside reviewing consulting firms. With the large increase in on-farm development works, GDRS would make greater use of private contractors. GDRS would also redeploy regional staff from regions of low to regions of high activity and impart necessary training. DSI would also be required to provide a sustained and intensive effort involving updated feasibility studies, initiating new studies, reassessing agricultural and economic factors and determining project priorities under more rigorous selection criteria. DSI would need assistance from local consulting firms (or local firms, in consortium with international firms as needed). In addition, DSI would be further assisted by outside reviewing consulting firms in carrying out these tasks. At the same time implementation of DSI responsibilities under the core program would require training and reorientation of the concerned technical staff towards drainage activities. It would also be necessary for DSI to redeploy regional staff from regions of low to regions of high activity.

1/ Turkey: Agricultural Development: Problems & Opportunities, May 7, 1981, Report No. 3178a-TU

2/ Turkey: Agricultural Development Alternatives with Exports. June 30, 1983, Report No. 4202-TU

3/ Turkey: Public Sector Investment Review, Phase I, Back to Office Report dated March 12, 1985

4/ Turkey: Agricultural Sector Adjustment Loan, Yellow Cover Staff Appraisal Report dated March 25, 1985, Report No. 5576-TU

C. Investment Strategy of the Drainage and On-farm Development Subsector and its Objectives.

Objectives and Strategy

4.01 During the remainder of the Fifth Five Year Plan period, when Turkey will likely continue to face severe limitations on domestic and foreign financial resources, it is essential to concentrate available resources on projects which can be brought into production most quickly and for which the incremental investment in completion would result in high economic returns. The main objectives for continued Bank involvement in irrigation and drainage would be:

(i) to accelerate completion of ongoing irrigation projects so as to maximize production from past investments as quickly as possible;

(ii) to help induce a concentration of Government resources in the sub-sector to those sub-projects where they can have fastest and the greatest impact in raising productivity; and

(iii) to assist in institution building to improve implementation capacity, design efficiency, planning and coordination in the sub-sector.

Strategy

4.02 The strategy and criteria currently employed by the Government in the selection of DSI projects are discussed in paras 1.16 and 1.17. To rationalize and achieve more effective utilization of public irrigation investment resources, towards the above objectives (para 4.0), a departure from the current practice of financing a large number of new projects, or the completion of large-scale headworks would be necessary. The suggested plan is to concentrate irrigation and drainage investment on measures aiming to achieve further utilization of completed or ongoing major projects through completion of drainage and other on-farm development works. Therefore, with the exception of a few new project starts having quick gestation and high ERRs (say 15% or higher), only essential headworks on ongoing schemes would be financed, while the bulk of annual investment expenditures would be reoriented towards (i) overcoming the backlog of priority on-farm works; (ii) providing equipment and other assistance to rehabilitate and improve the level of maintenance on all completed projects; and (iii) providing assistance on land reclamation so as to avoid serious deterioration. The strategy would therefore shift to one of development of the sub-sector by completing drainage and land reclamation followed by other on-farm development works.

4.03 Measures to reorient irrigation and drainage investment priorities would be introduced into the Government selection procedures. During the negotiations of the proposed Agricultural Sector Adjustment Loan, a portion of which would finance initial elements of the Drainage and On-farm Development Sub-sector Loan, such as employment of consulting firms and provision of equipment for rehabilitation and maintenance of surface drains within the irrigated areas, agreement would be sought on the adoption of these measures.

4.04 Completion of priority elements of the backlog of drainage and other on-farm works would comprise a Core Program of investments within the reoriented drainage and on-farm development sub-sector investment program which may form the basis for any future Bank assistance. Measures proposed under the Core Program have the primary objective of concentrating investments on the completion of drainage and other on-farm development works associated with irrigation projects which have been fully or substantially completed by DSI. Drainage and other on-farm development would be undertaken in a manner to insure that priority is given to those investments where works can be quickly completed and which result in the highest economic return. Studies thus far made indicate that first priority should be given to drainage works, both surface and subsurface, as well as access roads and land reclamation. A lower priority should be accorded to land leveling and land consolidation.

Backlog of On-Farm Development Works

4.05 Surface Drainage Works (DSI). Unlike land consolidation and land levelling, surface drainage work does not suffer from any constraints and can be carried out wherever needed on first priority, without any delay. After implementation, this work can provide quick relief to surface ponding. DSI areas presently under irrigation require rehabilitation of the existing surface drainage systems over an estimated area of 250,000 ha and excavation of the existing surface drainage systems over an estimated area of 75,000 ha. Additional new surface drains would be needed over about 50,000 ha as a result of DSIMs new area of 475,000 ha planned to be completed during 1985-1989. The areas are characterized by fertile land, plain to undulatory regions situated in the peripheral plains and river valleys. In execution of the balance works, pumping will be involved in the flat plains of the coastal regions.

4.06 Surface Drainage Works (GDRS). Balance work of surface drainage by GDRS at end 1984 include quaternary drains and some tertiaries over an area of 85,700 ha. The total area to be completed up to end 1989 will be 148,300 ha as additional new surface drains (62,600 ha) would be needed as a result of DSI new area planned to be completed during 1985-89 (see table below).

GDRS's Back-log of On-Farm Development Works
(up to end 1989)

	End 1984	1985-89	Total
	ha		
Farm Surface Drainage	85,700	62,600	148,300
Sub-surface Drainage	222,103	117,497	339,600
Land Reclamation	60,997	16,603	77,600
Access Roads	78,700	90,600	169,300
Land Consolidation	43,823	27,077	70,900
Land Leveling	180,531	178,069	358,600

4.07 Subsurface Drainage Works. After the surface drainage canals have been excavated, no constraints are operative on subsurface drainage. The latter can therefore be implemented relatively quickly and, on completion, offers high economic returns. GDRS's balance work of subsurface drainage

amounts to 222,103 ha at end 1984 and the total to be completed up to end 1989 will be 339,600 ha as shown above. These areas requiring subsurface drainage are situated in coastal plains and inland valleys. The ground slopes near the sea are poor and pumping from collector drains will be needed. The lands requiring subsurface drainage are generally light to medium clay soils and can be drained with tiles placed 50-100 meters apart.

4.08 Land Reclamation Works. In view of its importance, land reclamation work has to be properly planned and executed in time. Land reclamation is a means of rehabilitating lands affected by salinity and irrigation helps in leaching down excessive salts in addition to providing irrigation water for crop growth. GDRS's current plan includes an outstanding balance of 60,997 ha up to the end of 1984. An area of 16,603 ha would be added as a result of DSI's new area of 475,000 ha planned to be completed during 1985-89 (see table at page 16). Land reclamation over a total of 77,600 ha would be completed upto the end of 1989.

4.09 Access Roads. Access roads provide easy access to the lands and help in maintenance of drainage systems and other on-farm works. In view of their importance, the farm roads carry first priority and should be implemented along with the surface drainage, subsurface drainage and reclamation works. Access roads are required to be constructed over an area of 78,700 ha (outstanding balance at end 1984). With the additional area of 90,600 ha necessitated as a result of DSI's planned completion of 475,000 ha during 1985-89, the total area to be completed up to end 1989 would be 169,300 (see table at page 16).

4.10 Land Consolidation, Land Levelling and Terracing. The main benefits of land consolidation are reduced travel and transport time between fields, simplification of layout and implementation of tertiary and quaternary drains and simplification of land levelling operations. Due to numerous constraints, land consolidation cannot be completed in reasonable periods which in turn delays the land levelling operations as well. If well-levelled and graded, land levelling provides even distribution of water, ease of application from the headland source and use of less water. However, there are numerous constraints which delay implementation of land levelling inordinately, resulting in delaying to the same amount the accrual of benefits from land levelling. Under these circumstances, a lower priority should be accorded to the works of land consolidation, land levelling and terracing. The balance work of land consolidation at end 1984 was 43,833 ha which would increase to 70,900 ha at end 1989. The outstanding balance of land levelling at end 1984 was 180,531 ha which is likely to increase to 358,600 ha at end 1989 (see table at page 16).

Indicative Investment Program during the Five Year Plan (1985-89)

4.11 The indicative investment program 1985-89 is summarized in the following table on page 18. It includes completion of irrigation infrastructure for 475,000 ha of new lands by DSI, the small irrigation schemes (325,000 ha) to be carried out by GDRS and the estimated drainage and other on-farm work program. Total cost of the program is estimated at about TL 1,200 billion (US$2,527 million).

Summary of Proposed Irrigation, Drainage and & Other On-farm Works Program (1985-89)
(January 1985 - Constant Prices)

Item	Area (ha)	Estimated Cost (TL billion)
A. Surface and Subsurface Drainage		
- Rehabilitation of surface Drains	250,000	87.5
- New Surface Drains	125,000	58.1
- Farm Surface Drains	148,300	69.0
- Subsurface Drains	339,600	204.8
Subtotal		419.4
B. Land Reclamation & Access Roads		
- Land Reclamation	77,600	3.9
- Access Roads	169,300	8.5
Subtotal		12.4
C. Other On-farm Development Works		
- Land Consolidation	70,900	14.5
- Land Levelling	358,600	37.3
Subtotal		51.8
D. Irrigation Infrastructure		
- Large Irrigation Schemes	475,000	540.8
- Small Irrigation Schemes	325,000	176.0
Subtotal	800,000	716.8
Grand Total		TL 1,200.4 billion or US$2,527.4 million

5. The Agreed Core Program

5.01 In line with the investment priorities and the strategy discussed in paras 4.01 to 4.03, the agreed Core Program would include surface and subsurface drainage land reclamation and access roads as tabulated below:

Drainage and On-farm Development Sub-sector
The Agreed Core Program (1985-89)
(January 1985 - Constant Prices)

Item	Estimated Cost TL Billion	Estimated Cost US$ Million
Rehabilitation of Existing Surface Drains	87.5	184.2
Excavation of New Surface Drains	127.1	267.7
Installation of Subsurface Drains	204.8	431.1
Land Reclamation	3.9	8.2
Access Roads	8.5	17.9
Consulting Services	15.5	32.6
Training of Staff	1.2	2.6
Monitoring & Evaluation Facilities	1.0	2.0
TOTAL	449.5	946.3

Implementation of other items of on-farm development, having a lesser priority, would be deferred and the extent of the program for increasing the irrigation infrastructure would depend on the available resources. The proposed Core Program would be implemented through the following works:

(a) Rehabilitation of surface drains over an area of about 250,000 ha to restore these channels to their planned performance and subsequent maintenance through provision of machinery and equipment;

(b) Excavation of main, secondary and tertiary surface drains by DSI over an area of about 125,000 ha;

(c) Excavation of farm drains by GDRS over an area of about 148,300 ha;

(d) Installation of sub-surface drains over about 339,600 ha of water-logged land;

(e) Land reclamation through construction of small dykes and leaching over an area of about 77,600 ha;

(f) Construction of access roads along the irrigation and drainage systems covering an area of about 169,300 ha;

(g) Employment of engineering consulting firms by DSI and GDRS, for preparation of inception reports, feasibility studies and bidding documents for execution of work through contractors;

(h) Employment of reviewing consulting firms by DSI and GDRS for review of the work done by the engineering consulting firms;

(i) Training of GDRS and DSI Headquarters and regional staff in selected fields in appropriate countries; and

(j) Employment of a specialized consulting firm to prepare a program for monitoring and evaluation of the planning and implementation of the investment program including computerization of the system and provision of hardware and software. Brief description of these components is given in the succeeding paras 4.6 to 4.15.

Description of Agreed Core Program in the Drainage and On-farm Development Sub-Sector

5.02 Rehabilitation of Existing Surface Drains. Silt clearance and weed removal from surface drains and repairs to damaged portions and structures are some of the essential maintenance requirements. In Turkey, main surface drains are required to be cleared every 3 years and secondaries and tertiaries every 5 years. Due to lack of appropriate equipment, the maintenance of the drainage systems is generally neglected and therefore drainage ditches are choked with silt deposits and weed growth. Consequently sub-surface drainage outlets from adjoining landscape are submerged and broken at places. Proper functioning of surface drains is a prerequisite to the implementation of the entire Core Program. Choked drains reduce the efficiency of drainage works, albeit negate the very purpose of their construction. At present drainage

systems over an area of about 250,000 ha are unable to perform their function and require rehabilitation. The maintenance sections in the regional directorates of DSI are adequately staffed and well experienced and are regarded as first-rate maintenance units. However, the machinery pool of DSI used for maintenance and repairs is old and has served most of its useful life. Due to excessive usage, the normal amortization period for such equipment is usually five years. However, as shown in the following table over 91% of the machinery is older than five years and 43% of the machinery is older than 10 years.

Status of Machinery and Equipment with DSI

	In DSI's Equipment Pool (in nos.)	Over 5 Yrs. Old	Over 7 Yrs. Old	Over 10 Yrs. Old	Over 15 Yrs. Old	Over 20 Yrs. Old	Average Age (Yrs)
1. Excavator	501	401	401	219	131	48	10
2. Dozer	490	490	490	304	102	64	11
3. Loader	233	233	233	76	31	22	10
4. Grader	135	135	135	76	41	6	11
5. Dump Truck	1,055	913	814	337	251	162	9
6. Motor Scraper	28	28	28	10	10	10	13
7. Ditcher	11	11	11	11	11	5	20
8. Compressor	234	233	233	115	105	24	12
Subtotal	2,687	2,444	2,345	1,148	682	341	
(%)		91	87	43	25	13	

Source: DSI's report on "Renovation & Balancing of Machinery & Equipment Pool of DSI", 1984.

The on-farm development works by GDRS cannot be carried out until the drainage system has been rehabilitated by DSI. GDRS has unequivocally made this rehabilitation a prerequisite to their agreement to carry out the farm drainage and sub-surface drainage works under the agreed Core Program. This position of GDRS is coherent and acceptable, as on-farm development works cannot be carried out unless the excess water can be evacuated through surface drains. The recoupment of the machinery pool of DSI is an urgent necessity which has the highest priority within the Core Program. Immediate requirements for this purpose have been estimated based on the quantities of work which have to be carried out by the DSI's maintenance units.

5.03 Excavation of Surface Drains by DSI. DSI's jurisdiction extends to main, secondary and some tertiary drains. In projects which have been opened by DSI for irrigation, surface drainage has been completed simultaneously; however as a result of irrigation application, some salinity and water-logging problems over significant areas have since arisen. In areas of on-going projects, however drainage works have been only partly completed, even though irrigation has started after partial completion of the irrigation systems. An area of about 75,000 ha remains to be provided with surface drainage. Additional drainage over an estimated area of about 50,000 ha would be required for DSI projects due to be completed during the Fifth Five Year Plan (1985-89). Pumping stations would also be needed in certain cases where gravity flow of surface drains is not feasible.

5.04 Surface Drainage by GDRS. All quaternary farm drains fall within the purview of GDRS. Under the core program about 148,300 ha of land would require farm drains to eliminate surface ponding during rains and uneven irrigation application in cropped lands. These farm drains also form the collectors for the sub-surface drainage system. Presently crop yields are depressed with considerable loss of benefits. The above area requiring surface drainage would be completed by 1989.

5.05 Sub-Surface Drainage. Water table stands at 0-1 meter depth during most of the year in large areas where irrigation has already been opened by DSI. Only in very dry years agriculture is possible in such areas. Crop yields are also affected badly most of the time. Sub-surface drainage is the urgent need to achieve planned targets in production. It is aimed to maintain the water table at about 1.2 meter below the ground surface, during the crop season. An area of about 339,600 ha would require subsurface drainage which would be completed by 1989.

5.06 Land Reclamation. Some areas are affected by salinity and/or water-logging due to irrigation in the absence of drainage facilities. After the installation of drainage works about 77,600 ha would require reclamation through construction of dykes and leaching.

5.07 Access Roads. Access roads are necessary for maintenance of drainage systems, their structures and pumping stations. These will be constructed along the irrigation and drainage channels and linked with main and other roads of the area. Total area served by access roads would be about 169,300 ha.

5.08 Employment of Engineering Consulting Firms. The existing staff of DSI and GDRS would require technical assistance through consulting engineering firms to assist them with the intensive work under the Core Program. Consulting engineering firms would be recruited by the Government in accordance with Bank guidelines and under terms and conditions and scope of work acceptable to the Bank. The responsibility of these firms, inter alia, would include the preparation of the following:

(i) inception reports for the irrigation sub-sector investment program;

(ii) feasibility studies for the irrigation sub-sector investment program for the period, 1985-89; and

(iii) final designs, cost estimates and bidding documents for implementation of the Core Program.

5.09 Employment of Reviewing Consulting Firms. In view of the complexity of the task, review of the economic, engineering and agricultural work by the consulting engineering firms employed by GDRS and DSI would be required through specialized reviewing consulting firms to be recruited in accordance with Bank guidelines and under terms and conditions and scope of work acceptable to the Bank.

5.10 Training of Staff. DSI and GDRS staff would be provided with technical training in selected fields related to the works of the Core Program. The training program would extend over about 400 manmonths of training abroad in addition to the in-house training with the consulting engineering firms and would cover about 35 trainees from DSI and GDRS. An amount of $2.6 million would be required for this training program.

5.11 Employment of a Specialized Consulting Firm for Monitoring, Evaluation and Computerization Under the present system of monitoring, DSI & GDRS report on their project portfolios to the SPO once a year at the time of budget preparation and usually do not provide any economic indicators. Information on physical implementation is also inadequate. DSI, GDRS and SPO as the key institutions dealing with the Core Program would establish monitoring and evaluation programs and would streamline and consolidate periodic reporting methods. An Irrigation Investment Planning, Monitoring and Evaluation Unit (IIMU) shall be established within the Sector Planning Department (Irrigation Sub-sector) of the SPO. This unit will be staffed with at least two irrigation project evaluation economists in addition to the present staff. Furthermore, provision and installation of computers and computer programs to monitor and evaluate project performance at regular intervals, especially the achievements of economic targets, would be designed and installed under the advice of the specialized consulting firm. This consulting firm would be selected under procedures consistent with Bank guidelines for recruitment of consultants, would be located in SPO and would be employed to serve the requirements of SPO, DSI and GDRS under terms and conditions and scope of work acceptable to the Bank.

Estimated Cost and Financing

5.12 The total cost of implementing the Core Program excluding taxes and duties, but including physical and price contingencies is about US$ 1,236 million. The foreign exchange component which includes both direct and indirect foreign costs is estimated at about US$ 721 million or about 50% of the total cost. The cost estimate is based on unit rates currently applicable (December 1984) on similar works in Turkey and in neighboring countries of the region. Physical contingencies at 15% of the base cost have been added on civil works. Price contingencies have been compounded annually for the years 1985 to 1989 respectively for 5%, 7.5%, 8%, 8% and 8% for local and foreign costs. In calculating local cost contingencies it is assumed that the Government will continue its current policy of adjusting the value of its currency to compensate for the difference between the local inflation and average international inflation. Cost estimate is summarized in the following table; the schedule of implementation is given at Attachment 2 and the annual schedule of expenditures, from 1985 to 1989 is given at Attachment 3.

Estimated Cost of the Drainage and On-farm Development Subsector Core Program

	Local	Foreign	Total	Exchange
	---------US$ Million-------			%
Surface Drainage Works				
Surface Drainage Rehab.				
- Civil Works (Less equipment)	70.8	12.4	83.2	15
- Equipment	-	101.0	101.0	100
Sub Total	70.8	113.4	184.2	62
Surface Drainage Works New DSI	55.2	67.2	122.4	55
Surface Drainage Works New GDRS	65.5	79.8	145.3	55
Sub Total	120.7	147.0	267.7	55
Sub-Surface Drainage and Land Reclamation				
Tile Drainage	172.4	258.7	431.1	60
Land Reclamation	4.8	3.4	8.2	40
Sub Total	177.2	262.1	439.3	60
Miscellaneous Works				
Access Roads	10.7	7.2	17.9	40
Facilities for O&M and Monitoring	0.6	0.4	1.0	40
Computer Equipment & soft ware for Monitoring and Evaluation	-	1.0	1.0	100
Sub Total	11.3	8.6	19.9	43
Consulting Services				
Consulting Services for DSI	3.6	11.2	14.8	75
Reviewing Consulting Services for DSI	0.1	0.9	1.0	90
Consulting Services for GDRS	3.6	11.2	14.8	75
Reviewing Consulting Services for GDRS	0.1	0.9	1.0	90
Consulting Services for Monitoring & Evaluation & Computerization	0.1	0.9	1.0	90
Sub Total	7.5	25.1	32.6	77
Training abroad of DSI & GDRS Staff				
Training of DSI Staff		1.3	1.3	100
Training of GDRS Staff		1.3	1.3	100
Sub Total		2.6	2.6	100
Total Base Cost	387.5	558.8	946.3	59
Physical Contingencies 15% on Civil Works	57.0	64.4	121.4	
Base Cost & Physical Contingencies	444.5	623.2	1,067.7	58
Price Contingencies	69.8	97.9	167.7	58
GRAND TOTAL	514.3	721.1	1,235.4	58

5.13 The full implementation of the Core Program during 1985-89 requires that certain works be completed and advance actions taken during 1985 which are as follows:

(a) equipment required for rehabilitation of the surface drainage system is procured and deployed;

(b) consulting and reviewing consulting firms are engaged at least for the 1986 assignment out of a four-year program;

(c) the training program for the DSI and GDRS staff is given concrete shape and a quarter of it is inaugurated.

5.14 The following foreign costs of the Core Program are expected to be financed under the Agriculture Sector Adjustment Loan:

		US$ Million	
1.	Equipment for Rehabilitation and Maintenance of Surface Drains	101.1	
2.	Consulting and Reviewing Consulting Services for DSI	4.0	
3.	Consulting and Reviewing Consulting Services for GDRS	4.0	
4.	Training Program for DSI and GDRS	2.1	
5.	Consulting Services for monitoring, Evaluation & Computerization	0.8	
6.	Computer equipment & Software	1.1	
	Base Cost	113.1	
	Physical & Price Contingencies	5.7	
	Total	118.8	say 119

These costs have been estimated net of taxes and duties. As most of the procurement is expected to be completed in early 1986, price contingencies have been applied at an annual rate of 5% for 1985.

5.15 Financing of the Agreed Core Program. The total cost of the Core Program has been estimated, net of taxes and duties, at about US$1,236 million with a foreign exchange component of about US$721 million. The foreign exchange requirements of the agreed Core Program are anticipated to be met from the ASAL ($119 million) and from the two proposed future irrigation sub-sector loan. The remaining foreign exchange requirements would be met either through a second irrigation subsector loan and/or cofinancing or through financing by other international organizations.

Procurement

5.16 Equipment. All equipment for rehabilitation and maintenance of surface drains would be procured under International Competitive Bidding procedures consistent with the World Bank and IDA Guidelines (1984). The actual execution of rehabilitation works through utilization of this equipment would be carried out by the existing staff of DSI. This procedure would be the most economical and consistent with Bank procedures as it would permit procurement of equipment through international competitive bidding, while the rehabilitation works which are complex and spread over the whole of Turkey, would be carried out by the existing 25 Regional Directorates of DSI. In addition, DSI/GDRS would devise leasing rental arrangements to permit contractors to use DSI/GDRS construction equipment on reimbursement basis.

5.17 Civil Works (On-farm Development). Civil works, which constitute the bulk of the agreed core program, would be carried out under ICB procedures consistent with Bank Guidelines (1984). Annual procurement packages of priority on-farm works would be prepared and the works carried out through contractors employed under the above procedure.

5.18 Consulting & Reviewing Firms. Employment of Consulting Engineering Firms and reviewing consulting firms by DSI and GDRS would be carried out according to Bank Guidelines and under terms of reference and scope of work acceptable to the Bank. Employment of Local Consultants, for feasibility studies and final design would be encouraged. In case sufficient local expertise is not forthcoming, the local firms would be required to enter into consortium agreements with outside firms. However independent reviewing consulting firms would be recruited internationally to permit objective review and advice.

5.19 Specialized Consulting Firms for Monitoring and Evaluation. Recruitment of specialized consulting firm for monitoring evaluation and computerization would be carried out internationally according to Bank Guidelines and under terms of reference and scope of work acceptable to the Bank. The specialized services required of the firm would include but would not be limited to preparation of a proposal for the procurement of suitable computer equipment and software (see para 5.11).

5.20 Computer Equipment and Software. Based on the proposals prepared by the specialized consulting firm (see para 5.19 above) computer equipment and software would be procured under ICB procedures, consistent with Bank Guidelines (1984).

6. Effect of Ground Water on Agricultural Production

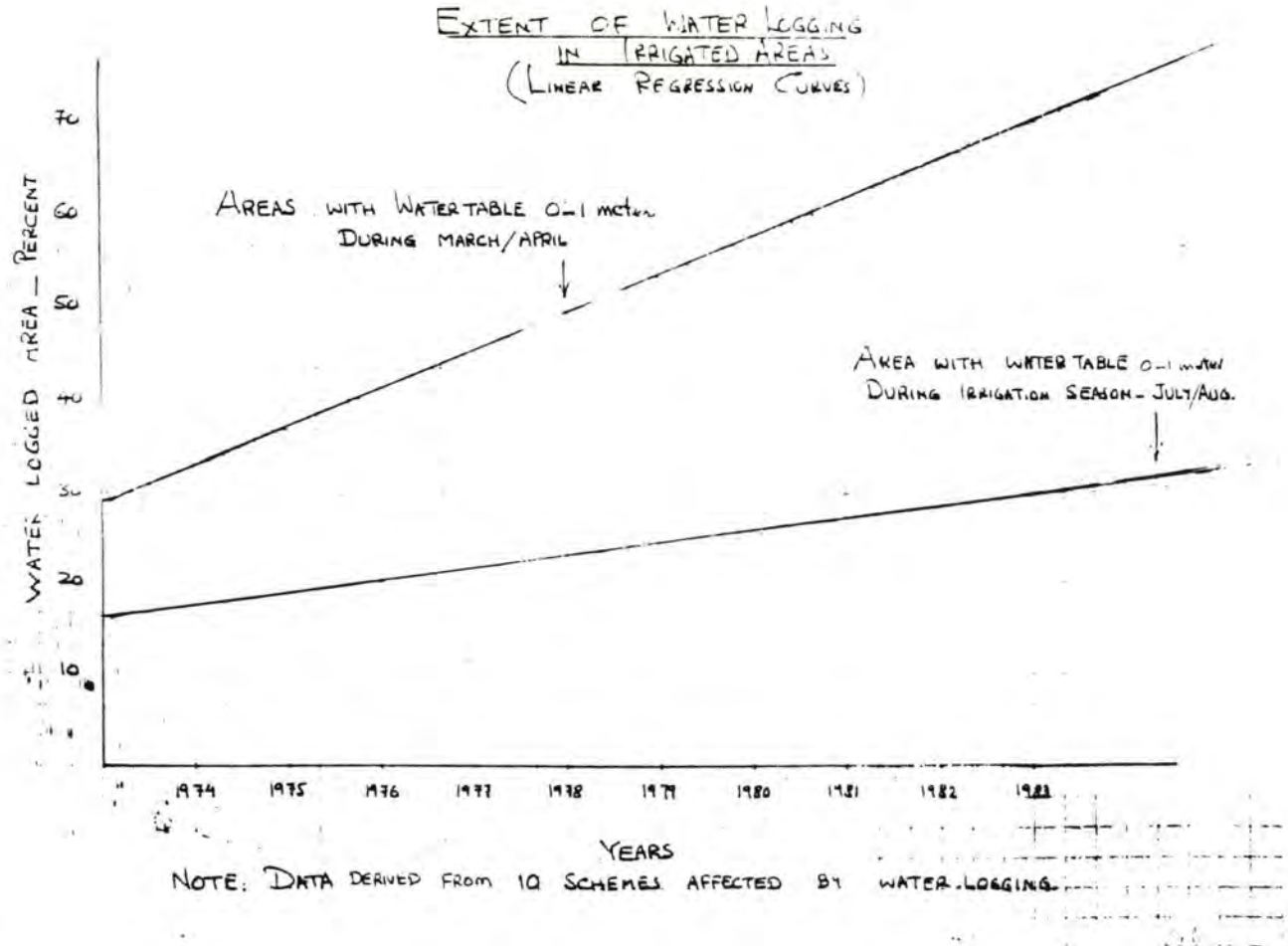
6.01 According to monitoring carried out by DSI in 38 irrigation schemes representing a total area of 368,952 ha, it appears that water logging is the major factor limiting production. About 15% of the total area under irrigation has water table between 0-1 m at peak irrigation period and 43% during the rainy season (March - April). In the ten most affected schemes,[1/] where drainage systems are lacking or deficient, the area with drainage constraints increases to 25% at peak irrigation periods and to 57% during March and April. The salinity level is increasing and more than 25% of the land being monitored is facing salinity problems.

1/ Turgutlu, Menemen, Kos, Aso, Anamur, Erzincan, Silieke, Koprucay,

6.02 During the last ten years and for the ten most affected schemes,[1] the situation is getting worse as indicated in the following table and graph (see also Table 1).

Year	Percent of Water Logging at Peak Irrigation Periods	Percent of Water Logging at maximum water table level (March - April)
1974	20	37
1975	17.4	33.6
1976	23.2	31
1977	19	52.6
1978	20.6	53
1979	20.8	51
1980	34.4	54
1981	31.5	77
1982	24.5	67
1983	24.2	57

1/ Turgutlu, Menemen, Kos, Aso, Anamur, Erzincan, Silieke, Koprucay, K. Maros, Saraykoy.



6.03 By 1989, the area available for irrigation (DSI) would be approximately 1,210,290 ha and the area requiring surface and subsurface drainage would increase to 339,600 ha (28% of the total area). The following yield levels are being obtained at present.

Existing Agricultural Production

	Average Yield in DSI schemes (28% water logged)	Yield in Water Logged area (100% water logged)	Yield in area with no water logging
Wheat	3.36	0.94	4.3
Food legumes	2.20	0.62	2.81
Rice	5.5	1.54	7.04
Maize	4.14	1.15	5.30
Vegetables	30.2	8.48	38.65
Water mellon	26.37	7.38	33.75
Vineyard	4.26	1.19	5.45
Cezame	1	0.28	1.28
Citrus	31.8	8.9	40.7
Cotton	2.95	0.83	3.78
Sugarbeet	51	14.0	65.3
Fodder	9.7	2.7	12.4
Sunflower	1.81	0.5	2.32

A comparison of yields in the water-logged areas has been made with the average yields now being obtained in those projects which have no drainage or land reclamation constraints. Based on statistical averages applied to the affected areas, it is clear that the losses in crop production being experienced are a minimum of 25%. These computations do not take into account the progressive increase which would occur in the affected areas if the remedial measures in terms of surface and subsurface drainage are not applied (see Graph, page 26).

7. Issues and Recommendations

7.01 The following planning, programming, financial, technical and economic issues have emerged. Other issues are expected to surface during appraisal.

Public Sector Investment Planning

7.02 The major constraint to effective development of irrigation and drainage is the spreading of available investment funds over a large number of widely dispersed projects (para 1.30). It is necessary to unify and concentrate public investment on the completion of quick gestation projects, mainly drainage and soil reclamation having high incremental benefits. GDRS has announced its intention to adopt a four year drainage completion and land reclamation program beginning in 1986 in lieu of the serial approach to on-farm works which constitute the bulk of the quick gestation projects (paras 1.32 and 4.01 to 4.04). The SPO has also recognized the low level of allocations to

GDRS for on-farm works, and pointed out that 1985 being a transitional year, the 1985 allocations had been limited to cover about 50,000 ha and that these allocations would be increased from 1986 and thereafter to cover 100,000 ha annually (para 1.29). The issues, therefore, result from the prevailing policies guiding the Public Investment Program, and are:

(i) allocation of scarce resources on a large number of projects (para 1.15);

(ii) extremely low budget allocations to quick gestation projects with high incremental yields (para 1.28);

(iii) allocations to ongoing projects on historic rather than economic grounds (para 1.17);

(iv) except for the last two years, selection of new projects through application of limited technical, economic or financial criteria (paras 1.16 and 1.17);

(v) lack of planning and monitoring capabilities (para 5.11).

The mission, therefore, recommends that the following action should be taken:

Criteria for Prioritization

7.03 Government should assess planned targets for irrigation and associated works in relation to the 1985-89 Five-Year Plan resources and the Government's objectives to maximize early benefits. In particular, the Government should compare the investment cost and benefit streams for the following types of investment, listed in order of likely priority:

(i) accelerating key elements of on-farm development works in selected project areas with existing irrigation infrastructure; initial review indicates that surface and sub-surface drainage works, including land reclamation, should be given the highest priority;

(ii) advancing completion of selected on-going irrigation schemes, and

(iii) initiating new irrigation works, both small and large, in high priority areas.

7.04 Selection Procedures. In the irrigation sub-sector, in the course of adjusting to the recent economic constraints, the Government has made good use of selection criteria and methodology within its already established procedures for budget reviews. To make full use of these procedures and criteria, the Government should incorporate additional measures to improve their effectiveness in allocating resources for the coming investment program. To this end, it is recommended that the Government undertake the following:

(a) Give increased weight to economic criteria (including net present value) in relation to social and geographic criteria;

(b) Increase the Government's capacity and expertise for review and supervision of irrigation sub-sector investments, through provision of consulting and reviewing consulting firms;

(c) Undertake a full portfolio review of on-going and new investment projects and selected on-farm development components with the objective of ranking all future possible investments (on-going and new) using the above criteria. The review should identify and rank priority areas as well as priority types of on-farm work in each of the identified areas; and

(d) Update the data base for estimating future costs and benefits of investments in the portfolio review.

7.05 Budget Allocations. Adherence to rapid implementation schedules for a selected set of priority projects will minimize the effects of inflation on project costs, ensure early realization of benefits, and enable starting subsequent projects in the portfolio within a few years. To this end, it is recommended that:

(a) Projects receiving high priority in the investment portfolio review should be scheduled for completion within a period of fixed duration determined by the updated feasibility study;

(b) Annual budget allocations and expenditures for the selected set of projects should be based on the completion schedule in the feasibility study;

(c) The program type of projects for flood control, low dams and completion works should be carefully reviewed so as to avoid the inclusion of unviable or low priority works. As a matter of course, these three categories should be reviewed annually so that selected schemes may be completed within a year; and

(d) In view of the large number of projects with potential for early returns, the Government should consider increasing the share of agriculture in general, and the share of the irrigation sub-sector in particular, in the Five Year Plan.

7.06 Monitoring and Evaluation. Agencies in the irrigation sub-sector currently report regularly to the Government. The existing data base covers information on investment proposals and justifications, implementation progress, financial status, and benefits. In order to improve Government's effectiveness in reviewing and supervising the investment portfolio, it is recommended that the Government undertake the following:

(a) Intensify monitoring and evaluation of the investment portfolio, the progress of individual investment projects, and the benefits and results associated with individual investment streams;

(b) Simplify, streamline, and consolidate reporting by participating agencies so that reporting is more timely and effective; and

(c) Computerize data processing for the reporting system to facilitate monitoring key economic performance indicators.

Scope of the Proposed Drainage and On-farm Development Subsector Loan and Financing

7.07 Indicative Investment Program (1985-89). The indicative Investment Program 1985-89 includes completion of irrigation infrastructure for 475,000 ha of new lands by DSI, small irrigation schemes (325,000 ha) to be carried out by GDRS and the program of drainage and other on-farm works. The extent of this program is given below.

Summary of Five Year Indicative Program 1985-89
(January 1985 - Constant Prices)

Item	Area (ha)	Estimated Cost --TL billion--
Rehabilitation Surface Drains	250,000	87.5
New Surface Drains	273,300	127.1
Subsurface Drains	339,600	204.8
Land Reclamation	77,600	3.9
Access Roads	169,300	8.5
Land Consolidation	70,900	14.5
Land Levelling	358,600	37.3
Large Irrigation Schemes	475,000	540.8
Small Irrigation Schemes	325,000	176.0
Total		1,200.4
		or US$2,527.2 million

The issue, therefore, is to advance and accelerate those key elements of on-farm development works in selected project areas, with existing irrigation infrastructure which have high incremental returns.

7.08 The mission therefore recommends that, in keeping with the criteria stated in paras 7.03 to 7.06, the following core program should be selected for financing.

The Agreed Core Program (1985-89)

Item	Estimated Cost TL Billion	US$ Million
Rehabilitation of Existing Surface Drains	87.5	184.2
Excavation of New Surface Drains	127.1	267.7
Installation of Subsurface Drains	204.8	431.1
Land Reclamation	3.9	8.2
Access Roads	8.5	17.9
Consulting Services	15.5	32.6
Training of Staff	1.2	2.6
Monitoring & Evaluation Facilities	1.0	2.0
Total Base Cost	449.5	946.3

Description of the investments under the Core Program is given in paras 5.02 to 5.07. Technical assistance and training components have been described in paras 5.08 to 5.11. The total cost of the Core Program,net of taxes and duties, has been estimated at about TL 664 billion (about US$1,397 million) with a foreign exchange component of about US$721 million.

7.09 The mission further recommends that a time slice of the above drainage and on-farm development program should be financed from the proceeds of the proposed Drainage and On-farm Development Sub-sector Loan. In addition, assistance should be provided in institution building to improve implementation capacity, design efficiency, planning and coordination in the sub-sector. The lending program contains a provision of only US$ 100.0 million for a second Irrigation Project in Turkey during FY1986. The issue, therefore, is to provide a loan which is of an appropriate size commensurate with the requirements of the Drainage and On-farm Development Subsector. Considering the size and the scope of the Core Program, the mission also recommends that the proposed loan amount should be a minimum of US$300 million. The remaining foreign exchange requirements of the Core Program are expected to be met partly from the Agricultural Sector Adjustment Loan (para 5.14) and partly from either a second Drainage and On-farm Development Sub-sector Loan and/or cofinancing.

Cost Recovery

7.10 Under the provisions of the recently concluded loan for the IAEE Irrigation Project (Loan 2433-TU), wide ranging reforms were agreed to by the Government on the subject of cost recovery. It was stipulated that DSI water charges for O & M costs would increase progressively under an agreed schedule (37.5% in 1983,54% in 1984,75% in 1985) so that, by the 1986 irrigation season, beneficiaries would be charged the full costs of O & M based on the previous year's actual expenditures. Furthermore, capital cost recovery would be increased by inclusion of interest. In order to improve recovery of water charges, the Government indicated its intention of seeking legislative change to permit increased penalties by a suggested additional2% per month after the second month of delinquency (in addition to the present 10% surcharge for nonpayment imposed at the first repayment date). Appropriate legal procedures would be instituted in cases of delinquency of more than 12 months with water delivery discontinued after prolonged failure to repay. Under the provisions of the same loan, the Government also agreed to take all necessary action to permit GDRS by September 1984 to assess and collect charges for on-farm development works under the project sufficient to recover costs over a period of 20 years. Completion of such actions would be a condition of disbursement from the proceeds of the loan for DSI works and equipment and disbursements on GDRS equipment and force account work. Contracts entered into by GDRS after September 1, 1984 would also be curtailed if appropriate actions is not forthcoming by September 1, 1984. During the discussions with the mission in February 1985, it transpired that legislative actions on the proposed law are being taken and the drafts have been circulated to the Council of Ministers. The Bank has agreed to postpone the data for the completion of these actions to April 13, 1985. In the meantime the Government has enacted temporary legislation permitting GDRS to carry out cost recovery under the existing laws and regulations governing DSI's water charges. The mission recommends that subject to satisfactory verification of the temporary legislation, no further action should be taken.

International Water Rights

7.11 Both the indicative irrigation and drainage program and the Core Program involve works on some schemes which take water from international inland waterways. On the existing schemes which comprise the Core Program, the lack of completed on-farm works and the generally poor condition of drainage canals have resulted in water logging and some salinity problems, thereby lessening return flows and causing a deterioration of the quality of water being returned to these international rivers and streams. The proposed Core Program is, therefore, expected to improve the quality of return flows from all of the systems within its coverage. Amongst the ongoing and completed schemes for on-farm works in this program, the volume of return flows is also expected to increase. Therefore, the Core Program which is the only part of the indicative program to be financed under the proposed Drainage and On-farm Development Subsector Loan, by virtue of its design and inherent technical features, would not adversely change the quality and quantity of water flows. The issue, therefore, is whether or not to proceed with the Core Program under the proposed Drainage and On-farm Development Subsector Loan.

7.12 The mission is of the opinion that the proposed loan would not be harmful to the interests of other riparians and their absence of express consent prior to the implementation of the drainage and other on-farm works is immaterial. The mission, therefore, recommends, subject to the approval of the Loan Committee, to proceed with appraisal of the Drainage and On-farm Development Subsector Loan scheduled for late April 1985.

Irrigation Development Master Plan

7.13 The Government agreed to carry out an Irrigation Development Study and formulate a 10 year Irrigation Development Master Plan (1985-1995) under the IAEE Irrigation Project (Loan 2433-TU) (see para 1.35). The planning and programming now proposed under the Irrigation Subsector is synonymous with the Master Plan approach. The mission, therefore, recommends that the preparation of the Master Plan should be entrusted to the Irrigation Investment Planning and Monitoring Unit (IIMU) which is expected to be established within the Sector Planning Department of the SPO under the proposed Drainage and On-farm Development Sub-sector Loan (para 5.11) instead of the Ministry of Agriculture.

D. Critical Path for Preparation of the Drainage and On-farm Development Subsector Loan

8.0 Critical Path

8.01 The following schedule for processing the proposed Sub-sector Loan is proposed:

Before Appraisal

(a)	Issue of Draft Sub-sector Brief	04-05-1985
(b)	Receipt of Comments from Programs, Legal and OPS	04-11-1985
(c)	Preappraisal Issues Meeting	04-12-1985
(d)	Issue of Final Sub-sector Brief	04-16-1985

After Departure of Appraisal Mission

(e)	Departure of Appraisal Mission	04-21-1985
(f)	Return of Appraisal Mission	05-27-1985
(g)	Issues Paper	06-03-1985
(h)	Decision Meeting	06-10-1985
(i)	Decision Memorandum	06-17-1985
(j)	Issue of White Cover SAR	08-01-1985
(k)	President's Report, Project and Sector Sections	08-26-1985
(l)	Yellow Cover SAR and President's Report	09-06-1985
(m)	First Draft of Legal Documents	09-13-1985
(n)	Loan Committee	10-11-1985
(o)	Start Negotiations	11-04-1985
(p)	Final Agreement	12-02-1985
(q)	Board Presentation	01-28-1986

Project Brief Prepared by: Mr. Mahmud H. Tirmazi April 3, 1985
Reviewed by: Mr. Henry Gassner

Messrs. Stern (SVPOP) (3), Rajagopalan (PPDDR) (5), Schuh (AGRDR) (5), Picciotto (EMPDR), Swahn (EDCPT), Pouliquen (TRP) (2), Patel (EMNVP), Hasan (EMNVP), Stoutjesdijk (EM2DR), Goffin (EMPDR), Grosdidier de Matons (EMPDR), Schertz (EMPDR), Dewey (EMPDR), Prosser (EMPED), Watanabe (OEDOD), North (PHNDR), Asfour (EM2DR), Jones (EMPDR), Harris (EMPA3) (2), Bhatia (EMPA3), Chaffey (EM2DA), Liebenthal (EMPDR), Gassner (EM2DA), (EM2DA), Jabri (LEGDD), Hittmair (CTRVP), Hunting (EMPA3), Freiberg (EMPA3), Tellez (EMPA3), Burcroff (EMPA3),
Mmes. Hunt (LEGAL), Van Praag (LOALE), de Sanchez (EMPA3), Langham Butts (EMPA3) (2), Csekey (EMPA3)
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SECTION B

9. BRIEF DESCRIPTION OF PROJECT ORGANIZATION:

9. GDRS (for details see paras 1.11 to 1.13) would be charged with the implementation program for subsurface drainage, farm drains, land reclamation and access roads. These tasks under the expanded program would require assistance from local consulting firms. In addition GDRS would further be assisted by outside reviewing consulting firms. With the large increase in on-farm works GDRS would make greater use of private contractors and as such all works would be procured under ICB.

DSI (for details see paras 1.14 to 1.16) would be responsible for the rehabilitation of existing surface drains and excavation of new surface drains under a coordinated program with GDRS. In addition DSI would update and prepare feasibility studies, and determine project priorities. DSI would also need assistance from local consulting and outside reviewing consulting firms.

10. PROJECT COMPONENTS AND COST ESTIMATES:

Item	$ Million
Rehabilitation of Existing Surface Drains	184.2
Excavation of New Surface Drains	267.7
Installation of Subsurface Drains	431.1
Land Reclamation	8.2
Access Roads	17.9
Consulting Services	32.6
Training of Staff	2.6
Monitoring & Evaluation Facilities	2.0
Total Base Cost	946.3
Contingencies (Physical and Price)	289.4
TOTAL	1,253.4

11. INCREMENTAL ANNUAL PRODUCTION ESTIMATES (AT FULL DEVELOPMENT) AFTER 5 YEARS:

Item	Volume (specify units) (tons)	Value $ Million
1. Food Crops	1,303,097	
2. Non-food Crops	1,810,247	
3. Livestock		
4. Fisheries		
5. Forestry		
6. Other		
	TOTAL	

12. ESTIMATED NUMBER OF BENEFICIARIES IN PROJECT:

	Total	In Target Group
A. Number of farm families **directly** benefiting from project	NA	NA
B. Number of families **indirectly** benefiting from project (excluding families already counted under A)	NA	NA

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Installation of Subsurface Drains	431.1
Land Reclamation	8.2
Access Roads	17.9
Consulting Services	32.6
Training of Staff	2.6
Monitoring & Evaluation Facilities	2.0
Total Base Cost	946.3
Contingencies (Physical and Price)	450.4
TOTAL	1,396.3

11. INCREMENTAL ANNUAL PRODUCTION ESTIMATES (AT FULL DEVELOPMENT) AFTER 5 YEARS:

Item	Volume (specify units) (tons)	Value $ Million
1. Food Crops	1,303,097	
2. Non-food Crops	1,810,247	
3. Livestock		
4. Fisheries		
5. Forestry		
6. Other		
	TOTAL	

12. ESTIMATED NUMBER OF BENEFICIARIES IN PROJECT:

	Total	In Target Group
A. Number of farm families **directly** benefiting from project	NA	NA
B. Number of families **indirectly** benefiting from project (excluding families already counted under A)	NA	NA

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SECTION B (CONTINUED)

13. ECONOMIC BENEFITS TO FARM FAMILIES:

Estimated average annual per capita net income (from all sources) to farm families

	Total	In Target Group
Without Project	$ NA	$ NA
At Full Development of Project	$ NA	$ NA

B. Indicate (or specify) nearest proportion of incremental income accruing to beneficiaries in the target group:

Below 25% ☐ 25 - 50% ☐ 51 - 75% ☐ over 75% ☐

14. INCREMENTAL EMPLOYMENT IMPACT: (excluding farm family beneficiaries counted under 13)

A. Number of persons employed full-time (200 days per year or more) NA

B. Part-time employment (man-days per year) NA

C. Proportion of Incremental income from employment accruing to target population:

Less than 25% ☐ 25 - 50% ☐ 51 - 75% ☐ over 75% ☐

15. SOCIAL BENEFITS:
Estimated number of farm and non-farm families which will benefit substantially from improved:

	Estimated Beneficiaries (Number of Families)	% in Target Group	Capital Cost Per Family
'Vater Supply			$
ealth Care			$
3. Education (individuals)			$
4. Nutrition (individuals)			$
5. Family Planning			$
6. Housing			$
7. Other			$

16. ESTIMATED ECONOMIC RATE OF RETURN OF PROJECT: _____%
If no estimate can be made, indicate if the economic rate of return likely will be:

Less than 10% ☐ 10 - 20% ☒ or over 20% ☐

17. COMMENTS:

ES
7/24

COUNTRY OPERATIONAL DATA

COUNTRY: TURKEY GNP PER CAPITA: 1330 TERMS: 4/17

LAST CPP: 08/09/83 LOCAL COSTS FINANCING: NO

COST SHARING BANK: % EXTERNAL: %

	FY86		FY87		FY88		FY89		FY90		TOTAL	
	BANK	IDA	BANK	IDA	BANK	IDA	BANK	IDA	BANK	IDA	BANK	IDA
$MILLIONS	834		850		910		1040				3634	
NUMBER	6		5		6		8				25	

APPROVED THRU 01/31 BY LOAN COMMITTEE

	IBRD	IDA
-$MILLIONS	698.5	
-NUMBER	6	

2 YEAR PROGRAM (REVIEW GROUP)

	IBRD	IDA
	1490.0	

FY86-87 COUNTRY LENDING PROGRAM

FISCAL YEAR PROJECT	NAME		DEC. MEMO SUBMITTED	APPRVD BY LC	BOARD APPROVAL	IBRD	IDA
FY86							
5TURPT01	POWER SYSTEM OP.ASST.		NO	YES	7/02/85A	140.0	
5TURDS03	SMALL & MED. IND. II		YES	NO	9/24/85	82.0	
5TURPP05	ELBISTAN REHAB.		YES	NO	10/29/85	12.0	
5TURPH11	KAYRAKTEPE HYDRO		YES	NO	2/11/86	150.0	
5TURAI08	DRAIN. & ON-FARM DEV. SUB		NO	NO	2/20/86	150.0	
5TURDD28	FIN. SECTOR POL. LOAN		NO	NO	3/25/86	300.0	
SUBTOTAL						834.0	
FY87							
5TURPH10	SIR HYDROPOWER	S	NO	NO	3/04/86	120.0	
5TURTR03	RAILWAY II	S	NO	NO	3/04/86	100.0	
5TURPD02	ENERGY SEC.ADJ. LOAN		NO	NO	2/01/87	300.0	
5TURAR03	AG.EXTN.RSRCH.II		NO	NO	3/01/87	100.0	
5TURTX04	TRANSPORT UNIDENT		NO	NO	3/01/87	100.0	
5TURUU02	CUKUROVA REG. URBAN DEVT.		NO	NO	3/01/87	120.0	
SUBTOTAL						840.0	
TOTAL						1674.0	