

6. Questionnaire 回答

ADATEPE IRRIGATION PROJECT

ANSWERS TO QUESTIONNAIRE

Yours Sincerely,



Özden BİLEN

Head of Planning and

Investigation Department.

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1. Government Organization

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWER
1. Counterpart Agency	YES	Given in Bulletin
(1) Organization Chart	YES	Given in Bulletin
(2) Position of DSI	YES	Given in Bulletin
(3) Organization of DSI	YES	Given in Bulletin
(a) Head Office	YES	Given in Bulletin
(b) Local Office	YES	Given in Bulletin
(c) Annual Report	YES	Given in Bulletin
(d) Number of employees (Past record and forecast)	YES	
(e) Annual Budget	YES	
2. Organization related with the project		
(a) Name	YES	Regional Directorated
(b) Main activity	YES	Given in Bulletin
(c) Organization Chart	YES	Given in Bulletin
(d) Position	YES	Given with Map
(e) Annual Report	YES	Given in Turkish
(f) Annual Budget	NO	Will be given later ("月末

2. General Features of Turkey

	1970	1980	1985
1. Population	35 605 176	44 736 957	50 664 450

(a) Industrial Population

	Primary industries	Secondary industries	Tertiary industries	Labor force	Total population
1970					13591101
1980					19545007
1986					26365757

(b) Agricultural Population, Number of Farm Family

	Agricultural population	Farm family number	Number of persons
1970	21 914 075	3376 587	6.49
1980	25 091 950	3434 163	6.61
1986	23 798 701	3558 315	6.69

D.İ.E. Genel Nüfus Sayımı 1970 1980 1985

D.İ.E. Census of Population by Administrative division

(c) Geographical Population

		1970	1980	1986
Central Anatolia	Total Agriculture	7268899	7316813	6939701
Black Sea Area	Total Agriculture	3633354	4107552	3895847
Aegean, Marumara Sea Area	Total Agriculture	5710888	6973053	6513659
Middterranean Sea Area	Total Agriculture	2013903	2549342	2117948
East Anatolia	Total Agriculture	3287111	4145190	3131546
Ankara	Total Agriculture	574 354	615722	569118

D.İ.E Genel Nüfus Sayımı 1970,1980,1985

D.İ.E Census of Population by Administrative Division

2. Economy

(a) Gross National Product (GNP)

	1979	1980	1981	1982	1983	1984	1985	1986
10^6 TL GNP	2199570	553873.2	1155160.1	27735231.1				
per capita	4435193	8721795.3	18374839.9					
10^6 TL Agricultural GNP	44530	88787	128238	167629	213270	336466	480641	
per capita	471580.7	134583.9	2459823.4838058	937191.0	1704871.4	3453392.3		
	9547	18762	26334	32767	39708	63230	83902	

(b) Industrial Income

	Primary Industries	Secondary Industries	Tertiary Industries	Average	
	Agriculture	10^6 TL	Industries	Industries	10^6 TL
1970					
1980		926 947			1 024 520
1986		4 600 728			9 173 742

(c) Geographical Income

	Central Anatolia	Black Sea Area	Aegean, Marmara Sea Area	Mediterranean Sea Area	East Anatolia	Ankara
1970						
1980						
1986						

(d) Geographical Agricultural Income (TL/Ha.)

	Central Anatolia	Black Sea Area	Aegean, Marumara Sea Area	Mediterranean Sea Area	East Anatolia	Ankara
1970						
1980						
1986	141617	226530	425795	248270	106095	

(e) Exports and Imports

(TL) (10 ⁶)	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total Exports	55358	75744	221493		937311	1298945		4152827	
Total Imports	113290		613267	530716	1461425		2608312	4034897	
Balance	57932	102761	391769	1002356	2127001		5994754		
				471640	524114	828136	1426505		1841827

(f) Exports and Imports of Agriculture

Exports (ton) 10 ³	1950	1960	1970	1980	1982	1983	1984	1985	1986
Total Exports									
Wheat					296	610	292	269	
Barley					462	596	316	94	
Sugar Beet									
Corn									
Tabacco				84	105	70	70	103	
Cotton			341	206	259	285			
Grape			70	80	101	81	82	91	
Nut			4	3	9	4	4	7	

D.İ.E. Tarımsal Yapı Üretimi

D.İ.E. Agricultural Structure and production

Vegetables	8946	11989	12173	12411	12640	13361	15258
Fruits	3564	5945	5196	6277	9240	6365	5712
Grape	3850	3600	3700	3650	3400	3300	3300
Nut	37	41	57	50	50	48	59
Tea Dry.	31	96	43	68	101	114	137
Fodder Crop	1248	1697	1970	2079	2214	2321	2386
Wool	47	61	62	62	62	51	
Milk	4302	5502	5608	5208	5063	4379	
Cheese							
Yogurt							
Chicken	40	73	71	75	76	76	
Beef	95	109	120	147	148	165	
Mutton	82	67	86	138	143	159	
Other Items							

D.I.E. Agricultural Structure and production
(b) Livestock Industry

	Beef Cattle	Dairy Cattle	Sheep	Goat	Chicken	Other
1974 number	4937	7030	40391	13100	60472	2077
yield		417	24	33		

D.I.E. Agricultural Structure and Production

→ Import
coffee

rice } import and export concerning the selling price
wheat } → 2004-2011 = 最近 wheat → Italy

(c) Land Use

1000 Ha.	Agricultural land	Forestry	Field	River, Lake	Residential land	Road	Total (ha)
1970	27339	18273		1023	295		
1980	23175	20199		1102	478		
1986	27530	20199		1113			

(d) Agricultural Land Use

1000 Ha.	Wheat	Barley	Beans	Sugar Beat	Corn	Vegetable	Fruit	Pasture	Total
1970	8600	2590	99	124	648	448	1864	557	
1980	9250	2965	105	360	580	596	2206	1174	
1986	9350	3350	150	322	567	662	2114		

Agricultural structure and production

(e) Agricultural Landholding

	1970 1980 Ad. Number	1980 10 ³ Ha.	1986
Total acreage of agricultural land	105481	-	822
Central Anatolia			
Total acreage of tenant farm	8743	-	82
Number of tenant farmer	8743		
%	0.8		

		Ad.	10 ³ Ha.
Black Sea Area	Total acreage of agricultural land	583152	1987
	Total acreage of tenant farm	3588	10
	Number of tenant farmer	3582	
	%	0,6	
Aegean, Marumara Sea Area	Total acreage of agricultural land	964030	4914
	Total acreage of tenant farm	30707	133
	Number of tenant farmer	30707	
	%	3.1	
Mediterranean Sea Area	Total acreage of agricultural land	337119	1899
	Total acreage of tenant farm	10244	71
	Number of tenant farmer	10244	
	%	2.9	
East Anatolia	Total acreage of agricultural land	554798	5235
	Total acreage of tenant farm	11678	111
	Number of tenant farmer	11678	
	%	2.1	
Total	Total acreage of agricultural land	3493861	22357
	Total acreage of tenant farm	64954	407
	Number of tenant farmer	64954	
	%	2.6	

D.I.E. Census of Agriculture Result of Household survey

(f) Size of Landholding of Each Farmers (Number and %) 100³

	0	0-2	2-5	5-10	10-15	15-20	20-50	50-100	Com- mon	Ave- rage (ha)
	ha	ha	ha	ha	ha	ha	ha	ha		
Central Anatolia %	221	221	329	244	82	82	93	13	1	9,5
		20.8	30.9	22.9	7.7	7.7	8.7	1.2	0.1	
Black Sea Area %		205	254	98	13	13	2	-	-	3.8
		35	43.3	16.8	2.3	2.3	0.3			
Aegean, Marumara %		318	345	203	49	49	28	1	2	6.2
		32	34.5	20.4	4.9	2.8	0.1	0.2		
Mediterra- nean Sea %		118	109	65	19	19	17	1	1	6.6
		33.9	31.3	18.6	5.4	5.4	5	0.2	0.2	
East Anatolia %		174	134	110	87	23	23	14	1	8.9
		30.7	23.7	19.5	15.4	4.	4.	2.5	0.2	
Total Toplam %		1036	1171	721	250	186	163	29	5	7.2
		29.2	32.9	20.2	7.-	5.2	4.6	0.8	0.1	

D.İ.E. Census of Agriculture Result of Household Survey

(g) Agricultural Machinery (Number)

	Tractor	Trailer	Thresher	Combine	Total Number
Central Anatolia	203864	185829	97439	10509	497641
Black Sea Area	41154	28437	12090	4	81685
Aegean, Marumara	213436	171810	33441	6899	425586
Mediterranean Sea	64565	55476	9124	328	129493
East Anatolia	33039	30853	15588	1414	80894
Total	556058	472405	167682	19154	1.215.299

D.I.E. Census of Agriculture Result of Household Survey

(h) Irrigation

		Central Anatolia	Black Sea Area	Aegean, Marumara	Mediterranean	East Anatolia	Total	
Gravity	Area	328 277	56 158	359 440	405 890	145 035	1 295 120	
	Rate(%)	25.3	4.3	27.8	31.3	11.3	100.	
Pump	Area	106 040	12 205	63 755	20 495	16 660	219 145	
	Rate(%)	48.4	5.6	29.1	9.4	7.5	100.	
Shallow Well	Area (ha)							
	Rate(%)							
Deep Well	Area (ha)	DSİ'ce inşa edilerek işletmeye açılan tesisleri (1987) yılı başı itibariyle					sulama ve kurutma	
	Rate(%)							

ITEMS	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWER
(h) Farmers Organization		at K. Maras, yes
(i) Agricultural Laws and Regulations		yes

3. Policy and Development Programme in General

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWER
1. 5th Five-Year Development Plan	Yes	in Turkish
2. South East Anatolia Development Plan	Yes	Given
3. Irrigation in Turkey		
(1) Present Situation (map)	Yes	Given in Bulletin
(2) Under-construction	Yes	Given in Brouchure
(3) Future Plan	No	SPO
(4) Operation and Maintenance System	No	
4. Development Plan of Lignite		
Mining in Turkey	No	Contact with TKİ
(1) Present Situation (map)	No	Contact with TKİ
(2) Annual Production	No	Contact with TKİ
(3) Annual Demand	No	Contact with TKİ
(4) Demand and Supply Forecast	No	Contact with TKİ
(5) Lignite Mining in Elbistan- Afsin Plain	No	Contact with TKİ
(a) Production Area (map)	Yes	Contact with TKİ
(b) Usage	Yes	Contact with TKİ

(c) Installed Capacity (MW)	Yes	Taken in field study
(d) Generating Capacity (GW)	Yes	Taken in field study
(e) Future Programme	Yes	Taken in field study
(f) Number of Employee	Yes	Taken in field study
5. Agricultural Development Plan in Turkey		
(1) Agricultural Policy	Yes	Given
(2) Ongoing Projects	No	Maybe SPO
(3) Future Programme	No	Maybe SPO
(4) Relation with other Industries	No	Maybe SPO

4. Master Plan for Ceyhan Basin

ITEM	AVAILABILITY OF DATA(WITH DATE OF ISSUE)	NOTES, ANSWERS
<p>1. Master Plan for Ceyhan Basin</p> <p>(1) Area</p> <p>(2) Components</p> <p>(3) Present Situation</p> <p>(4) Future Programme</p>	<p>Yes</p>	<p>Report is given</p>
<p>2. Relation between the M/P and the 5th Five-Year Development Plan</p>	<p>No</p>	<p>Maybe in SPO</p>
<p>3. Relation between the M/P and Adatepe Irrigation Project</p>	<p>Yes</p>	<p>Report is given</p>
<p>4. Relation between Adatepe Irrigation Project and Lignite Mining in Afsin Elbistan Plain</p>	<p>Yes</p>	<p>Data is taken at field study</p>
<p>5. Other Projects undergoing by other countries in Ceyhan Basin</p>	<p>No</p>	<p>Feasibility Study Just Started on PEACE PIPELINE PROJECT by SPO</p>

6. Environment Consideration

(1) Dam Construction

(a) Land Compensation

(b) Ecological System

(2) Lignite Mining

(a) Smoke

(b) Waste Fluid and its
Disposal

(c) Influence on Agricultural
Products

No

No

New Study is
Programed in 1988 New
Subject For DSI.

TKI' F/S

5. Adatepe Irrigation Project

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
1. Area	Yes	Given at field study
2. Projects Components	Yes	Given at field study
3. Related Projects		
(1) Kalealti Pumped Irrigation	Yes	Brochure is given
(2) Goksun Irrigation Project	Yes	Brochure is given
(3) Karakuz Irrigation Project	Yes	feasibilityreport is given
(4) Flood Control in the Upper Ceyhan Basin	Yes	Construction will be completed in 1988
4. Results of Evaluation of F/S in 1966	Yes	Report is given
5. Results of Final Design of Adatepe Project in 1979	Yes	Project is given
6. Present Situation of Dam Site		Project is given

6. Natural Features in the Project Area

ITEMS	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
<p>1. Meteorological Data</p> <p>(1) Temperature</p> <p>(2) Humidity</p> <p>(3) Wind</p> <p>(4) Duration of Sunshine</p> <p>(5) Evapotranspiration</p> <p>(6) Precipitation (Rainfall)</p> <p>(7) Precipitation (Snowfall)</p> <p>(8) Available Meteorological Stations</p>	Yes	Given in Karakuz Project
<p>2. Hydrological Data</p> <p>(1) Available Data at Stream Gauging Stations</p> <p>(a) Location map</p> <p>(b) Catchment Area</p> <p>(c) Observation Period</p> <p>(d) Observation Method</p>	Yes	Given Karakuz
<p>(2) Recorded Flood on Upper Ceyhan Basin</p> <p>(a) Catchment Area</p> <p>(b) Observation Period</p>	No	Will be given later

(c) Observation Method		
(3) Sedimentation	No	
(a) Observation Points		
(b) Observation Period		
(c) Observation Method		
(4) Water Quality	Given	
(a) Sampling Points and Number of Sample		
(b) Observation items		
(c) Laboratory concerned		
3. Geological Data		Adatepe project by.
(1) Published Geological Data		IECO. & Temelsu
(2) Geological Maps covering Project Area		
(a) Catchment Area (S=1/)	No	
(b) Reservoir Area (S=1/)	Yes	
(c) Dam Site (S=1/)	Yes	
(d) Water Tunnel Route (S=1/)	Yes	Report is preparing
(e) Pumping Plant Area (S=1/)	Yes	Report is preparing
(3) Geological Investigation Data on this Project		
(a) Developed Drawing of exploratory tunnels or shafts	No	
(b) Core Drilling Logs	Yes	

(c) Permeability Tests and Grouting Tests	Yes	
(d) Seismic Prospecting	No	
(e) Rock Tests (Deformation and Shearing)	No	
(4) Geophysical Study of Landslides	No	
(a) Reservoir Area	No	
(b) Other relevant Area	No	
(5) Investigation Data of River Bed on Proposed Dam Sites		
(a) Depth of River Bed Deposit	Yes	
(b) Geological Conditions of Bed Rock	Yes	
(c) Possibility of River Bed Drilling Work	Yes	
(6) Ground Water		There is not any ground water observation at Dam site but if the boreholes at dam site was not destroyed it can be measured in bore holes
(a) Observation Points		
(b) Observation Period		
(c) Observation Method		
(d) Observation Items (Diameter, Depth, Ground Water Table, Capacity)		
(7) Soil	Yes	
(a) Observation Points		
(b) Observation Period		
(c) Observation Method		
(d) Observation Items		

4. Soil

(a) Observation Points

Yes

82 samples from drainage wells
31 samples from shallow wells

(b) Observation Period

Yes

One year

(c) Observation Method

Yes

Ground water level map

(d) Observation Items

Yes

Drenage observation wells

(e) Laboratory concerned

Yes

Water and soil laboratory in DSI

5. Vegetation

No

Rural Service

(a) Observation Points

(b) Observation Method

(c) Classification Data

(d) Laboratory concerned

7. Social and Economic Features in the Project Area

1. Population

(a) Industrial Population in the Project Area

	Primary Industries	Secondary Industries	Tertiary Industries	Labor Force	Total
1970					
1980					
1986					

It will be given later.

(b) Agricultural Population, Number of Farmer

	Agricultural Population	Farm Family Number	Number of Person of each Family
1970			
1980			
1985	74,711		4,83

(c) Number of Administrative District

Definition of City : 1 Government
 Definition of Town : 5 Government
 Definition of Village : 23 Government

	City		Town		Village	
	Number	Population	Number	Population	Number	Population
1975	1	18 231	5	18242	23	17 180
1980	1	20 084	5	17.500	23	17 879
1986	1	30.369	5	24 136	23	20.206

2. Economy

(1) Industrial Income in the Project Area

	Primary Industries		Secondary	Tertiary	Average
	Agriculture		Industries	Industries	
1970	Not available				
1980	Not available				
1986	1767012070 TL/ 33587 Ha.				

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWER
3. Traditional Culture		
(1) Religion	No	
(2) The Year's Regular Functions	No	

(3) Social Structure	No	
(4) Family Form	No	
(5) Kinship Relation	No	
(6) Mutual Assistance System in Village	No	
(7) Life Style and Status of Man/ Woman, Old Person / Adult/ Child	No	
4. Daily Life of the People in the Project Area	No	
(1) Clothes		
(2) Foods		
(3) Houses		
(4) Daily Activities		
5. Education	Yes	Will be given to F/S Team
(1) Schools in the Project Area		
(2) Educational System		
(3) Level of Education		
6. Medical Service	Yes	Will be given to F/S Team
(1) Hospitals		
(2) Level of Medical Care		
7. Transportation and Telecommunication	Yes	Will be given to F/S Team

(1) Present Road Situation

(2) Present Telecommunication
Situation

8. Power Plant and Other Energy
Resources

Yes

Will be given later to F/S
Team

(1) Supply of Electric Power

(2) Generating Capacity in the
Project Area

(3) Other Energy used in the
Project Area

8. Agriculture in the Project Area

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
<p>1. Irrigation Facility</p> <p>(1) Location Map</p> <p>(2) Facilities</p> <p>(3) Construction Year</p> <p>(4) Irrigation Unit</p> <p>(5) Operation and Maintenance System</p> <p>(6) Present Problems if any</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p>	<p>Given</p> <p>not occur</p>

2. Irrigation Method

	Sprinkler	Farrow Irrigation	Border Irrigation	Contour Irrigation	Basin Irrigation	Other
Area	0	all	0	all	alfalfa	no

3. Drainage Facility

<p>(1) Location Map</p> <p>(2) Facilities</p> <p>(3) Construction Year</p> <p>(4) Drainage Unit</p> <p>(5) Operation and Maintenance System</p> <p>(6) Present Problems if any</p>		<p>Only in flood control F/D report other area isn't</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------

4. Water Right

Yes

Report of DSI will be given
to F/S team farmers have

5. Water Supply / Demand

Yes

Given

(Average of Water Requirement
on Each Crop)

6 Land Use

(1) Land Use

	Agricultural Land	Forestry	Plain	Rivers, Lakes	Residential Area	Roads	Total (ha)
1970							
1980							
1986							

Will be given by the end of November

(2) Agricultural Land Use

	1970		1980		1986	
	size (ha)	yield (ton)	size (ha)	yield (ton)	size (ha)	yield (ton)
Wheat						
Barley						
Beans						
Chickpea						
Sugar Beat						
Sunflower						
Vegetables						
Fruits						
Vineyard						
Pasture						

(3) Agricultural Landholding

	1970	1980	1986
Number of tenant farmer %			

Will be given by the end of Nowember.

(4) Landholding Form

	Cultivation Size	Number	Rental Fee
Owner Farmer			
Tenant Farmer			

(5) Land Compensation

(a) System

Yes

for reservoir area

(b) Cost

7. Agricultural Products

(1) Livestock Industry

available

	Beef Cattle	Dairy Cattle	Sheep	Goat	Chicken	Other
number	8500	8500	59000	59000		
yield						

(2) Fertilizer	Yes	Given
(3) Cropping Patern	Yes	Given
(4) Plant Rotation System	Yes	Given
(5) Farming Method	Yes	Given

8. Agro-Economy

(1) Farm Economy

will be given by end of Nowember.

Income		Expenditure	
Item	Amount of Money	Item	Amount of Money

- (2) Distribution and Post Harvesting
- (a) Marketing Data
- (b) Transportation
- (c) Agricultural Trade
- (d) Agricultural Industry

No

DSI doesn't do this survey
Marketing research just asking to farmers

(3) Marketing Economy		
(a) Demand of Each Crop	No	
(b) Supply of Each Crop	No	
(c) Fluctuation of Price	No	
(d) Regulation of Marketing	No	
(e) Marketing Organization	No	
9. Organization		
(1) Farmers Organization	Yes	will be given by the
(a) Number		and of November
(b) Name		"
(c) Activities		"
(d) Scale		"
(e) Organization		"
(2) Agricultural Technology	Don't Know	"
(a) Rate of Mechanization		"
(b) Number of Agricultural Machinery (Tractor, Tailor, Combine etc.)		"
(c) Rate of Cultivation by Cattle		"
(3) Agricultural Supporting System	Yes	"
(a) Research Center		"
(b) Agricultural Extension Station		"

(c) Training of Farmers		
(4) Laws and Regulations		Not yet prepared
(5) Form of Village Community	no	Prepared traditional farmer as

9. Maps

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
1. Topographic Map covering the Project Area (S=1/)	Yes	
2. Profile Map of River (1) Vertical Scale (S=1/) (2) Horizontal Scale (S=1/)	No No	
3. Aerophotograph covering the Project Area (1) Project Site (S=1/) (2) Reservoir Area (S=1/) (3) Dam Site (S=1/)	Yes Yes Yes	Military General Director of Mapping
4. Special Maps (1) Geological Map (S=1/) (2) Soil Map (S=1/) (3) Land Use Map (S=1/) (4) Land Classification Map (S=1/) (5) Vegetation Map (S=1/) (6) Hydrological Map	Yes Yes No Yes No Yes	

(S=1/)

(7) Location of Wells,
Springs

Yes

As dam site

5. Surveying Data

Yes

(1) Name of Organization

Yes

Military General Director of
Mapping and DSI

(2) List and Data of Bench
Marks and Control Points

Yes

Military General Director of
Mapping and DSI

10. Cost Estimation Data

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
1. Construction Cost for Civil	Yes	Issued by year book
Work done in Recent Years	Yes	Conversion Factor
(1) Unit Cost of Major Construction Materials (Cement, Sand, Rock, Steel etc.)	Yes	Issued by year book "
(2) Major Unit Cost of Dam Costruction (Excavation, Grouting, Concrete etc.)		" " "
(3) Major Unit Cost of Tunnel Work		"
(4) Major Unit Cost of Building Construction		"
2. Construction Cost for Structures		"
(1) Pumping Plant (a) Motive Power		" "
(b) Scale		"
(c) Unit Cost		"

3. Annual Operation and	Yes	In General
Maintenance Cost		
(1) Pumping Plant		"
(2) Reservoir		"
(3) Tunnel		"
(4) Rental Fee of the Water Channels		"
(5) Personnel Expenses		"
(6) Repair Expenses		"

11. Implementation of the Study

ITEM	AVAILABILITY OF DATA (WITH DATE OF ISSUE)	NOTES, ANSWERS
1. Estimation Cost for Field Study	Yes	DSI responsible to prepare
(1) Topographic Survey (a) Photogrammetric Mapping S-1/ Contour line m	Yes	Military General Director of Mapping responsible to prepare
(b) Ground Survey of 1 Hectare S-1/ Contour line m		
(2) Seismic Prospecting		
(3) Core Drilling per Meter		
(4) Permeability Test of Bore Hole		
(5) Exploratory Admit per Meter		
(6) Field Rock Test (a) Name of Laboratory (b) Cost		
(7) Soil Analysis		
(8) Water Quality Analysis		

(9) Labor Wages	Yes	
(a) Survey Staff	Yes	5480 TL. (Yearly publishing)
(b) Laborer	Yes	5480 TL.
(c) Driver	Yes	3800 TL.
(d) Typist	Yes	3600 TL.
(e) Daily Working Hours	Yes	8
(f) Premium Payment for Holiday and Overtime Working	Yes	For overtime twice for holidays 3 times is paying
(g) Labor working Laws and Regulations	Yes	in Turkish
2. Supporting System during the Field Study		Accordance with study
(1) Counterpart Personnel	Yes	
(2) Office Space	Yes	
(3) Number of Vehicles	Yes	
(4) Number of Drivers	Yes	
(5) Accomodation	Yes	

12. Others

ITEM	NOTES, ANSWERS
1. Any other points which is necessary to consider	Discussion was made at field
2. Any other problems concerning the project	Discussion was made at field

Distribution of DSI Budget based on activation, 1986, 1987 in 10⁶ TL

Activities	Investment Budget	Ratio of Total %	Investment Budget	Ratio of Total %
I -- Planing, investigation, design	5,300	1.42	6,050	1.17
II-- Construction	249,300 (450,300)	78.69	415,575 (474,075)	80.32
A--Large projects	265,750 (421,750)		383,975 (442,475)	74.21
B--Minor works	14,500	3.88	16,750	3.24
C--Others	14,050	3.75	14,850	2.87
III--Personnel costs	42,850	11.45	57,450	11.10
IV--Purchasing	30,100	8.05	36,750	7.10
V--Supporting cost	1,450	0.39	1,575	0.31
TOTAL	374,000 (530,000)	100.00	517,400 (575,900)	100.00

1 - Budget of DSI (1986) based on the date October 13, 1986

2 - Number of bracket is taken from Housing and Public Cooperation Found.

Investment Budget of DSI 1977--1987 (Based on sectors) in 10⁶ TL

Year	Agricultur		Energy		Munisipilities		Total investment budget
	Based of sectors	Budget of investment %	Budget of sectors	Budget of investment %	Budget of sectors	Budget of investment %	
1977	7,475	51	5,387	37	1,715	12	14,577
1978	8,184	43	8,848	47	1,797	10	18,829
1979	8,927	35	13,525	54	2,656	11	25,108
1980	19,585	38	25,387	50	5,848	12	50,920
1981	39,914	40	47,111	48	12,176	12	99,201
1982	46,712	43	48,729	45	13,271	12	108,712
1983	64,652	41	73,309	47	19,603	12	157,564
1984	90,895	39	115,842	50	25,161	11	231,898
1985	122,250	37 (28)	163,540 (259,485)	50 (61)	42,005 (46,005)	13 (11)	327,795 (427,740)
1986	187,557	46 (28)	166,100 (400,100)	40 (59)	60,563 (87,563)	15 (13)	414,220 (675,220)
1987	237,400	46 (41)	215,000 (270,000)	41 (47)	65,000 (68,500)	13 (12)	517,400 (575,900)

1 - Budget of DSI (1986) based on the date November 20, 1986.

2 - November of bracket is taken from Housing and Public Cooperation Found.

Budget of Government and DSI 1977-1987

Budget of Government	General				Investment			Usages	
	Revised Budget of DSI (10 ⁶ TL)	Revised DSI budget (%)	Increase-Budget (%)	Investment of Government (10 ⁶ TL)	Investment of DSI (10 ⁶ TL)	DSI Investment ratio (%)	Increase-ment (%)	Total of DSI (10 ⁶ TL)	Realization (%)
(10 ⁶ TL)									
225,752	16,290	7.2	47.9	78,354	14,576	18.6	57.3	14,277	88
266,359	21,966	8.3	34.8	82,641	18,830	22.8	29.2	18,787	86
406,878	30,135	7.4	37.2	116,886	25,108	21.5	33.3	28,015	93
770,040	57,278	7.4	90.1	195,995	50,921	26.0	102.8	51,113	89
1,558,743	119,067	7.6	107.9	377,500	99,201	26.3	94.8	103,986	87
1,804,708	121,173	6.7	1.8	446,700	108,712	24.3	9.6	111,273	92
2,600,000	177,468	6.8	46.5	653,600	157,564	24.1	44.9	165,655	93
3,285,000	268,776	8.2	51.5	744,500	231,898	31.2	47.2	251,699	94
5,542,182	386,572	7.0	43.8	1,004,891	327,795	32.6	41.4	475,809	(98)
	[*] (586,517)	(8.8)	(81.0)	(427,750)		(42.6)	(84.5)		
7,101,500	490,179	6.9	26.8	1,250,000	414,220	33.1	26.4	622,687	(83)
	[*] (751,179)	(10.6)	(54.4)	(675,220)		(54.0)	(57.9)		
10,920,000	588,704	5.4	20.1	1,850,000	517,400	28.0	24.9	-	-
	[*] (657,204)	(5.9)	(-13.8)	(575,900)		(31.1)	(-15.7)		

1 - Budget of DSI (1986) based on the date November 20, 1986

2 - Number of bracket is taken from Housing and Public Cooperation Fund.

CONVERSION FACTORS FOR 1987 PRICES

Years	Gross Prices Index	Conversion Factors For 1987	General Construction Prices Index For ISI	Conversion Factors For 1987
1963	100,0	197,35	100,0	235,09
1964	101,2	195,01	101,2	232,30
1965	109,4	180,39	109,4	214,89
1966	114,7	172,06	114,7	204,96
1967	123,4	159,93	123,4	190,53
1968	127,3	155,03	127,3	184,67
1969	136,5	144,58	136,5	172,22
1970	145,7	135,45	145,7	161,35
1971	168,9	116,84	168,9	139,19
1972	199,3	99,02	199,3	117,96
1973	240,1	82,20	240,1	97,91
1974	311,8	63,29	340,9	68,96
1975	343,2	57,50	436,3	53,88
1976	396,6	49,76	545,4	43,10
1977	492,1	40,10	659,9	35,62
1978	750,8	26,29	1036,0	22,69
1979	1230,7	16,04	1595,4	14,74
1980	2550,6	7,74	3398,2	6,92
1981	3488,4	5,66	4859,4	4,84
1982	4369,1	4,52	6171,4	3,81
1983	5708,0	3,46	7467,4	3,15
1984	8677,5	2,27	9334,3	2,52
1985	12144,7	1,62	13628,1	1,73
1986	15788,1	1,25	18806,8	1,25
1987	19735,1	1,00	23508,5	1,00

Note: 1) Gross prices index is issued by the ministry of Industry, Technology and Trade based on 1963 = 100

- 2) 1987 Index: is prepared in 5 February 1986 and up to end of 1985 are real Values, escalation for 1986, 1987 prices are increased 30% , 25% respectively,
- 3) Gross prices index will be used For the operation and maintenance prices
- 4) Increases in ISI general Construction prices with respect to ISI Construction prices For the period of 1974 - 1985 have been calculated as Following 42%, 28%, 25%, 21%, 57%, 54%, 113%, 113%, 27%, 21%, 25%, 46%. The expected escalated prices for 1986, 1987 are calculated as 38%, 25% respectively,
- 5) For the project under Construction, ISI general Construction prices index will be used.

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T A B L O 15
THE WATER AND LAND RESOURCES OF TURKEY

LAND RESOURCES

Surface Areas of Turkey	(Million heceter)	77.90
Agricultural Land	(")	27.70
Irrigable Land	(")	25.30
Economically Irrigable Land	(")	8.50
Existing Irrigable Land (1985)	(")	3.163
Irrigated by DSI (1985)	(")	1.472

POTENTIAL OF THE WATER RESOURCES

Yearly average precipitation	(mm)	652.5
Amount of precipitated water	(billion cubicmeters)	508.0

SURFACE WATER

Yearly average run-off	(billion cubicmeters)	186.6
Precipitation runoff ratio	(%)	37.0
Amount of usable water	(billion cubicmeters)	95.0
Existing water usage	(")	21.8

GROUND WATER

Potencial of the ground water	(billion cubicmeters)	9.5
Existing water usage	(")	4.7

t a b l o 16

AMOUNT OF WATER POTENTIAL OF TURKEY FROM BIGGEST CATCHMENT
AREA TO THE SMALLER :

Name Of Basin	Yearly average run-off (Billion cubic meters)	Ratio of the total (%)
Euphrates Basin 1	31.6	16.9
Tigris 2	25.2	13.5
East Black Sea Basin	14.0	7.5
East Mediterranean Basin	12.3	6.6
Antalya Basin	11.2	6.0
West Black Sea Basin	10.0	5.3
West Mediterranean Basin	7.8	4.2
Marmara Basin	7.5	4.0
Ceyhan Basin	7.2	3.9
Seyhan Basin	7.1	3.8
Çarşamba Basin	6.5	3.5
Kızılırmak Basin	6.3	3.4
Sakarya Basin	6.0	3.2
Yeşilirmak Basin	5.5	3.0
Aras Basin	5.5	3.0
Susurluk Basin	5.4	2.9
Konya Cıvca Basin	3.4	1.7
Bigger Menderes Basin	3.0	1.6
Van Lake Basin	2.6	1.4
North Aegean Sea Basin	2.2	1.2
Gediz Basin	1.8	1.0
Meriç-Ergene Havzası Basin	1.3	0.7
Ani Basin	1.2	0.6
Smaller Menderes Basin	1.1	0.6
Akarsu Basin	0.5	0.3
Dardanelles Basin	0.3	0.2
T O T A L	186.5	100.0

- 1 Euphrates river has 30.7 billion cubic meters with in Turkish Boundary
 2 Tigris river " 17.4 " " " " " " "

JICA