トルコ・イスタンブール海洋水産職業高等学校アフターケアー調査報告書

昭和58年6月

国際協力事業団

はしがき

トルコ共和国は，水産業の進展に対処するため，イスタンブール海洋水産職業高等学校を設立することを計画し，わが国に協力を要請してきた。

これを受けて，わが国は，1973年（昭和48年）に討議議事録（R/D）に署名し，センター方式による技術協力を開始し，再度の延長期間を含めて6年間にわたる協力を実施して1979年（昭和54年）6月20日終了した。

その間16名の専門家の派遣，15名（うち短期3名）の研修員受入れ，125,757千円にのぼる機材供与を行った。

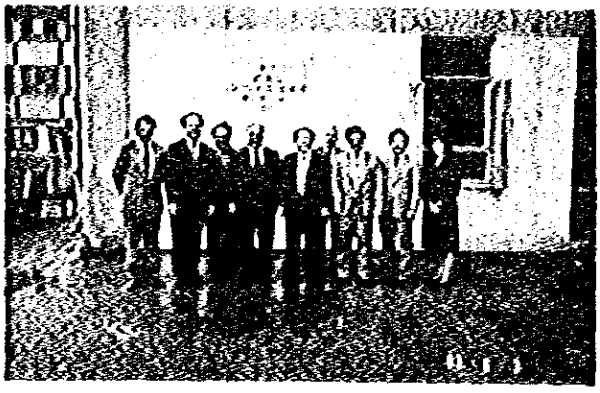
当海洋水産職業高等学校は，我が方の協力終了後，順調な伸展をみて堅実に運営され，トルコの中心的水産高校として機能している。

今回派遣のアフターケアーチームは，プロジェクト引渡し後の訓練内容について調査し，実績を評価するとともに，より円滑な運営に資するための若干の機材供与と補強的な指導を行うための短期専門家派遣について協議を行った。

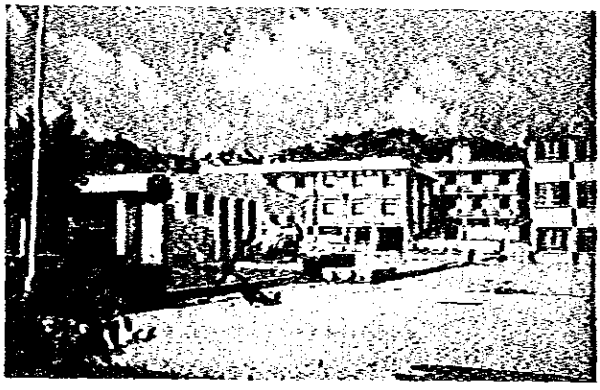
ここに今回の調査実施に御協力いただいた文部省はじめ関係機関関係者の御尽力に対し，心から感謝の意を表する次第である。

昭和58年 6 月

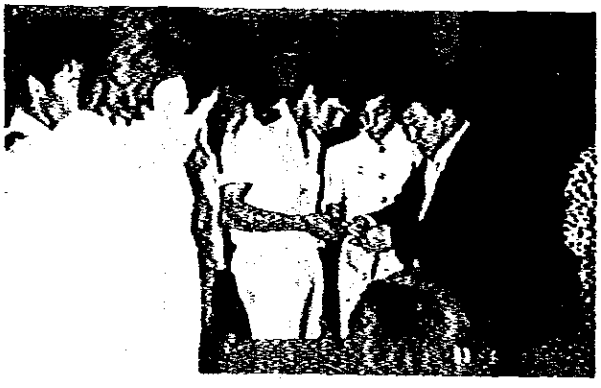
国際協力事業団
理事 中澤弐仁



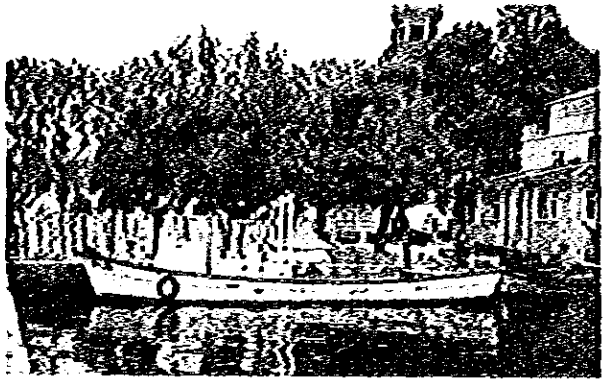
1) 水産高校正面玄関にて
右より　通訳Havua Arda，平沖団員，
松永団員，HALIL副校長，間山団長，
HASAN校長，Cenap教員，Cetin教員，
Kazim教員



2) イスタンブール海洋水産職業高校全景

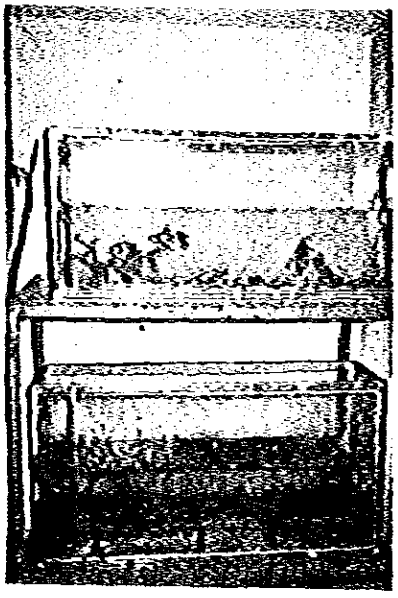


3) 漁　　業　　科



4) 供与された51実習船

5) 製　　造　　科



6) 増　　殖　　科

もくじ

＜プロジェクトの概要＞

トルコ国の水産業は，地理的要因に恵まれ，ある程度発達した段階に達してはいるものの，管理者と現場労働者との橋渡しをする中堅技術者の不足がその発展を阻害してきた。一方，人口増加に伴う食料対策漁業労働者の生活向上策等から漁業の発展を図ることが急務となり，このため同国政府は，第一次経済開発５ケ年計画（1963~1967）の中で中堅技術者育成を目的とした水産高校設立を決定し，これに対する我国の協力を要請越した。

これを受けて，我国は，高校開設準備期間中，単発ベースで専門家を派遣し，校舎建築，教育計画，学校運営等，高校設立のための全般的な助言，指導を実施した。さらに1973年10月，開校後は，技術協力センター方式により，漁業，増殖科及び製造科，漁業電子科に対する協力を行った。R／D期間は，1973年6月21日より1979年6月20日までであった。

1979年6月の協力終了後も，カウンターパートを中心にわが国より供与された機材を活用して，沿岸の漁業調査，水産加工のための研究・実験等が行なわれており，臨海総合実習場建設計画等により，同校の機能拡充が図られている。

しかしながら，一方では，漁業実習漁具，食品製造用機械，淡水増殖実習装置等の損傷，補完部品の在庫不足による，実験・実習の効率低下，海洋，気象，航海関係機材の旧式化による技術レベルの低下をきたしており，これら機材を供与するとともに，協力終了後に開発された新技術あるいは，水準の低下をきたしている技術等について補完的指導を行ない。プロジェクトの一層の維持発展をはかる必要が生じている。

このため今回アフターケアー調査団を派遣することとなった。

Ⅰ　プロジェクトの概要とチーム派遣目的

(1)　プロジェクトの概要

トルコにおける水産業振興の一環として，イスタンブール海洋水産職業高校に対し，４分野（漁業科，増殖科，製造科，電子科）の協力を行ってきたが昭和５４年６月に引継ぎを完了した。協力終了後４年たった現在も，本プロジェクトは順調な伸展をみせており，今回協力終了後のフォローアップとしてアフターケア技術協力を行うものである。

(2)　派　遣　目　的

フォローアップのため機材の稼動状況を調査し，追加的機材供与を必要とする場合は，機材の詳細を詰めるとともに水産高校のより円滑な運営に資するため，今後のアフターケア計画案の作成を目的とする。

なお，調査内容などは次のとおりである。

1）本海洋水産職業高等学校の現在の運営状況を調査する。

A　供与済機材の稼動状況

B　カウンターパートの定着状況

C　5学科（漁業甲板科，水産増殖科，食品製造科，電子科，電気科）の現状

2）新規に供与を必要とする機材を調査する。

仕様について詰める。

3）本校のより円滑な運営に資するため，機材供与，専門家派遣を中心とするアフターケア計画案の内容につき，先方と結める。

Ⅱ　チームの構成，日程，関係者

(1)　チームの構成

氏　名	担　当	現　職
間山郁三	総括・訓練指導	北海道　厚岸水産高等学校　校長
平沖道治	訓練機材	八戸水産高等学校　教諭
松永龍児	協力企画・業務調整	国際協力事業団社会開発協力部海外センター課

(2)　調査日程

日順	月日	曜日	行程	調査内容
1	5/27	金	東京AZ 1791	
2	28	土	TK904 ←ローマAZ700イスタンブール→アンカラ	
3	29	日		国内打合せ
4	30	月	TK889	(午前)大使表敬(午後)文部省表敬，打合せ
5	31	火	アンカラ → イスタンブール	(午後)総領事表敬，総領事館との打合せ
6	6/1	水		(午前)担当領事と打合せ(午後)通訳との打合せ トルコ語の質問状作成
7	2	木	水産高校にて	(午前)調査目的，項目の説明(午後)水産高校施設 見学，松永，通訳とで，　平沖，機材のチェック
8	3	金	〃	(ヒアリング)
9	4	土	〃	〃
10	5	日	〃	(午前)国内打合せ(午後)カウンターパートと機材 の要望再打合せ
11	6	月	TK154 〃　イスタンブール → アンカラ	(午前)トルコ語要約作成(午後)総領事館への報告
12	7	火		(午前)文部省打合せ(午後)大使館へ報告 (川崎公使)
13	8	水		
14	9	木	LH652 フランクルト→	
15	10	金	→東京	

(3) 調査協力関係者

1 在トルコ日本大使館

- 杉 原 真 一　特命全権大使
- 川 崎 公 使
- 安 沢 書記官

2 在イスタンブール日本総領事館

- 岩 崎 総領事
- 菅 原 領 事

3 トルコ文部省職業訓練教育局

- HUSEIN AKTUG　文部省次官
- ABULLAH CELK　局 長
- AHMET SEVI　局長代理

4 イスタンブール海洋水産職業高等学校

- HASAN NIZAMOGLU　校 長
- HALIL URAL　副校長

(4) 調査概要

(1) アンカラの文部省において，教育行政についての概要をヒアリングした。

(2) イスタンブールの学校において，学校の運営状況学生及びカウンタパートの現状，供与機材の現況について調査を実施した。

(3) イスタンブールの学校において必要と考えられる機材及び派遣専門家について討議を行い，別途外務省経由で送付される予定のトルコ側要請書（A 1，A 4フォーム）の写しを受理した。

(5) 調査所感

A イスタンブル海洋水産職業高等学校は，我が国の協力終了後4年を経過しているが，学科の増設，施設設備の拡充，教材，機材の活用と整備が進められ，特色をもった唯一の学校として充実してきている。

B 供与機材については，望ましい状態で維持，管理されており，活用が図られている。

特に海洋上で利用される機材類は，入念に保存手入れが実施されている。

なお，本校の学科構成の多種なことが幸いして，電気や機械系統の故障は，殆ど校内で対応可能な状態にある。

C　教育課程の編成や指導計画については，軍政に転換したことから多少の手直しはあるが，水産の専門技術教育の面からの支障はなく，むしろ実践評価に基づく改善であると推定されるものが多い。

D　カウンターパートは短期，長期を併せて１５名であるが，初代校長は転勤し，電子分野の１名は教員養成大学へ製造分野の１名は肉魚公社の新設工場に転出したほか，漁業分野の１名の病気休職を除いては，全員が勤務して活躍中である。

再研修に対する要望も多く寄せられた。

E　トルコ文部省は，本校のブランチとして海運技術高校の増設を図っていることもあるので，本校の条件整備を強化し，追加機材や部品の供与及び短期専門家の派遣によってアフタケアを進めることは，極めて時宜を得た措置として歓迎されよう。

F　機材類の供与については，A　別表によって決定されることが望ましく，専門家の派遣については，短期間に行うべきであること，本校の事情に通じていること，国際協力に経験のあることなどを考慮するとともに，漁業，増殖，製造（食品工業）分野から派遣する必要があると考えられる。

III　トルコ文部行政，水産行政の動向

(1) 文部行政

文部省職業技術教育局長の説明によれば，イスタンブル海洋水産職業高等学校は文部省の所管下で運営されている。（資料1参照）

学科の構成は，日本側の協力による漁業，水産増殖，水産製造の三学科のほか，電子，電気科に加うる，1981年には機関科を増設し，いずれも海洋に関連した技術教育をめざしている。

このほか，1982年本校のブランチとしてイスタンブル市内のオルタキヨイに海運技術高校を新設し，甲板科，機関科各70名の定員を募集した。

更に，1983年には海洋電子科を増設の予定である。文部省の組織及び学校の制度は別表1，2（英文TURKEY，P19，P32）のとおりであるが，Vocational High School 309校，Technical High School 67校が設置され，職業技術教育を重視している。

なお，校長の見解では，大統領及び首相は技術教育を重視して奨励しているが，文部省は水産の技術教育に対する理解が不十分であり，水産庁は漁獲生産物を輸出して外貨を確保することが重要であることの理解に欠けており，施策も適切でないとの事である。

(2) 水産行政

水産統計資料等の入手は不可能であったが，1983年6月2日の国内テレビの報道として伝えられた概要は次のとおりである。

A　トルコの漁獲生産の基盤

沿海線8,000km，河川の延長175,000km，天然の湖100万ヘクタール，ダム貯水池168,000ヘクタール，溜池679か所が生産の基盤となっている。

B　水産局の組織

首相が任命した海洋担当次官のもとに，水産局には10地方局，7都の研究調整センター，4か所の教育センター，3か所の保護調整情報部，33県のチーフによって構成されている。

B 漁 獲 量

1971年	1981年	1982年
160,000トン	510,000トン	512,000トン かつお類 すずき類 さ め類 えび，かに類 ムール貝 巻 貝 その他
輸 出 量	7,500トン	12,208トン

増殖は，ニジマス，コイを対象として100か所の内水面で行われている。

Ⅳ　水産職業高等学校の機構，予算等の状況

(1)　機構（学科構成，教職員数，生徒数1983年）

項目	区分		人数	学科 漁業甲板	増殖	食品工業	電子	電気	機関
教職員	校長		1名						
	教員36 一般	副校長	2						
		教員	12						
	教員36 専門	副校長	3	3	5	4	4	4	2
		教頭	19						
	職員21	事務員	5						
		助手	3						
		小遣	12						
		運転手	1						
	合計		58						
生徒数	定員		256	40	48	48	40	40	40
	在籍数	第1学年	216	46	17	28	42	41	42
		第2学年	160	34	14	14	37	37	24
		第3学年	175	41	26	25	37	46	
		合計	551	121	57	67	116	124	66
	卒業生数		784	203	131	106	186	155	

－1983年6月現在－

(2)　予算（1983）学校運営費（人件費は除く）　　1トルコ・リラ≒1.1円

項目	予算額（トルコ・リラT. L）	
交通費	80,000	通常の運営費は年間100万T. L. 程度の配当であったが，近年は増額され，特に1983年は修繕費として，前記のほか，別途に75万T. L. が見込まれている。 更に本プロジェクトの懸案であった臨海実習施設などの整備の予算として 臨海実習施設（別紙3C区域） 3億6600万T. L. 校舎など　（別紙3B区域） 4200万 T. L. が計画されている。
税金負担金	500	
機材修繕費	140,000	
印刷費	60,000	
暖房費	3,200,000	
ガソリン燃料費	300,000	
電気，ガス，水道費	900,000	
食料費（昼の給食）	1,137,600	
実験実習用原材料費	2,839,500	
消火剤他	30,000	
その他	95,000	
計	8,782,600	

(3) カウンターパートの現状

協力期間中，及びその前後において日本研修を行ったカウンターパートは１４名に及ぶ。そのうち３名（Remzi Kurt, Ozkan Unal, Ibrahim Ozbek）を除いては本校に定着して，意欲的に教科指導，教科書編集等に努力しており，本校発展の原動力になっている。

また，協力期間後に採用になった専門教科担当の教員の研修や一度研修を終えたカウンターパートから学科の特定分野における短期間の再研修を日本で行いたいという意欲的な要望も出されており，日ト双方の努力でこれらの研修が実現すると本校の発展にさらに資することになるだろう。

研修員名		研修期間	現状
校長	Remzi Kurt	1969	転任
〃	Hasan Nizamoglu	1974.6～1974.7	校長
副校長	Haril Ural	1974.6～1974.7	副校長
漁業甲板科	Cetin Ozerk	1970.8～1971.8	漁業甲板科々長
〃	Osman Tasdemir	1974.2～1975.2	漁業甲板科教員
〃	Husein Ozer	1978.6～1979.6	病気療養中
増殖科	Cenap Okatan	1970.8～1971.8	副校長兼増殖科教員
〃	Erdogan Gaven	1974.2～1975.2	増殖科々長
〃	Hakki Olcer	1975.11～1976.11	副校長兼増殖科教員
〃	Yuksel Saygun	1979.12～1980.12	増殖科教員
食品工業科	Kazim Altinkart	1974.2～1975.2	食品工業科々長
〃	Ozkan Onal	1968.4～1969.2 1977.8～1978.2	肉魚公社へ転出
〃	Hayri Gnlyavuz	1979.12～1980.12	食品工業科教員
電子科	Ibrahim Ozbek	1970.8～1971.8	教員養成大学助手に転出

V　学科別定員，募集の状況

(1)　学科別入学定員

学科名	漁業甲板	増　殖	食品工業	電　子	電　気	機　関	合　計
人　数	40	48	48	40	40	40	256

(2)　募集状況

区分＼年度	1979	1980	1981	1982	1983
受験者数	347	記録なし	450	342	634
合格者数	189		194	189	256（未確定）

VI　卒業生の状況

(1)　学科別卒業者数

学科＼年度	漁業甲板	増　殖	食品工業	電　子	電　気	機　関	計
1979	60	16	18	21	15		130
1980		記	録	な	し		
1981	36	17	25	31	28		137
1982	32	15	19	34	27		127

(2)　学科別進路状況

当国の制度的な欠陥から進路状況の実状把握は行われていない。

校長から事情聴取した結果は次の通りである。

学　科	一　般　的　な　進　路　状　況
漁業甲板	卒業生の９５％は私企業の貨物船など商船分野に進んでいる。 漁船は対象となるものが限られていて３％程度，進学は２％程度である。
増　殖	５％は専門分野を生かしているが，水産局が採用に協力して欲しい。大部分の進路は不明であるが，大学進学者もいる。過去に農業省所管の国立公園管理分野に８０％採用されていたこともある。
食品工業	４０％は製造分野に進出して成功しつつある。業界の受入体制は不十分であるが，一般会社，肉魚公社，大学，トルコ国リサーチセンターなどにも希望

	され，生徒を再教育して外国に研修を命じているところもある。 特別に卒業生の受入れに関する法令が公布されれば都市の食品衛生管理者，食品工場や冷凍工場管理などの分野への進出も期待される。
電　子	専門分野に８０％近く進んでいる。大学進学者もいる兵役などで無線通信のライセンスを取得しやすい。
電　気	ほぼ全員が電気技術の分野に進んでいる。 大学進学者もいる。
機　関	卒業生はでていないが，船舶分野に大きな期待を寄せている。乗船対象の大型漁船1000トン級は２社の３隻のみである。

学校では連絡対策の一環として同窓クラブの組織化を図ったが，回答がなく，不成功であった。

兵役制度との関連一兵役時にはほとんどの者が一旦退職して，兵役終了後再び別なところに就職することになる。つまり本格的に仕事に就くのは学校卒業時でなく兵役終了時になる一によって卒業後の就職あっせんや実情把握は極めて困難であって，どうにもならない。

近く，学習した分野と職業選択の関連を法令によって改善しようとする動きもあり，学校側ではその進展に期待を寄せている。

Ⅷ　各学科の教育課程及び教科書類の整備状況

(1)　教育課程（総括表）

教　科	科　目	1年	2年	3年	計
一般教養	国　語	4	4	2	10
	歴　史　Ⅰ	2	—	—	2
	〃　Ⅱ	—	—	2	2
	地　理　Ⅰ	2	—	—	2
	トルコの地理	—	—	1	1
	外国語（英，独，仏）	4	2	2	8
	国　防	—	1	1	2
	体　育	2	2	1	5
	宗　教　道　徳	1	1	1	3
	トルコ　アタチュルクの歴史	1	1	2	4
	トルコの観光	—	—	1	1
	小　計	16	11	13	40
理　数	数　学	4	2	—	6
	科学（物理，化学）	4	—	—	4
	数　学　専門科目も含めた	—	—	2	2
	物　理　選択	—	—	2	2
	化　学	—	2	—	2
	小　計	8	4	4	16
専門職業	(2)教育課程参照	18	28	28	74
クラブ活動等		3	3	3	9
合　計		45	46	48	139

(2) 教育課程（学科・学年別専門職業科目表）

	科目 / 学年	製図	機械一般	航海	運用	荷役	船用機関	漁業	海洋気象	海事法規	水産経営	実習		計
乗甲板科	1	3	3		2	—	—	2	—	—	—	8		18
	2	—	—	4	4	—	2	2	2	—	2	12		28
	3	—	—	4	2	4	—	2	2	4	—	12		28
	計	3	3	8	8	4	2	6	4	4	2	32		74

	科目 / 学年	製図	水産製物	海洋気象	水産増殖	水産土木	産業経営	実習				計
増殖科	1	2	6	—	—	—	—	10				18
	2	—	4	2	6	—	2	14				28
	3	—	—	2	8	4	—	14				28
	計	2	10	4	14	4	2	38				74

	科目 / 学年	製図	産業経営	食品化学	食品微生物	食品製造	冷凍	実習	計
食品工業科	1	2	—	5	2 —	—	—	9	18
	2	—	2	4	2	4	—	16	28
	3	—	—	2	2	2	4	18	28
	計	2	2	11	6	6	4	43	74

	科目 / 学年	製図	電子製図	電子技術	電子	電子計算	船用電子	電気通信	テレビ	実習		計
電子科	1	4	—	4	—	—	—	—	—	10		18
	2	—	2	2	4	2	2	—	—	16		28
	3	—	—	—	4	—	4	2	2	16		28
	計	4	2	6	8	2	6	2	2	42		74

	科目 / 学年	製図	電気製図	産業経営	電気技術	電気機器	電気工業	電動機	実習			計
電気科	1	4	—	—	4	—	—	—	10			18
	2	—	3	—	3	2	—	2	18			28
	3	—	3	2	—	3	2	—	18			28
	計	4	6	2	7	5	2	2	46			74

	科目 / 学年	製図	専門製図	運用基礎	機械一般	機械要素	船舶機械	船舶補助機械	電気基礎	船舶電子	船舶電気	産業経営	海事経営	実習	計
機関科	1	3	—	2	—	—	3	—	2	—	—	—	—	8	18
	2	—	2	3	2	—	3	2	—	—	2	2	—	12	28
	3	—	—	—	—	2	3	3	—	2	2	—	2	14	28
	計	3	2	5	2	2	9	5	2	2	4	2	2	34	74

(3) 教材（教科書及びテキスト）の整備状況

教科書や授業資料は1983年6月現在文部省指定の教科書として採用されているのは食品工業科の冷凍だけであった。トルコ国内の他の学校でも使用している製図や航海，経営等は作製する必要がない。また本年から来年にかけてかなりの科目の教科書の原稿が本校教員より提出されており，徐々に整備されるものとみられる。

日本が協力した漁業甲板科，増殖科および食品工業科の各科目の授業指導担当者は次の表の通りである。

	科目＼学年	製図	機械一般	航海	運用	荷役	船用機関	漁業	海洋気象	海事法規	産業経営	実習	計
漁業甲板科	1	3	3		2	—	—	2	—	—	—	8	18
	2	—	—	4	4	—	2	2	2	—	2	12	28
	3	—	—	4		4	—	2	2	4	—	12	28
	計	3	3	8	6	4	2	6	4	4	2	32	74
担当者		S.E	C.E	H.O	S.ʃ	N.S	M.G	① S.O ② S.ʃ ③ O.T b	②E.G ③O.T C	S.ʃ	H.S	①S.B-O.T ②S.B-O.T -H.O ③S.ʃ.O.T -H.O	
教科書		a-1	C	a-1	b	d	a-1			C	a-1		
その他													

教科書の記号（a-1 あり 他の学校でも使用　b作製文部省へ提出　c何もない
a-2 〃 自分達で作製（文部省発行）　d トルコ語にしたノートだけ）

漁業甲板科教員 （◎印 日本留学者）

◎ Celin Ozerk（チェチン オゼルク）

◎ Osmsn Tasdemir（オスマンタシデミル）

◎ Huseyin Ozer（フセイン オゼル）

Mustafa Gorenogln（ムスタファ ゲレノール）

Captain Necati Sansa（ネジャテサンサ）非常勤講師

増殖科	科目 / 学年	製図	水産生物	海洋気象	水産増殖	水産土木	産業経営	実習	生態学（選択）	計
	1	2	6	—	—	—	—	10		18
	2	—	4	2	6	—	2	14		28
	3	—	—	2	8	4	—	14	4	28
	計	2	10	4	14	4	2	38		74
担当者		S.E	①Y.S	②E.G	② G.O	H.a	G E	①E.G-Y.S ②E.G-Ho-Y.S ③E.G-Ho-Y-S	Y.S.	
教科書		a-1	②H.J	③O.T	③ E.G	c	a-1	C	c	
その他			b	c						

増殖科教員　（◎印日本留修者）

◎ Cenap Oktan（ジエナップオクタン）

◎ Erdogan Gaven（エルドワン　ギュベン）

◎ Hakki Olcer（ハック　オルチェル）

◎ Yuksel Saygun（ユクセ・　サイグン）

Selal Elbas（ジェラル　エルバシ）

食品工業科	科目 / 学年	製図	産業経営	水産物生物	食品化学	食品微生物	食品製造	冷凍	実習	計
	1	2	—	—	5	2	—	—	9	18
	2	—	2	◎	4	2	4	—	16	28
	3	—	—	◎	2	2	2	4	18	28
	計	2	2	4	11	6	6	4	43	74
担当者		H.S	H.C	②H.C	①O.O ②H.G 3H.G	①C.O ②H.O ③E.G	②K.A	K.A	①KA-HG-OO ②KA-HG ③KA-HG-OO	
教科書		a-1	a-1	③H.C	b	c	③H.G	a-2	b	
その他				a-1			d			

（選択）

食品工業科教員（◎印　日本留修者）

◎ Kazim Artinkary（キヤズム　アルトンクルト）

◎ Hayri Gulyavu2（ハイリギュルキブン）

Hasan Citlak（ハサン　チトラック）

Ozcan Ozkd Ikaya（ウズジャン　ウズクズカヤ）

Ⅷ　水産高校の施設設備の状況

(1)　一般的な現状

本プロジェクトの引継後は，トルコ側において一応の施設設備の整備が進められている。特に，1982年に新設された機関科については,基礎的な実習設備は整備されつつある。

(2)　臨海実習施設等の整備，拡充

本プロジェクトの協力期間中に実施できなかった施設等について，充実計画が進められつつある。

すなわち，別紙1本校々舎配置図のうち，B地区21,068㎡の運動場用地には，職員宿舎，電気，電子，機関科の施設のほか，博物館を整備し臨海のC地区4,730㎡用地は埋立てて，防波堤，船架場を附属する臨海実習施設を計画している。

そして，B地区の建築は建造物の躯壁まで構築されたまま工事が中断（校長は，海鉄の臨海地の営造物建築基準の変更によるものと説明している。）しており，C地区は埋立てすら着手されていない。いずれにしても，これらの整備に要する投資額としては約4億トルコリラを予定している模様である。

なお，本施設完成まで，海洋実習は黒海アジヤ側のRiVA海洋実習所で合宿して実施される。

（別紙1,2）

〔参　考〕

オルタキヨイ海運技術高校

本校のブランチとして1982年10月に開校した三年制の高校であるが，旧商船大学の施設を使用して発足した模様である。

当初，本校から派遣された講師によって実施されたが，現在は学校間の協力関係はなく，詳細は不明である。

（別紙3,4）

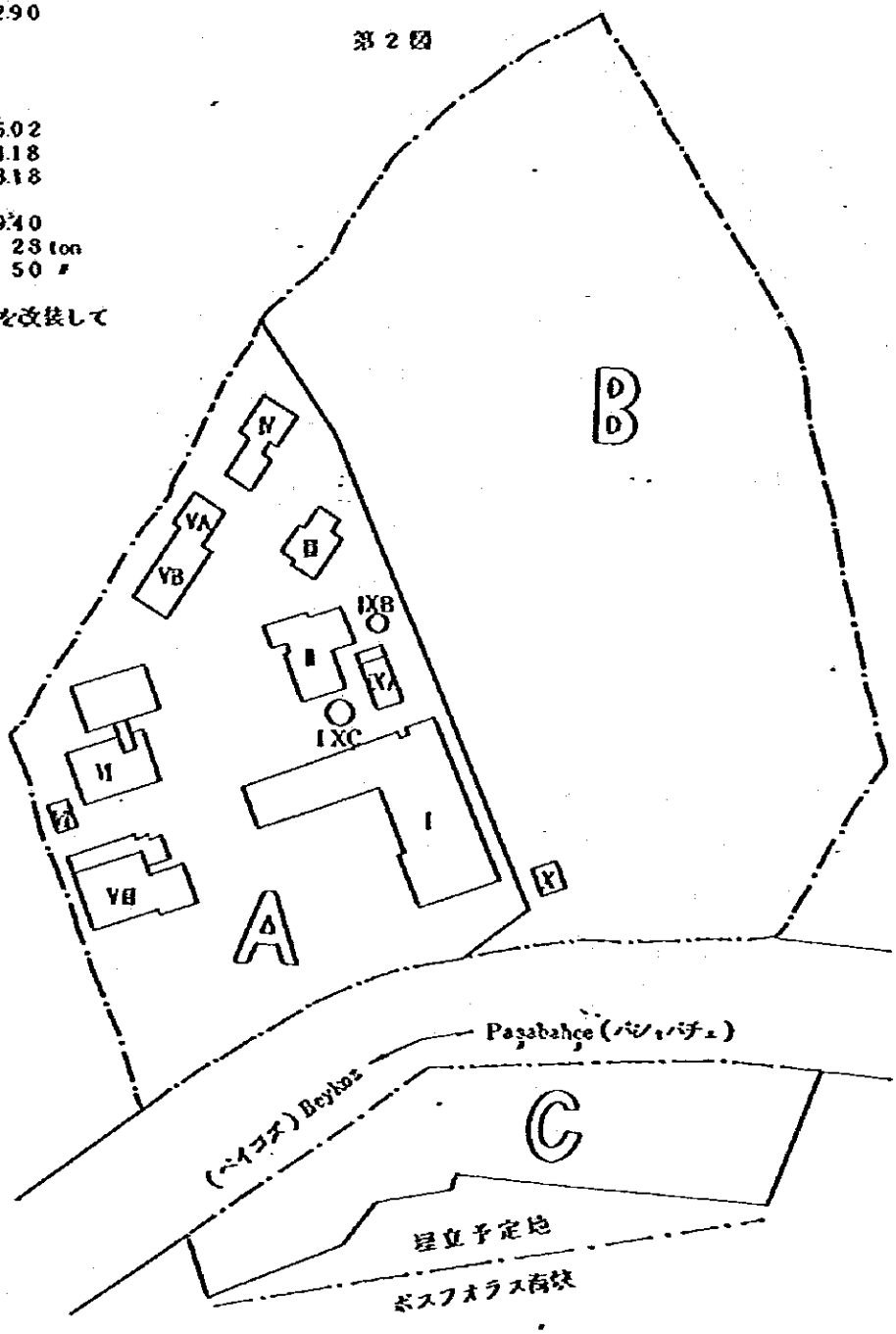
別紙1. BEYKOZ水産高校配置図

	建物			
I	本館	3階	1,614.25 m²
II	水産増殖棟	1階	274.10
III	校長住宅	2階	176.20
IV	教員住宅	3階	245.13
VA	教員住宅	3階	108.50
VB	独身教員住宅	3階	216.90
VI	寄宿舎	3階	752.90
	室×ベッド	42×8	
	病室	1	
	洗面室	1	
	ボイラ室	1	
VII	車庫	1階	86.02
VII	食堂	1階	754.18
	計		4,218.18
VIA	実習池	1面	109.40
VIB	円形水槽	φ600	28 ton
VIC	円形水槽	φ1,000	50 〃
X	受電所		

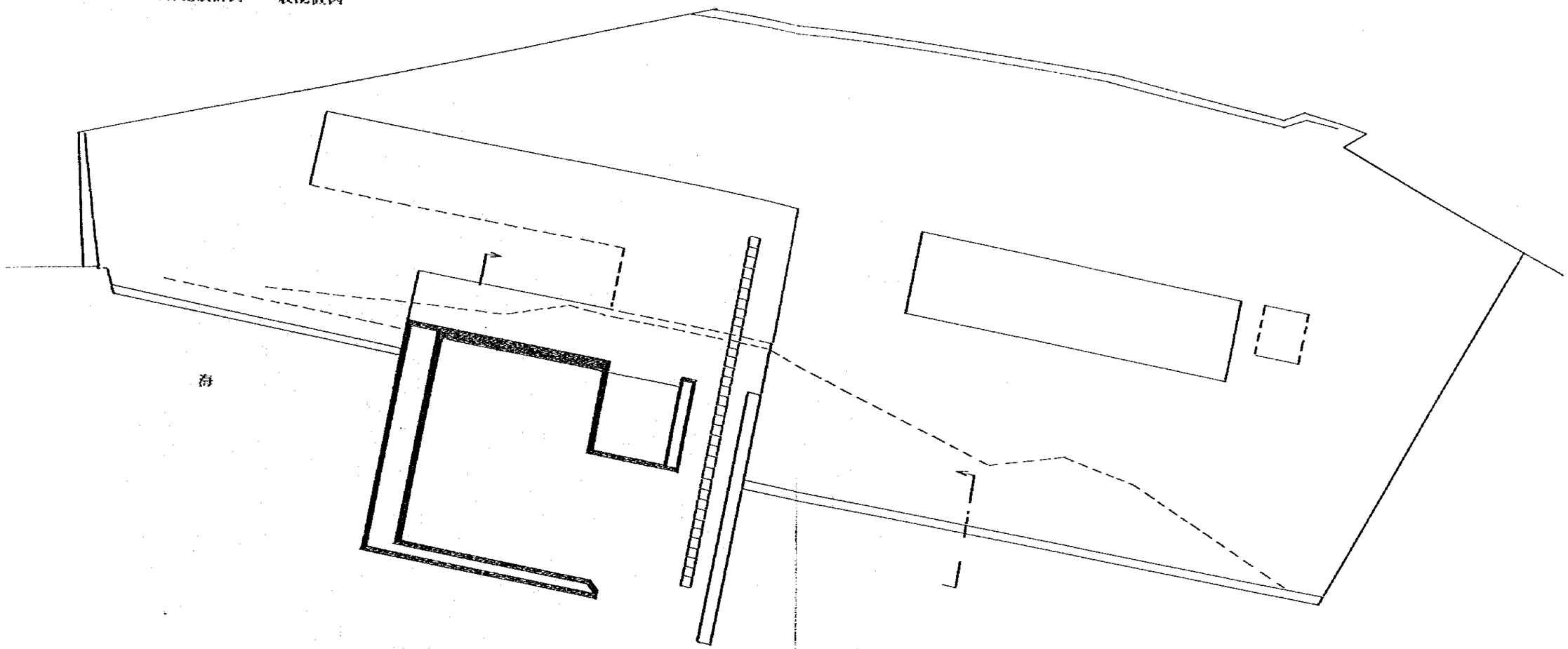
備考：VII食堂の一部およびVII車庫を改装して食品製造実習室に使用

敷地	
A.	16,478 m²（校地）
B.	21,068 〃（運動場）
C.	4,730 〃（Seaside Bldg. 建設予定地）

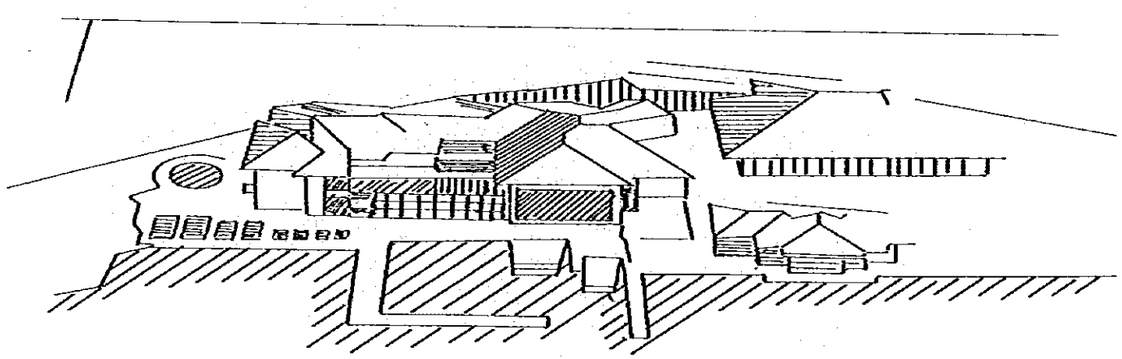
第2図

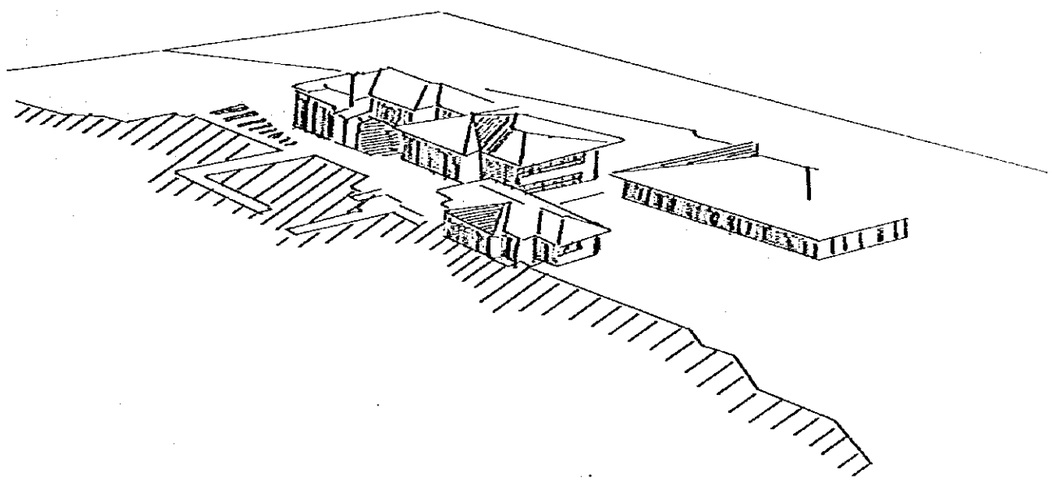


別紙 2.　臨海実習施設計画　一般配置図

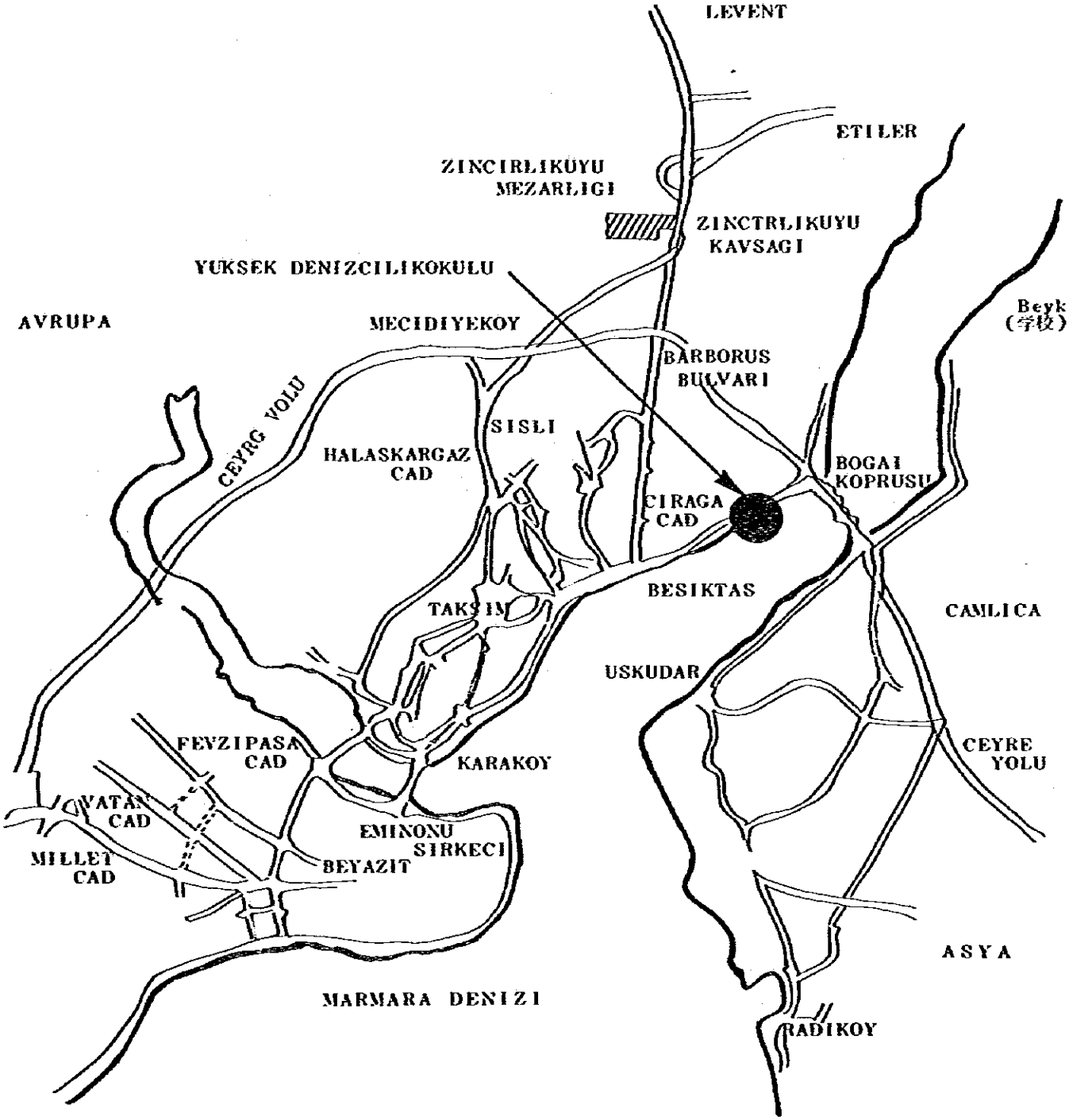


臨海実習施設計画モデル

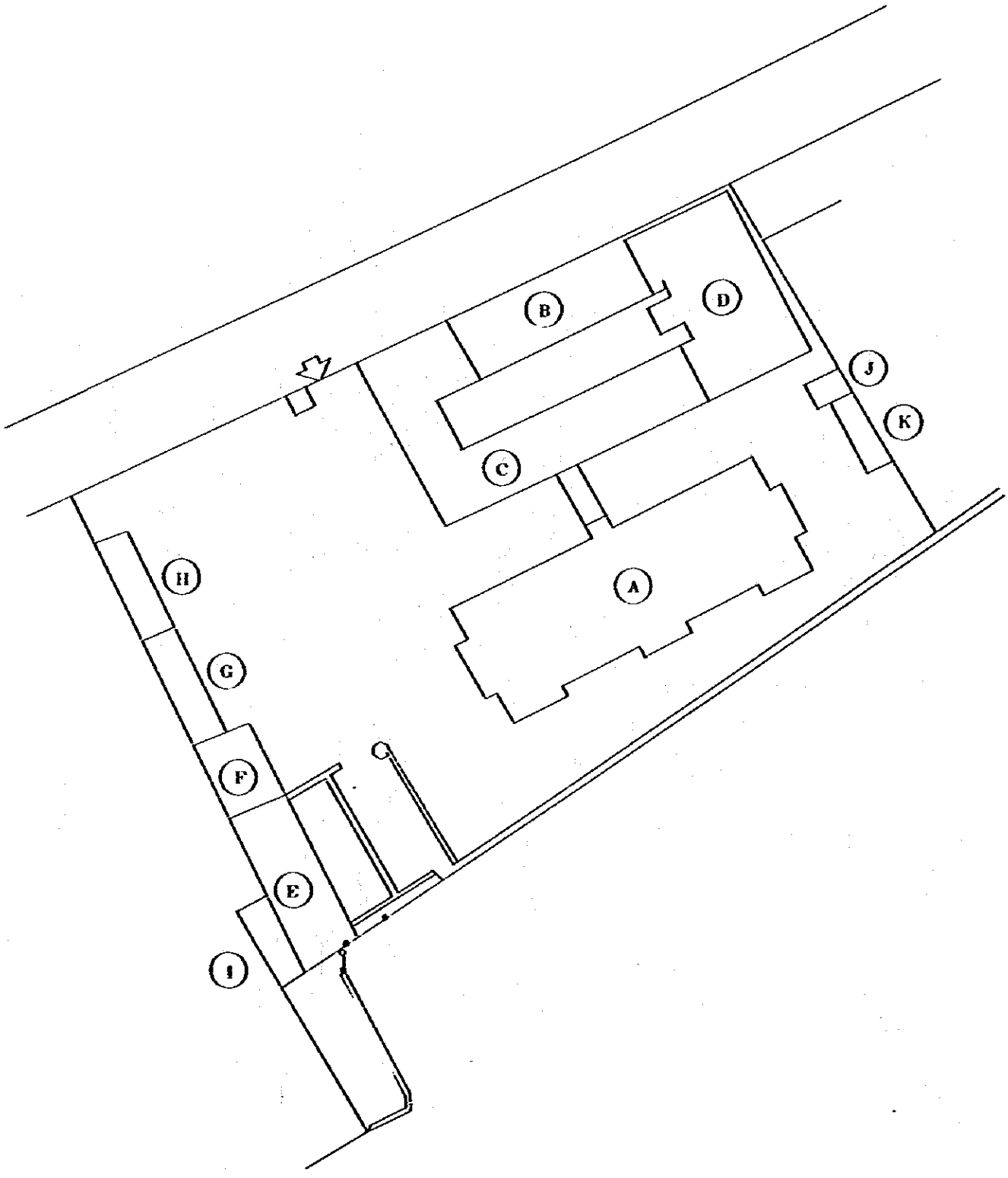




別紙 3.　ORTAKOY（オルタキョイ）の海洋技術高校の所在地



別紙 4.　ORTAKOY海洋技術高校の校舎一般配置図



IX　供与機材の維持，管理及び使用状況

(1)　概　　要

本プロジェクトの期間中にトルコ側に供与した機材のリストをもとにして各学科の実験室，実習室ごとに機材の維持管理及び使用状況について詳細な調査を行った。

その結果大部分の機材は保管状況もよく，平常時はよく活用されていることが推察された。使用状況もよいと思われる。特に，魚獲や食品製造関係の機材は維持管理が万全であった。

その理由には各科の教員が専門家のアドバイスをよく受け入れ取り扱いによく習熟し，また熱心に活用しようとする意欲があるのほか，校長が機械関係の専門家であり，適切な指導管理を行っていることも見のがせない。

プロジェクトが終了して数年経ったためモーターなどの駆動部分の故障が生じている機材もあるが，電子，電気，機関科の教員の援助により補修々理がなされ，大きなトラブルない。

しかしながら実習予算の都合や飼育用水の水量の問題等で充分な活用ができないこともあり，この点では検討の余地が残る。

冷凍機やボイラー関係では日本では定期的な安全検査が法的に義務づけられているが，実際にトルコでは実施不可能である。また，臨海実習施設が将来完成した時に現在暫定的に据付けてある機材を移転するわけであるが，現状でうまくいくのか問題は残る。

(2)　漁業甲板科

ほとんどの機材はよく維持管理され，効果的に使用されている。消耗品的な網地や船の設備のスペアパーツ類の追加供与希望が出された。

(1) 漁業甲板科

番号	品名	数量	現在数量	使用頻度	備考
1	FRP型 練習漁船	1	1	A	
2	レーダー	1	1	A	
3	無線方位測定機	1	1	B	
4	ラジオブイ	1	1	B	
5	魚探用記録紙	20	18	A	
6	磁気コンパス	1	1	A	
7	磁気コンパス	1	1	A	
8	方位環	1	1	A	
9	方位鏡	1	1	A	
10	傾針儀	1	1	A	
11	偏針儀	1	1	A	
12	自差修正実習機	1	1	A	
13	海上衝突予防実習機	1	1	A	
14	手動張力計	1	1	B	
15	ハントログ手用測程器	1	1	B	
16	電気測定器	1	1	B	
17	透明度板	1	1	A	
18	霧中号角	1	1	B	
19	秤量皿	100	1		食品工業科で使用
20	船内時計	1	1	B	
21	デッキウオッチ	1	1	B	
22	ストップウオッチ	5	1		増殖科で使用
23	海草用おし枠具	1	1	B	
24	黒球	1	1	B	
25	黒色円すい形象物	1	1	B	
26	船首構造模型	1	1	A	
27	船尾部構造模型	1	1	A	
28	二重底構造模型	1	1	A	
29	船こく構造模型	1	1	A	
30	かじ模型類	1	1	A	
31	アンカーチェーン，イカリ模型類	1	1	A	

32	テレモーター模型	1	1	A	
33	結索標本類	1	1	A	
34	航路標識模型	1	1	A	
35	トロール漁船模型	1	1	A	
36	定置網漁具模型	1	1	A	
37	運用網漁具模型	1	1	A	
38	赤沼式比重計	2	2	B	
39	駒込ピペット	20	15	A	
40	砥　石	45	40	A	
41	出　刃　包　丁	10	10	A	食品工業科
42	〃	30	30	A	
43	さしみ包丁	2	2	A	
44	〃	1	1	A	
45	尺　長	10	8	A	
46	手動ウインチ	1	1	A	
47	網　地	10反	5反	B	
48	混撚トワイレ	2巻	1巻	B	
49	〃	1巻	1巻	B	
50	ク　レ　モ　ナ	5kg	4	B	
51	〃	5kg	4	B	
52	小型トロール敷曳網一式	1	1	B	
53	合成樹脂　アバ	200	200	B	
54	浮　子	10	10	B	
55	〃	10	10	B	
56	漁網染色剤（カッチ）	5	3	B	
57	地曳網用ロープ	2巻	2巻	B	
58	モ　ジ　網	1反	1反	B	
59	ワイヤーロープ	1巻	1巻	A	
60	混撚ロープ	2巻	2巻	A	
61	〃	1巻	1巻	A	
62	雑刺網仕立上り	5反	5反	B	
63	モノフィラメント	10本	8本	B	
64	ナイロンテグス	5本	4本	B	

65	網　地	3反	1反	A	
66	漁網修理用和バサミ	15	10	A	
67	〃	15	10	A	
68	アバリ	20	15	A	
69	〃	20	18	B	
70	〃	20	15	B	
71	〃	25	15	B	
72	地曳網一式	1	1	B	
73	模型用定置網作成部品	20	18	B	
74	高速遠心分離器	1	1	B	食品工業科へ
75	雨量計	1	1	B	
76	風速計	1	1	B	
77	風向計	1	1	B	
78	風速計用電気盤	1	1	B	
79	記録気圧計	1	0	C	破損
80	同上用記録紙	6	6	C	
81	最高温度計	1	1	B	
82	記録温度計	1	1	A	
83	同上用記録紙	6	5	A	
84	水銀気圧計	1	0	C	破損
85	記録湿度計	1	1	B	
86	同上記録紙	2	1	B	
87	最低温度計	1	1	B	
88	通風乾湿計	1	1	B	
89	透視天体儀	1	1	B	
90	天球儀	1	1	B	
91	三球儀	1	1	B	
92	天体投影機	1	1	B	
93	無脊椎動物分類液浸標本	1	1	B	
94	脊椎〃〃〃	1	1	B	
95	ウナギ変態標本	1	1	B	
96	アコヤ貝解剖標本	1	1	B	
97	ウミタナゴ胎生標本	1	1	B	

98	マス発生順序標本	1	1	B	増殖科へ
99	水棲昆虫 〃	1	1	B	
100	シビレエイ発電標本	1	1	B	
101	エビ解剖標	1	1	B	
102	イカ 〃	1	1	B	
103	ムラサキウニ解剖標本	1	1	B	
104	プレパラート動物組織	1	1	B	
105	〃 原生動物	1	1	B	
106	〃 微生物	1	1	B	
107	〃 生殖	1	1	B	
108	〃 プランクトン	1	1	B	
109	〃 ヒトデ発生順序	1	1	B	
110	〃 硅藻	1	1	B	
111	〃 クロレラ	1	1	B	
112	〃 アオミドロ	1	1	B	
113	〃 ナメクジウオ横断	1	1	B	
114	〃 魚血球	1	1	B	
115	〃 有孔虫	1	1	B	
116	〃 太陽虫	1	1	B	
117	魚類骨格標本（フナ）	1	1	B	
118	海そう植物標本	1	1	B	
119	飼料標本	1	1	B	
120	害敵生物標本	1	1	B	増殖科へ
121	化学繊維製造工程標本	1	1	B	
122	ビニロン，ナイロン製造工程標本	1	1	B	
123	塗料と塗装の説明標本	1	1	B	
124	無脊椎動物解剖標本	1	1	B	
125	からす貝解剖標本	1	1	B	
126	かたつむり 〃	1	1	B	
127	寄生虫標本	1	1	B	
128	寄生虫経路説明標本	1	1	B	
129	比色 PHメーター	10セット	4セット	A	
130	化学実験器具セット	21セット	21セット	A	

131	解剖用具セット	21セット	21セット	B	
132	血液実験器具セット	21セット	21セット	B	
133	微生物実験器具セット	21セット	20セット	B	
134	ガラス細工セット	3セット	3セット	B	製造科へ
135	電　鍵	5	5	B	増殖科へ
136	巻　尺	10	10	B	〃
137	巻　尺	10		B	〃
138	度　数　計	3	2	B	
139	天気図記号セット	1セット	1セット	A	
140	携帯用瞬間風速計	1	1	A	
141	室内温度計	5	5	B	
142	パーシーサーモグラフ	1	1	B	
143	プランクトン計数板用ステージ	5	5	A	増殖科へ
144	小ス保式プランクトン定量装置	1組	1	A	〃
145	携帯用比重測定用具	1	1	B	
146	海水ピコレット	20	15	A	
147	海水ピペット	20	18	A	増殖科へ
148	自動ピコレット	20	18	A	
149	電気流速計	1	1	A	
150	アッベ描画装置	2組	2組	B	
151	三かん分度器	1	1	B	
152	クロノメーター	1	1	A	
153	六　分　儀	5	5	A	
154	井上式三角定規	50	40	A	
155	平板測量器	1	1	B	
156	文　鎮	40	40	A	
157	〃	20	20	A	
158	刷　毛	15	15	A	
159	海図ディバイダー	10	10	A	
160	〃	10	10	A	
161	〃	10	10	A	
162	比例コンパス	25	23	A	
163	製図用具	2	1	B	

164	図面随付器	1	1	B	
165	透 写 台	1	1	B	
166	記録風向計	1	1	A	
167	同上用記録紙	5組	5組	A	
168	アネロ体気圧計	1	1	A	
169	百 薬 箱	1	1	A	
170	双 眼 鏡	2	2	A	
171	O. H. P	2	2	A	
172	16ミリ映写機	1組	1組	A	
173	VTR	1	1	A	
174	VTR用モニター	1	1	A	
175	〃 カメラ	1	1	A	
176	〃 テープ	30本	20本	A	
177	検ねん機	1	1	B	
178	携帯用拡声器	1	1	B	
179	実物万能投影機	1	1	A	製造科
180	魚 函	20	1	A	〃
181	貨物給一般配置模型	1	1	A	
182	給本中央横断構造模型	1	1	A	
183	機関室構造模型	1	1	A	
184	ディーゼル機関裁断模型	1	1	A	
185	機船底引網漁給模型	1	1	A	
186	あぐり網漁給模型	1	1	A	
187	揚貨機模型	1	1	A	
188	揚錨機模型	1	1	A	
189	操舵機模型	1	1	A	
190	合成樹脂製蹄子	300	280	A	
191	〃	300	280	A	

(2) 増 殖 科

大むねよく管理され，使用状況もよい。

数種の機材は使用説明書なく使用していない。カタログ説明書の送付希望があった。

鯉金魚等はよく管理され，販売もしているようである。

イ 増 殖 科

番号	品　　名	数　量	現在数量	使用頻度	備　　考
1	対物マイクロメーター	35	35	B	
2	接眼マイクロメーター	35	35	B	
3	血球計算盤	5	5	A	
4	海水イオン濃度比色測定器	2	2	A	
5	ブランメーター	4	4	B	
6	アッベ描画装置	8	8	B	
7	解剖顕微鏡	25	25	A	
8	接眼移動測微計	10	10	A	
9	酸素びん	120	90	A	
10	回　路　計	1	1	A	電気科へ
11	水素イオン濃度比色測定器	1	1	A	
12	位相差顕微鏡	1	1	B	
13	自記検潮計	1	1	A	
14	ガムテープ	100	0	C	
15	顕微鏡投影装置	1	1	A	
16	網　地	2	2	A	
17	〃	2	2	A	
18	〃	2反	1反	A	
19	〃	2反	1反	A	
20	網　地	2反	1反	A	
21	〃	2反	1反	A	
22	ロープ	2	1	A	
23	捺糸クレモナ	1	1	A	
24	〃	1	1	A	
25	ニジマス稚魚用取りあげ曳網	1	1	A	
26	ウ　キ	200	100	A	
27	沈　丁	100	100	A	
28	さけ，ます，ふ化器	1式	1式	C	
29	水中濁度計	1	1	C	本校では使用せず大学に
30	アトキンス式ふ化器	1	1	C	貸出使用書なく使用して
31	ゴム製品修理用具	7	7	A	いない

32	標本固定用タンク	1	1	B	
33	エクマンバージ採泥器	1	1	A	
34	水中　照度計	1	1	C	使用書なく使用していない
35	サリノメーター	1	1	C	バーテリーなく使用していない
36	プランクトン計	4	4	A	
37	活魚ユニット水槽	1	1	A	
38	〃	1	1	A	
39	飼料生物　　水槽	2	2	A	
40	曝　気　筒	4	4	A	
41	エアーポンプ	1	1	C	故　障
42	小型池用　過装置	2	2	A	
43	〃	2	2	A	
44	ミクロトーム	1	1	A	
45	フナ解剖標本	1	1	B	
46	哺乳動物標本	1	1	B	
47	海藻用押葉具	5	5	C	
48	ハーツポンプ	1	1	B	
49	ストップウオッチ	5	5	A	
50	木工具類	2	1	A	1つ破損
51	鋼　巻　尺	2	2	A	
52	金切工具類	2	2	A	
53	流　速　計	1	1	B	
54	ティルティグレベル	4	4	A	
55	トランシット	4	4	A	
56	和　船	1	1	A	
57	和船用船外機	1	1	A	
58	アクアラング一式	2	2	C	
59	コンプレッサー	1	1	C	
60	顕微鏡写真装置	1	1	B	食品工学科へ
61	ペドメーター	1	1	B	
62	バーチカルポンプ	1	1	B	
63	自動起動装置プロワー	1	1	C	
64	ミートチョッパー	1	1	A	

65	ナイロン水産水槽	2	2	A	
66	水中カメラ	1	1	C	
67	実物万能投影器用スペアラン	10	10	A	
68	OHP用スペアラン	9	9	A	
69	活魚輸送酸素供給装置	1	1	A	

(3) 食品工学科

最もよく管理して，効果的に使用している。ただ実習予算の関係で製造関係の機材は稼動回数がそれほど多くない。また製造関係の機材は暫定施設に据付けられており，臨海実習施設への移転に際して不安が残る。

ハ　食品工業科

番号	品　　名	数　量	現在数量	使用頻度	備　　考
1	ハンドマーカー	1式	1式	A	
2	クラッチ式横型レトルト	1式	1式	A	
3	蒸気式二重釜	1台	1台	A	
4	フィシュカッター	1台	1台	C	
5	ボイラー装置	1式	1式	A	
6	上皿さおばかり	5台	5台	A	
7	上皿自動ばかり	2台	2台	A	
8	シーミングワイヤーゲージ	2セット	2セット	A	
9	バキューム缶テスター	2ケ	2ケ	A	
10	レトルト用温度計	2ケ	1ケ	A	
11	〃	2ケ	1ケ	A	
12	缶中心温度計	2ケ	2ケ	A	
13	〃	2ケ	2ケ	A	
14	打　検　棒	2ケ	2ケ	A	
15	サイレントカッター	1式	1式	B	
16	擂　潰　機	1式	1式	B	
17	魚肉採取機	1式	1式	B	
18	食肉脱水機	1式	1式	B	
19	肉　挽　機	1式	1式	A	
20	エアゾタフアー	1式	1式	A	
21	S Y式リンガー	1式	1式	A	
22	真空包装機	1式	1式	A	
23	包装材料	2ケース	1ケース	A	
24	〃	〃	〃	A	
25	〃	〃	〃	A	
26	〃	〃	〃	A	
27	冷凍冷蔵庫製氷装置	1式	1式	A	
28	香辛料　ホワイトペーパ	450g	200g	A	
29	〃　ホワイトペーパーコーマ	450g	200g	A	
30	〃　ブラ・クペッパー	450g	200g	A	
31	〃　オールスパイマ	450g	200g	A	

32	〃　ショウガ	450g	200g	A	
33	〃　ニッケ（シナモン）	450g	200g	A	
34	〃　（チョージ（グログ）	450g	200g	A	
35	香辛料	450g	200g	A	
36	〃	450g	200g	A	
37	〃	450g	200g	A	
38	〃	450g	200g	A	
39	〃	450g	200g	A	
40	〃	450g	200g	A	
41	〃	450g	200g	A	
42	食用色素		800g	A	
43	ハム用リテーナー	2ケ	2ケ	C	
44	〃	2ケ	2ケ	C	
45	〃	2ケ	2ケ	C	
46	〃	2ケ	2ケ	C	
47	〃	2ケ	2ケ	C	
48	〃	2ケ	2ケ	C	
49	燻　液	2本	1本	A	
50	〃	2本	1本	A	
51	電気オーブン	1台	1台	B	
52	コルネットピンセット	50ケ	40ケ	A	
53	ホールスライドグラス	200枚	150枚	A	
54	無　菌　箱	1台	1台	C	
55	ホモデナイザー	1台	1台	A	
56	ピペット滅菌器	1ケ	1ケ	B	
57	電気定温水槽	1台	1台	C	
58	クロコトグラフィー装置（ペーパー）	1セット	1セット	B	
59	ピペット用スポイト	5ケ	5ケ	B	
60	駒込ピペット	50本	40本	A	
61	酸素びん	50本	45本	A	
62	ピンチコック	60ケ	30ケ	A	
63	秤量ビン	10ケ	5ケ	A	
64	ふるい	1セット	1セット	A	

65	シックス最高最低温度計	3本	2本	B	
66	気体発生装置	1台	1台	B	
67	直示てんびん	2台	2台	A	
68	化学てんびん	1台	1台	B	
69	精密はかり	1	1	B	
70	分光光度計	1式	1式	B	
71	遊離水分測定器	1台	1台	B	
72	ゼリー強度試験器	1台	1台	B	
73	粘　度　計	1台	1台	B	
74	コロニー計算器	5台	5台	A	
75	顕微鏡光源装置	6台	6台	A	
76	煮沸消毒器	2台	2台	B	
77	ミクロトーム	1ケ	1ケ	B	
78	プラマチック封入セット	2セット	0	C	
79	染色液セット	2セット	1セット	A	
80	染色バット	2ケ	0	C	
81	水　浴　器	5ケ	5ケ	A	
82	冷却ファン	1台	1台	A	
83	サインペン	200本	0	C	
84	ビタミンA定量セット	1セット	1セット	C	
85	ピコレット	15本	10本	A	
86	巻締機械	1式	1式	A	
87		1式	1式	A	
88	バキュームポンプ	1式	1式	A	
89	空缶（フタ付）	10,000	4,000	A	
90	〃	10,000	4,000	A	
91	〃	10,000	9,000	A	
92	〃	10,000	500	A	
93	〃	10,000	10,000	C	
94	〃	10,000	3,500	A	
95	〃	10,000	7,000	A	
96	〃	10,000	500	A	
97	ガラス細工器セット	2	2	A	

98	コンパス	4	0	C	
99	万能スタンド	3	3	A	
100	アルコール計	3	3	A	
101	実験用粉砕器	6	6	A	
102	電気定温真空乾燥器	1	1	C	
103	新型アッベ屈折計	1	1	B	
104	圧力がま	2	2	C	
105	〃	1	1	A	
106	定　温　器	2	2	B	
107	乾熱滅菌器	2	2	A	
108	滅菌がま（コッホがま）	3	3	A	
109	自動かきまぜ機	2	1	A	
110	ガス分析装置	3	3	C	
111	ＣＬＳ簡易水道用残留塩素測定器	3	3	A	
112	ＳＺＫ水道用ＰＨ比電測定器	3	3	A	
113	ケルダール窒素微量定量装置	1	1	A	
114	蒸留水製造装置	1	1	B	
115	毛髪温度計	3	3	B	
116	フロンＲ－２２（液化ガス）	2本	1	A	
117	炭酸ガス（液化ガス）	3本	2	A	
118	レーグルタミン酸ナトリウム	400	350	B	
119	イノシン酸－５－リン酸ナトリウム	200	170	B	
120	サッカリン不溶性	200	170	B	
121	ソルビン酸	200	180	B	
122	ソルビン酸カリウム	200	180	B	
123	ブチルヒドロキシアニソール	80	78	B	
124	ブチルヒドロ　シトムエン	80	75	B	
125	エリソルビン酸ナトリウム	80	70	B	
126	硝酸カリウム	10	3	B	
127	亜硝酸ナトリウム	10	9	B	
128	ポリリン酸ナトリウム	10	9	B	
129	Ｄ－ソルビット	4	3	B	
130	和光肉エキス	40	35	A	

X　日本に対する機材供与，専門家派遣についての要望

(1)　機　材

過去，日本側との協力期間中の経緯もあり，学校の象徴的な存在として大型漁業実習船（総トン数250トン型トロール，巻網兼用型）に対する期待には根強いものがあった。

各学科ごとの機材に対する要望のあったリストは次のとおりであるが，技術水準の向上や指導効果の充実とともに，学校運営の立場から，拡声設備とビデオ装置等について校長から強い要望が出された。

各学科ごとの供与を希望する機材は次のとおりである。

A　漁業甲板科

1. ジャイロコンパス　（古野電機）　30万くらい
2. IW　SSP　ラジオ電話（　〃　）　90万円　（古野電機）
3. Injection valve（ヤンマー1973年供与した39HPの船用）2
4. 2サイクルと4サイクルディーゼルエンジン模型（本邦製）
5. 蒸気機関とその設備の模型（本邦製）
6. 主機関と補助機関の扱い方のスライドかフイルム（本邦製）
7. 漁船の冷凍設備のスライドかフイルム（本邦製）
8. 船のテレモーターの最新のモデルかフイルム（本邦製）
9. 発電機24V（ヤンマー　1973年供与した39HPの船用）
10. ビルジポンプ（　〃　〃　）2
11. 燃料インジェクションポンプ（　〃　〃　）3
12. ヤンマーディーゼルエンジン用のバッテリー　70A，24V　2
13. 船外機（6mくらいの船につけるような大きさのもの）
14. 航法計算機（2つ）
15. ナイロンネット

(1)	210D/15	36㎜（メッシュサイズ）	40～42m
(2)	210D/15	80㎜（　〃　）	16m
(3)	210D/36～54	50～60㎜（　〃　）	30～40m
(4)	210D/54	140㎜（　〃　）	10m
(5)	210D/2	34～38㎜（　〃　）	10kg
(6)	30ヤーン	55㎜（　〃　）	40m

(7) 30ヤーン　45番（メッシュサイズ）　100m

(8) 30ヤーン　36番（　〃　）　20m

(9) イワイン　20D/36　30Pcs

(10) 210/4　14番（メッシュサイズ）　5kg

(11) 210/2　10番（　〃　）　5kg

(12) 210/6　18番（　〃　）　5kg

16. クレモナロープ

φ 8番 クレモナ　40kg

17. ポリエチレンロープ

(1) φ 4番（ポリエチレン）　20kg

(2) φ 10番（ポリエチレン）　20kg

18. クレモナ トワイン 210D/4-6-8-10　20kg

19. 漁業科用の英文の本（JICAで出版）（三崎のトレーニングセンターにあり）

(1) トロール漁業 (2) 巾着網漁業 (3) 運用に関するもの

（カタログ） クンマージーゼルエンジンのカタログ

英 文 （1973年の型）

B 増 殖 科

1. IPメーター　携帯用一据場　2つ

2. DO測定器　Denki Kagakn Keiki　MDR−1　2つ

（携帯用）

3. 北原型 水のびん Kitaharas typo Waten Pottle 3号1ℓ 3つ

4. プランクトンネット 3つ

5. サリノーメーター用 バッテリー　1つ

（携帯用 オートラブポータブル
S−T計 ケーブル100m付ステンレス製ケーブルリール
半自動式 電気プラチナイザー 本場郡）　あり

6.

(1) 出目金 ① 黒出目金
② 赤出目金
③ 三色出目金　30尾

(2) 東錦　雄雌各15尾

(3) ランチュウ

(4) 琉金

(5) シュブン金

7. 魚飼育用 混合ビタミン剤 ２０kg （焼津水産高校にあり）

8. アクアリウム用のエア・ンプ（Model Aiv Pump AC220V 40W） 5

9. マスや他の魚の発生を示すスライド （東京水産大学） １つ

10. ヒーター 魚の飼育池用 （焼津水産高校にあり） ３つ

11. エアストーン ５０

12. カタログのみ（英文）

(1) 水中照度計（本地郷）

（携帯用 測定範囲 2～200,000
ＬＸ，上下両方向照度測定可
ケーブル５０m柱電池はレンジ切換）あり

(2) 水中濁度計 （富津産業）

コード １００m ８Ｖ 電池

視錠可 濁度範囲 0.5～1,000ppm 温度範囲～4℃～40℃

(3) ナンセン式 取水器

C 食品工業科

1. ハンドカンテスター ３つ

2. 糸のこ用の刃（罐詰の巻締部を検査するため罐を切る機械）２０グロス

3. レトルト用バーター ２つ

大全－GK－SV 36 650×500㎜ 1180㎜高さ

1.2kg/cm² プロパンガス使用

4. 化学実験用 デシケーター 直径 １５cm １０ケ

5. ソックスレー装置 ５組

6. 〃 用の円筒沪紙 400枚

7. ケルダール分解 びん 20本

8. 〃 用 （１つ） 5～7本用

9. ケルダール用の蒸留装置 5組

10. pHメーター 堀場 M－7 1

11. 赤外線 水分計 S－1 No.6923

12. 台所用ガスレンジ（プロパンガス用） 2

13. 罐中心温度 測定器 ２セット

14. 万能接着剤　　5箱

（ALTECO−AGE Cqanoacrilate adhesive tqpe
EE alpha tocno campang OSAKA JAPAN）

15. 水質分析試験装置　ボイラー用

（PH, Alkali,　　硬度の測定用）　2セット

16. 包装用資材

大全　ポリエチレン　0.3㎜×660㎜×150m/roll 2ロール

17. ラミネートフィルム　0.091㎜×130㎜×170㎜

東洋製罐　RP−F　2ケース

18. 巻締機　アドリアンス　タイプシーマー（大全）

Adriance 形127　380V　50ヘルツ

（楕円缶−1，3，角缶−3B，5A用）

D　学校運営

1. 写真の現像試薬

ミタ　DC−131　Net 1.1kg　(3808$_{02}$)　10

ミタ　DC−161　Net 950g　(355$_{02}$)　10

2. ドライコピー用トナー

ミタDC−161/162/232　Net 829v(29$_{02}$)　10

3. ミタのhry copyのドラムの調子が悪く，コピーがよごれている。

（ドラムを交換するか，修理法を教えてほしい）

4. VTR関係

(1) ビデオデッキ　20万円くらいのも　2つ

(2) ビデオ用カメラ（携帯用）

(3) 受像機　26インチくらいのもの　2つ

(4) VTRテープ　（200本）

5. モールス送受信練習装置及びその用紙　2セット

6. スピーカー，アンプ，学校の集会などでの使用

7. カセットデッキ　日立−D−5500

8. 8ミリのサウンドはカメラ，及び同フィルム

9. 水産や航海に関する映画フィルム　（16ミリか8ミリ）

(2) 専門家の派遣

各学科とも共通していることは，トルコ側の事情に通じ，しかも新しい技術分野に対応することを期待されるが，更にアフターケアの趣旨を生かすためには，比較的短期間の派遣が予測されることなどから，国際的な技術協力に対して理解ないし経験が必要となろう。

A 漁業甲板分野

追加機材類の関連のほか，臨海実習施設の整備，運営分野に対応できる専門家を要望された。

B 食品工業分野

製造機器分野は経験が豊かになったので，今後は公害，食品衛生の分野を得意とする専門家を要望された。

C 増殖分野

淡水養殖は一応の経験を積んできたので，海水養殖とりわけ魚類（ハマチ類）及び甲殻類（クルマエビ）の分野を得意とする専門家ということで，大学教授を望む意見もあるが，広く飼育技術の実技的経験の豊富な専門家が適当であろう。

Ⅵ 結 論

イスタンブール水産職業高等学校のアフターケア調査団の調査結果を要約すれば次のようになる。

1. イスタンブール水産職業高科学校は日本の協力終了後も施設々備の拡充，学科の新設，教員の増員等を図り，トルコの水産教育のパイオニアとしての役割を果している。
2. 日本から供与された機材についてはよく維持管理され，教育効果をあげるためによく使用されている。故障も大きなものはなく軽度のものは機械や電気関係の教員の協力によって補修々理されている。消耗品的なものや機材のスペアパーツ類は追加機材として供与する必要があろう。
3. 日本で研修を終えたカウンターパートは３名を除いて本校に定着して熱心に教育活動にあたっている。専門分野については理論的にも，技術的にも自信を持っている。
4. 教科書等の教材はまだ整備段階であるが，カウンターパートの努力によって徐々に整備されていくであろう。
5. 卒業生の進路については，日本の学校のような就職指導，卒業生とのコンタクトがなかったり，兵役制度のため，詳細にはわからなかった。

校長から聞いた範囲では増殖科の卒業生の就職が思うにまかせられないようであった。もっと学校をＰＲするなど検討の余地がある。

6. 協力期間中に懸案事項であった臨海実習場の建設と開窓についてはまだなされていなか

った。ただ臨海実習場は設計や予算見積（約4億T. L. ）もできており，建設着手は間近であると思われる。

7. 本校の教育環境をさらに充実させるために，追加の機材供与と短期専門家の派遣が必要と考えられる。

その内容はトルコ国から要請されるA－1フォームとA－4フォームをもとに検討することが適当であろう。

参考資料

参考資料 (1)

QUESTIONNAIRE ON THE PRESENT ISTANBUL FISHERIES HIGH SCHOOL

I PURPOSE OF VISIT

To conduct a survey on the matters undermentioned in connection with the status of ISTANBUL FISHERIES HIGH SCHOOL after the Japanese experts have left the places due to the maturity of the agreement period, and in case some remarkable changes are observed, to try to grasp the core of cases for negotiation for betterment of the school.

II ITEMS TO BE SURVEYED

1. The present policy of the administration of FISHERIES TRAINING in Turky (especially the demand and supply of Fisherman in Turky).
2. Present organization, budget and staff of the high school.
3. Fixed budgetary number of trainees, recruitment and enrollment of the high school.
4. Present plan of training, arrangement of training materials by courses.
5. Employment situation of the present and past trainees by courses.
6. Present facilities and equipment of the high school.
7. Usage, maintenance and management of the equipment donated by Japan during the agreement period.
8. Request for the equipment to be donated by Japan and despatch of Japanese experts, if any (It shall come within the scope of a follow-up programme).
9. The present stage of counterparts' activities.

参考資料(2)

THE FISHERY HIGHSCHOOL

THE FOUNDATION DATE OF THE SCHOOL : 1973

The Fishery highscool has a total of 551 students.

The Total Number of Teachers is 36 for the year of 1983.

The teachers are divided up in to two parts according to their subjects.

TEACHERS

GENERAL SUBJECTS	BUSINESS TRAINING SUBJECTS
Turkish	Technological subjects
History	Workshop Practice
Geography	
Mathematics	
Civics etc.	

The Number of teachers teaching general subjects are 14

The number of teachers teaching business training are 22

14 of these teachers have been trained in Japan, for periods of 3 - 6 - 12 months.

Also the total of teachers who have been trained in Japan since 1973, the foundation of the school is actually 16. But two of these teachers have later resigned and :

1- One at present is working at the ET ve BALIK KURUMU at Patsa, who is quite helpfull in getting jobs for the graduates of the school.

2- The other has entered a university.

The training period of the school is 3 years.

The total of study hours per week is 47 hours.

Each student in his branch has 15-17 subjects to study.

As a total there are 63 different lessons tought in school.

The student after completing his first year also starts to be trained on the ships for fishing.

The student after completing his second year, has to fill an "assistancy" period of 150 work hours at various business offices, factories etc. as "training".

The ones in "Fishing" are trained on ships.

The ones in Processing go to factories and the TÜBİTAK

The ones in "Breeding" go to breeding stations in :

ÇATALCA (KARAMANDERE) - ESKİŞEHİR - BİLECİK - SAPANCA

The school when founded in 1973 began with the teaching of three classes: FISHERY SCIENCE - ELECTRONICS - ELECTRICITY

In 1974 it added the class of : FISH BREEDING

In 1975 " " : FISH PROCESSING

In 1981 " " : SHIP ENGINE

The Fishery High School started it's education being connected to the Ministry of Agriculture but later the School became connected to the Ministry of Education.

The school posseses lodgings for it's teaching staff, but has not yet opened it's dormitories. The building for it has been completed but the "opening" has been delayed due to the dispute with the Ministry of Agriculture, which has at last been settled. The dormitory capacity is for 300 students.

BUILDINGS

The school is at the moment operating in it's main building and temporary workshops which have been formed by taking parts of the school cafetaria and the garage.
The freezing, engine, processing department have "temporarily" taken place in the "cafeteria", while the "cutting, grinding etc. connected to the processing group is at present set-up in the garage.
The award of contract for buildings down at the shore have already been given and sum have been put out for contract. The projects for them have been completed and some of the buildings aswell have been started off. Authorities of the school state that they have faced a lot of difficulty, trying to get these projects finished.

EQUIPMENT

The majority or almost all of the equipment used in the school has been provided by Japan. Japan has helped providing the school with equipment in the below mentioned three subjects:

FISHERY :
- A ship 5 gross tons
- Fishing nets
- Navigation eqiupment
- Radar
- Models
- Books - films
- Shiping equipment.

Here the teachers state that the 5 gross ton ship is not suitable for the Turkish sea conditions. As the sea is very wavy. Also the nets which have been provided by Japan "Troll Nets" can't be used with this small ship. Also the nets have become very old and are far too costly (2 million TL.) to be replaced in Turkey.

FISH BREEDING: PLEXI-GLASS AQUARIUM

BREEDING EQUIPMENT

PORTABLE POOL

FISH

DEMONSTRATION EQUIPMENT

BOOKS - FILMS

SMALL ROW-BOAT WITH 9 HORSE POWER MOTOR (YAMAHA)

80% of this equipment is in good condition. Also part of this equipment when sent was reserved for future use and is in perfect shape.
The teachers and administrators state here that they badly need another plexi-glass aquarium, and would be glad to have more portable pools for breeding. At present they are breeding salmon and trout in these pools.

THE PROCESSING: LABORATORY INDICATORS

MICRO-BIOLOGY EQUIPMENT

CANNING EQUIPMENT

SEALING EQUIPMENT

FREEZING EQUIPMENT

90% of this equipment is in usable condition.
Also films and books at present our quite out-dated in technological developments of the present and need to be renewed.

THE FOLLOWING UP OF THE GRADUATES

The school since it's foundation in 1973 has given 784 graduates. This number is quite low and it's being low in number has been because of the negative effects of the anarchic and political movements in Turkey. Also, the social structure at present in Turkey, is not in a condition to provide jobs directly to these graduates. The students who enter this school enter this school with an examination after finishing the 8th grade and are considered as "highschool" graduates when they are graduated.
As there is no direct fields connected with the subjects they are distributed in to various study and business fields.
The distribution can be generalised as follows:
Some continue to higher education (Universities) 8%
Some start business on their own ships 5%
Some enter military higher education schools 8%
Some work as sailors on foreign and Turkish trade ships.
Also the demand for graduates of the "Fishery" class are on the otherhand very high and at present the school is facing difficulty in meeting this demand for these graduates which are mainly coming from private ship owners.
Also, there is a private ship company for fishing under the name HASAN PAPİLLA who has mainly employed graduates of this school.

To follow the graduated students by the school is very difficult as they enter so many different jobs or education fields and particularly at the age of 20 when they enter the military service for about 20 months it becomes almost impossible to follow up the "where abouts" of these students, unless they themselves contact the school.

THE TRAINING OF TEACHERS IN JAPAN

The schools main aim is to keep training their teachers in Japan. The ones who have had this chance, unfortunately have not found the time period for their "training" in Japan to be sufficient, and have felt that they needed to stay longer and learn more, after they returned back to their home-land. This lack of knowledge in their subject particularly came to surface after the "Japanese Training Team" came to Turkey to work in the school with them.

In 1977 the school authorities made a request to send their teachers back again to Japan to "refreshen" their knowledge. The school made a list of the teachers which they desired to send back to Japan for "re-training" but during this time the government was very weak and the concerned authorities were not operating as they should. The project was handed to the Ministry of Education and approved and then according to the procedure passed on to the State Planning Organisation. Here, there are some difficulties, as this organisation is not aware and familiar with the importance of the 'Fishery Highschool' and it's necessities aswell as the required procedures. The project was turned down, with reasons stating that, there was no reason to send these teachers once again back to Japan as they had already been there once before.

The administration authorities of the school state that for legal procedures, they are connected to the Ministry of Education, State Planing Organisation and the Marine Councillor Department and that these departments do not know very much about the necessities of the school and cause difficulty.

Very recently, the school authorities have translated the true image of the fishery procedures from a Japanese chart and have presented it to the above mentioned authorities for them to learn and see what their requirements are, to ease the situation in the future and have stated that gradualy these authorities have started to acknowledge the fact and importance of their school.

Also the administration of the school is planing to send a teacher from the "FISHERY-BREEDING-PROCESSING" sections to be trained in Japan in the future.

At present	3 of the teachers in the	"FISHING"	section
	I "	"ELECTRONICS"	"
	4 "	"BREEDING"	"
	2 "	"PROCESSING"	"

have had their training in JAPAN.

JAPANESE LANGUAGE AND TECHNOLOGY COURSES

During the period when there were Japanese teachers present in the school there was Japanese courses continued in the school and many students have benefited from these language courses, at present the demand for the continuation of these courses has become quite high, but as there are no teachers it is not possible to start them.

Also the Turkish Government, like the 8 other foreign language schools in Istanbul, has proposed to change the teaching system of this school to be turned in to a completely "ENGLISH" tought program. For this reason 6 teachers from England during the Summer Season will be coming to the school to train 30 Turkish teachers to be used in this program. The school has not given definite word that it will change to this system. But the "training program" will be held in this school for the use of other schools.
The teaching of Japanese technology is at the moment very difficult to be continued in the school program, having to disperse themselves to so many wide fields, it is difficult for the school teaching system to enlarge it's self on one certain subject but this has been thought of to be developed in the future. At the moment they are lacking educationers and technics in the classes they are already teaching at present.

OFFERS BY MIDDLE EASTERN COUNTRIES

The school has received many offers to open similar schools in the countries of Libia and Algiers. But school authorities are not in a position to do so, but have proposed to train "Trainees" sent by these countries.

PRIME MINISTER MR.BÜLEND ULUSU

The importance of this school has particularly been acknowledged by Prime Minister Mr.Ulusu and orders have been given by his side to develop and enlarge the school through the Marine Councillor Department.

参考資料 (3)－1

Form A,

TECHNICAL COOPERATION BY THE GOVERNMENT OF JAPAN

PROPOSAL

By the Government of TURKEY

for an expert, i. e., for Istanbul Marine and Water Product Vocational High School,

to the Government of Japan.

Notes.– This form has been devised for the general guidance of the Government agencies concerned (JAPAN) in order to facilitate the supply of relevant information and data necessary to afford an adequate appreciation of the nature of the technical co-operation required. The careful completion of this proposal form will avoid much reference back and lead to speedier action.

1. Back ground Information This section should show as precisely as possible the general nature of the project for which the expert is required, stating whether it comes within the Government's development programme. It is important to indicate whether the project is a new enterprise or whether it was started previously. In the latter case, any assistance received under other technical co-operation programmes (e.g. under United Nations auspices) should be stated. With regard to industrial enterprises, some impression of the size is important and the output and number of workers to be employed are useful indications. The type of process, make and age of industrial or scientific equipment with which the expert will be concerned should be specified. In the case of academic establishments, it is an advantage to know the number of annual intake of students, their level of attainment, numbers and status of existing staff and details of any research facilities and the level of research being undertaken (Copies of brochures, annual reports, financial statements, calendars, syllabus of instruction etc. should be attached where applicable).	Istanbul Marine and Water Product Vocational High School has been established in 1967 in order to develop fisheries in Turkey.The technical co-operation by the Government of Japan has been concluded in 1979. During the last four years after the termination of the agreement the school has played very important role in fisheries-marine field in Turkey. Although during this period the necessity of the Japanese expert has been strongly requested because of the troubles we have faced in school since there is no such organization. So it is very important to give new skills and knowledge adopting technical progress to many instructers by Japanese experts. For this purpose,we kindly request to the Government of Japan to dispatch 3 experts for this school.
2. Specification for the post.* (a) post title (b) duties for which the expert will be responsible. These should preferably be listed, and it is important to give as much detail as possible. (c) authority to whom expert will be responsible.	3 (three) expert . (1) expert in Fishery Science Course. (1) expert in Fish Processin Course, (1) expert in Aquacultur To give new skills and knowledge adopting technical progress to teachers. Director of Istanbul Marine and Water Product Vocational High School.

* It is essential that full particulars should be given. If the space provided is inadequate, they should be given on a separate sheet.

2. Specification for the post *(Cont'd)* (d) Qualification and experience required and approximate age limits.	One of the former experts in this project or from the Tokyo Fisheries Univeroity.
(e) number of personnel required.	
3. In the case of continuous projects, give name and particulars of understudy or counterpart who is to work with the expert.	None
4. Terms and conditions of appointment: (a) duration	3 (three) months.
(b) actual place of employment, nearest town and post office	Beykoz , Istanbul , Turkey
(c) if living accommodation to be provided, state whether furnished or unfoirnished, and whether suitable for married man with family	None
(i) daily allowance for food if accommodation only provided	None
(ii) daily rate for accommodation and food if neither are provided in kind	None
(d) daily and nightly rates of subsistence payable when away from base on duty	Not payable
(e) are costs of internal travel paid or car provided?	Car will be provided on official use only.
(f) what leave arrangements are suggested?	No leave for short term assigoent expert.
(g) extent to which free hospital and medical treatment is to be provided for the expert and his accompanying dependents, if any	Will be treated according to the government expert.
(h) shall the expert be exempted from the payment of income tax and charges of any kind imposed on or in connection with any allowances to be remitted from overseas?	Yes, during his assigoent period.
(i) (i) shall the expert be exempted from the payment of customs duties and charges of any kind imposed on or in connection with the importation of equipment, machinery, materials and medical supplies as well as personal and household effects belonging to the expert and his family, including one refrigerator, one sewing machine, one radio and other electrical appliances?	--
(ii) In case a car is not provided to the expert by the host government, shall the expert be exempted from the payment of customs duties and charges of any kind imposed on or in connection with the importation of a car?	--

4. Terms and conditions of appointment (*Cont'd.*)	
(*i*) does host government undertake to indemnify expert in respect of damages awarded against him for actions performed in the course of his official duties?	Yes.
(*k*) approximate date on which the expert is required to arrive in receiving country	As soon as possible
(*l*) any other information	--
5. Previous steps, if any, to fill the post: If any previous attempt has been made to fill the post from any external source (UN Specialised Agency or other) please indicate:	None
(*a*) to whom proposal was addressed, with date	--
(*b*) result or present stage of negotiations	--
(*c*) are other experts working in this area in associated projects or have there been experts working in this field previously? If so, are any reports by these experts available?	Previous 14 experts from Japan attached to this school left in 1979 when the cooperation agreement terminated.
6. Correspondence: Name, postal and telegraphic address of official to whom correspondence regarding this proposal should be forwarded	

Signed .....

on behalf of the Government of .....

Date: .....

TECHNICAL COOPERATION BY THE GOVERNMENT OF JAPAN

PROPOSAL

By the Government of TURKEY to the Government of Japan

for the supply of equipment

Notes – (1) This form has been devised for the general guidance of co-operating countries in order to facilitate the supply of relevant information and data necessary to afford an adequate appreciation of the nature of the technical assistance required. The careful completion of this proposal form will avoid much reference back and lead to speedier action.
(2) The requisite number of copies of the Form A4 duly endorsed by the appropriate Foreign Aid Department of the requesting government should be forwarded to the donor government concerned through the appropriate channels.
(3) The equipment to be supplied by the Government of Japan will become the property of the requesting government upon receipt of the shipping documents through the Japanese Embassy. Since the equipment is supplied on C.I.F. basis, it is requested that the recipient government will meet:
(a) customs duties, internal taxes and other similar charges, if any, imposed in respect of the equipment, and
(b) expenses necessary for the transportation, installation, operation and maintenance of the equipment.

1. Background Information Please describe as concisely as possible the *general outlines* of the project for which the equipment is required, indicating whether the latter is (*a*) for use by an expert in the performance of his duties (*b*) for a training scheme of institution or (*c*) for a research institution. If either (*b*) or (*c*) please say whether the equipment is for the establishment of a *new* institution or the expansion or re-organisation of an existing one (e.g., by the provision of a new department, etc.). *The name and exact location of the* institution, its approximate cost and the authority responsible for it should be stated. Where appropriate details should be given of the availability of any services required for the operation of the equipment. This would include operation by electricity (i.e. type of current, periodicity, voltage and any variations, phases, frequency etc. and if D.C. is the only current available please give full *details*), *water reticulation or steam gas* etc. Details of similar equipment already in use should be given.	The agreement on Istanbul Marine and Water Product Vocational High School was signed in 1967 and teroinated in 1979.The courses in this school during this period were, Fisheries Science, Fish Kultiplication,Fish Processing,Electric and electronics. 14 experts from Japan were attached to this school and 8 counterparts were trained in Japan. In the last four years the school is increasing its capacity and has opened the Marine Engine Course. Turkish Government has a big expectation to the school in this field since this is the only Fisheries High School in Turkey. Because of these reasons we need some machine, spare parts and tools. The list of which is clearly mentidned and attached this Form.
2. Description of *equipment* required Please give a full description of each item and general specifications where possible. The manufacturer and estimated cost of each item if known together with details of the proposed end use of item should be given. Where applicable, give details of any special packing or tropic proofing required and indicate whether handbooks or instruction data supplied in English will suffice. If appropriate, please *indicate any required priorities* or phasing of deliveries and advise whether adequate facilities exist for maintenance and servicing of the type of equipment requested. (If lengthy, detailed lists should be annexed; it would be convenient to have separate annexures for (*a*) films; (*b*) books and (*c*) other equipment.)	General specifications of the equipments are shown at the atached list.
3. Has this equipment request already been directed to any other Agency or country and if so to whom was it addressed and with what result?	No.
4. Has the list of equipment already been discussed with representatives of the supplying country/ies? If so, please indicate what stage the discussions have reached.	The list of equipments has been allready discussed with Japanese Hission to Turkey headed by Mr.Mayama in June 1983.
5. Furnish full particulars in respect of- (a) Consignee. (b) Official to receive documents and enquiries; and (c) Clearing agent at port of entry.	Istanbul Marine and Water Product Vocational High School , Ministry of National Education of Turkey. Ministry of Customs and Monopoly of Turkey.

6. Where equipment is required for use by an expert Please indicate– (a) The country or agency from which the expert has been requested or obtained. (b) His duties and length of secondment (a reference to the relative Form A. 1 will suffice when the expert is being provided by the country to whom the equipment request is addressed). (c) What use is proposed for the equipment when the expert's period of secondment terminates? (d) By what date is the equipment required?	
7. Where equipment is required for Training or Research Institutions Please indicate– (a) Nature and standard of training or research to be undertaken (b) Total number of students to be accommodated from within the country or from elsewhere in the Region, the qualifications for admission, the duration of courses, and the annual output of trainees (c) Whether there is already a similar institute(s) in existence in the country. If so, please give details (d) Whether buildings are already available. If not has construction started and when is it expected to be completed? (e) Whether qualified staff to handle the equipment has been recruited or is proposed to be recruited locally. If not is it proposed:– (i) to recruit foreigners under aid-programmes? (ii) to train locally recruited personnel abroad in handling equipment? (the reference numbers of any Forms A. 1 or A. 2 relating to such requests should be quoted) (f) Taking into account the answers to (d) and (e) above, what is the date by which the equipment is required and the date on which training or research work is to commence. (g) Whether any assistance in drawing up the Scheme has been obtained from outside experts? (Any specialist reports or Government surveys (e.g., Educational Committee Reports, etc.), bearing on the request should be provided if possible)	a) The school has 6 courses.Fishery Science,Marine Engine, Fish Multiplication,Fish Processing,Electronics and electric. b) 600 students are accomodating within the country. Junior High School graduated. Three years courses. c) The only existing institute. d) Building is already avaliable. e) Qualified staff to handle the equipments is ready. f) To be used in 1983-1984 educational year required is september 1983. g) No.
8. Correspondence Name, Postal and Telegraphic Address of official to whom correspondence regarding this proposal is to be forwarded	Ministry Of National Education. ANKARA-TURKEY

Signed .....

on behalf of the Government of .....

Date .....

For use only by Donor Government

Proposal accepted/rejected/withdrawn

on behalf of the Department of .....

Date .....

GENERAL NECESSIDIES FOR THE LEVEL OF SCHOOL and IN COMMON ACTIVITIES OF COURSES

2. Video tape recorder and Tv Camera and video tape casettes

3. MORSE TRAINER (1 set) and 40 pcs manipulater (Like it is used in the Japanese Fisheries High Schools.)

4. AMPLIFICATION,CASETTE DECK and SPEAKER SYSTEM (Sony or National or Hitachi)

5. PHOTOCOPY MACHINE (It can do copy more bigger or more smaller)

6. 8 mm. Portable SOUND PROJECTION and CAMERA (Elmo Sound,ST 600 M-D or other one)

7. EDUCATIONAL FILMS about Fisheries and Seamanship
   (If 8 mm. sound film machine is sent;again 8 mm. sound fishing,fisheries, seamanship,navigation films; such as:
   a) Okinawa International Oceannographic Exhibition in 1977,
   b) Wholsel Market in Japan.
   c) Food Marketing Tokyo Central Fish Market.
   d) Other names are unknown.Only with interested about subject: Fres Water Fish Culture,Agricultural Ponds,Rainbow Trout,Eel,Commen Carp,Crucian Carp, Grass Carp,Silver Carp etc.,Culturing;Research Laboratuary Activities,Storage Smoking,Frozen Fish Activities,Fishing Activities

8. OHP TRANSPARANCIES (Copian) Fuji Kaga Kushi Kogyo Co.Ltd.Kent.Cat.No: 21-22

NECESSARY EQUIPMENT AND MATERIALS LIST FOR

FISH MULTIPLICATION (CULTURE) COURSE

1. pH Meter Otomatical 2 set
2. DO. ppm DKK Denki Kagaku keiki Type MDR (DO METER Portable) 2 set
3. Kitahara's type Water Bottle 2 sets
4. Plancton nets 3 pcs
5. HAMON Temparature-Salinity Bridge .AUTOLAB Model 602,Serial No:113- 1 set
6. ADULT FISH for AQUARIUM FISH CULTURE:
   a) DEMEKIN 1- Kurodemekin . . . . . 15 Male, 15 female
      2- Akademekin . . . . . 15 male, 15 female
      3- Sanshokudemekin . . . . . 15 male, 15 female
   b) AZUMANISHIKI. . . . . 15 male, 15 female
   c) RANCHU. . . . . 15 male, 15 female
   d) RYUKIN . . . . . 15 male, 15 female
   e) SHUBUNKIN . . . . . 15 male, 15 female
7. WITANE COMPLEX 20 kg.
8. AIR POMP for Aquarium (Medo Air pump AC 220 V, 40W) 5 pcs
9. Slide of TROUT emriyo stage and other fishes) 1 set
10. HEATHER FOR POND 3 set
11. AIR-STONE 50 pcs

- -

P.S. This course needs BATERY and CATOLOQUE wich are printed on English as following list.

(1) Model D-21 Under-water Turbitimeter (Cataloque)

(2) Sub-Marin Ulluninometer (Murayama) (")

(3) Nansen type Water bottle) (")

(4) HAMON temparature-Salinity Bridge.AUTOLAB Model 602, Serial No:113 BATTERY. . . . . 4 pcs.

MATERIAL LIST FOR FISHERY SCIENCE COURSE
of ISTANBUL MARINE AND WATER PRODUCT VOCATIONAL HIGH SCHOOL

I. For Navigation Laboratuary

1. Gyrocompass (Furuno Co. Ltd.)	1 set
2. 1 W SSP Radio Telephone (Furuno Co. Ltd.)	1 set
3. Mors Trainer and Manipulation goars	2 set
4. Calculation machine for navigation	1 "

II. For Marine Engine Workshop

1. Injection valve control equipment (For -Yanmar Diessel 1973 model,39 HP)	1 set
2. 2 and 4 Cyle Diessel Engine Model	2 set
3. Steam Engine and equipments Model	1 set
4. Films and slides about Operations for main and Auxiliary engines-	1 set
5. Films and slides about Freezing system of fishing vessels	1 set
6. " " models of telemeter of marine engines	1 set

III. For 5 Gros ton's Training boat

1. Alternator 24 V.(1973 model,39 Hp, Yanmar diessel)	1 pc.
2. Bilge pump for Yanmar Diessel Engine (1973 model 39 Hp)	2 set
3. Battery for Yanmar Diessel Engine 70 A.h 24 V.	2 pc.
4. Tune up Catelege of Yanmar Diessel Engine (1973 Model)	1 pc.
5. Fuel injection pump (1973 model,39 Hp,Yanmar Diessel)	3 pc.

IV. For Fishery Technology Workshop:

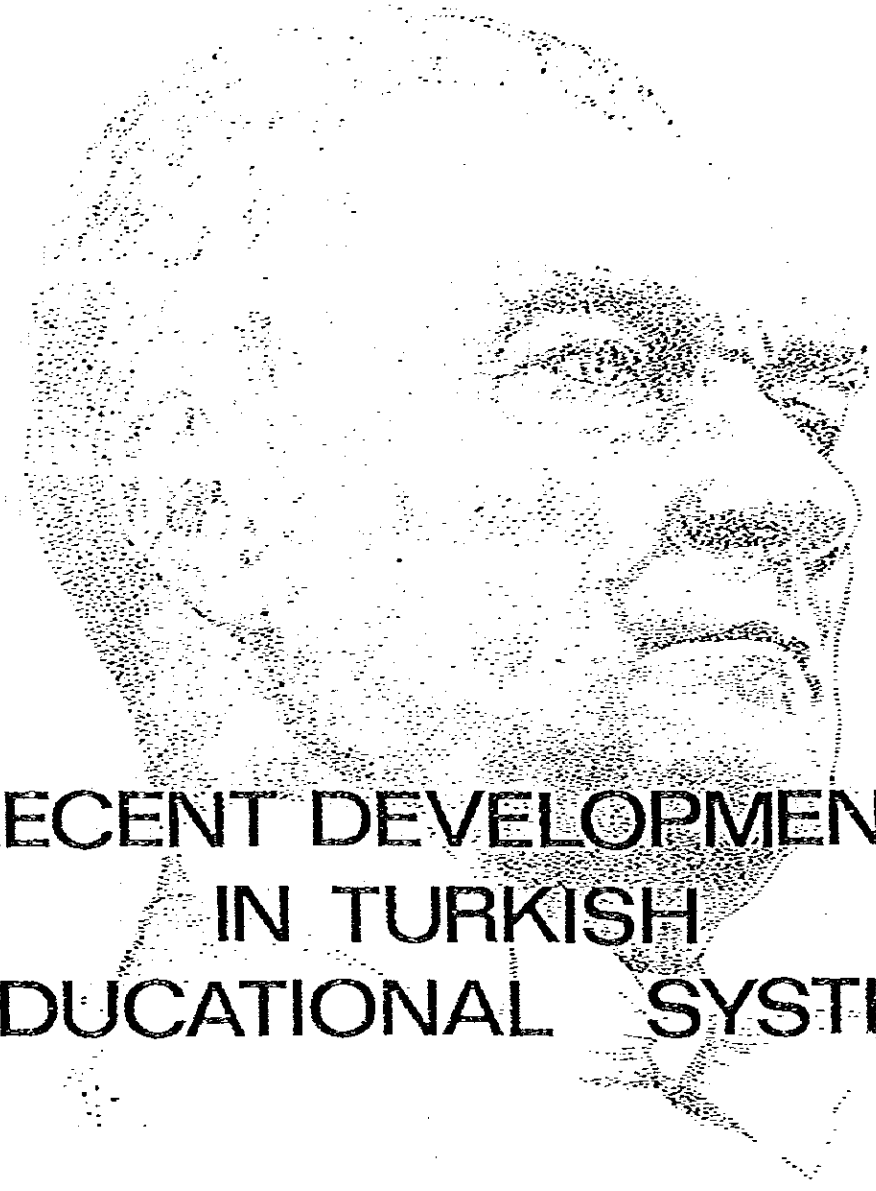
Number	Mesh size	Material	
1. 210 D/15	36 mm	Nets (nylon)	50 m.
2. 210 D/15	80 mm	"	50 m.
3. 210 D/36-54	50-60 mm	"	50 m.
4. 210 D/54	140 mm	"	40 m.
5. 210 D/2	34-38 mm	"	30 kg.
6. 30 yarn	55 mm	"	50 m.
7. 30 yarn	45 mm	"	100 m.
8. 30 yarn	36 mm.	"	50 m.
9. Twine 210 D/36 -		Twine nylon	20 kg.
10. 210 D/4	14 mm	nets "	10 kg
11. 210 D/2	10 mm	" "	40 kg
12. 210 D/6	18 mm	" "	20 kg
13. Cremona Ropes ∅ 8 mm.		Cremona	40 kg
14. Polyethylene ropes ∅ 4 mm		Polyethylene	20 kg.
15. " ∅ 10 mm		"	20 kg.
16. Cremona Twines 210 D/ 4-6-8-10		Cremona	20 kg.

V. OUTBOARD MOTOR (Yamaha,55 Hp. with necessary tools and repair kits) 1 set
FRP FISHING BOAT (Suitable for 55 Hp.Outboard Motor) 1 set

P.S. : For school laboratuary all electrical equipment must be 220 V, 50 C.

MATERIAL LIST FOR FISH PROCESSING COURSE
OF ISTANBUL FISHERİES HIGH SCHOOL

1.	Hand can tester	3 sets
2.	Saw blade for inspection of can opening	20 gross
3.	Spare burners for retort which is model :DAIZEN GK-SV 36, size : 650 x 500 mm lenth : 1180 mm to use for propan gas	2 pcs
4.	Bunzen's burner for propan gas	20 pcs
5.	Desicator for chemistry laboratory dia: 10-15 cm	10 pcs
6.	Soxalate aparatus	5 sets
7.	Soxalate filter	400 pcs
8.	Kheldahl aparatus	5 sets
9.	pH meter HORIBA type M-7 E	1 set
10.	Moisture meter type S-1 No : 923, 220 V, 50 hz, one phase	1 set
11.	Kithen burner to use with propan gas	2 sets
12.	Temperature tester of can center, during sterilization of can	2 sets
13.	ALTECO-ACE Cyanoacrilate adhesive type EE alpha tecno campany OSAKA-JAPAN	8 bottles
14.	Water analysis tester for boiler pH,alkali, clor-ion and hardness use	2 sets
15.	Package's material (DAIZEN) Polietilen, size: 0,3 mmx660 mmx150 m/roll	2 rolls
16.	Packages material (DAIZEN) Cloride vinyl resin sheet tube 0,04 mmx50 mm x 500 mm 5000 sheets/case	4 cases
17.	Semi automatic seamer(DAIZEN) type : ADRIANCE No: 127 380 V , 50 hz, three phase for oval can number : 1 and number 3 for square can number : 3 B and 5 A	1 set



RECENT DEVELOPMENTS IN TURKISH EDUCATIONAL SYSTEM

New design of the Turkish Educational System passed at the Conference of the X th Supreme Council of National Education in june 1981.

ANKARA-1981
TURKEY

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ANKARA-1981
TURKEY

Introductory Comments

The Turkish Ministry of National Education has felt the need of assessing the present educational system in terms of socio-economic problems caused by the rapid development and growth in science and technology in late 1980.The assessment has led to the improvement of the main lines of the system in three aspects comprising a whole; the mentioned three dimentions are the structure the curriculum and the student flow.

This report presents a summary of this re-organization with some illustrations.

A.THE STRUCTURE

The new structure is based on the assumption that there is a need to re-organize the system at the secondary education level in line with the prepared law of the basic education and that of higher education.

The structure has been developed in line with the 4 th 5-year State Development Plan,which foresees that the educational system should:

(i) be re-organized to effect the individual and the society in getting developed;

(ii) be developed into an institutional structure which is coherent with the technological and economical structure,

(iii) be established in a complementary framework of formal and non-formal educational institutions.

THE MODEL

The main characteristics, the principles and the functions of the model can be described as follows:

1. Characteristics of the New Model

(i) The school is taken as a fundamental unit,

(ii) Kindergarten is taken as a compulsory step in the system,

(iii) Compulsory basic education is taken as an eight year unit divided into 3-2-3 year sub-units,

(iv) Compulsory basic education is considered as both leading to upper classes and also providing for vocational skills,

(v) Secondary education is taken as a comprehensive school with programmes leading to various departments and vocational-technical schools.

2. The Principles

(i) Coherence and unification of the system is foreseen.

(ii) Technical-Vocational education is emphasized at all levels,

(iii) Horizontal and vertical mobility under certain conditions throughout the system is introduced.

3. Functions

The new model :

(i) provides educational opportunity for

individuals who have had no chance to benefit from formal education and for those who have dropped out.

(ii) Lessens the excessive demand for those secondary programmes leading to higher education.

(iii) Educates semi-skilled man-power needed by the Turkish industry.

(iv) Provides productive and effective use of the limited educational opportunities.

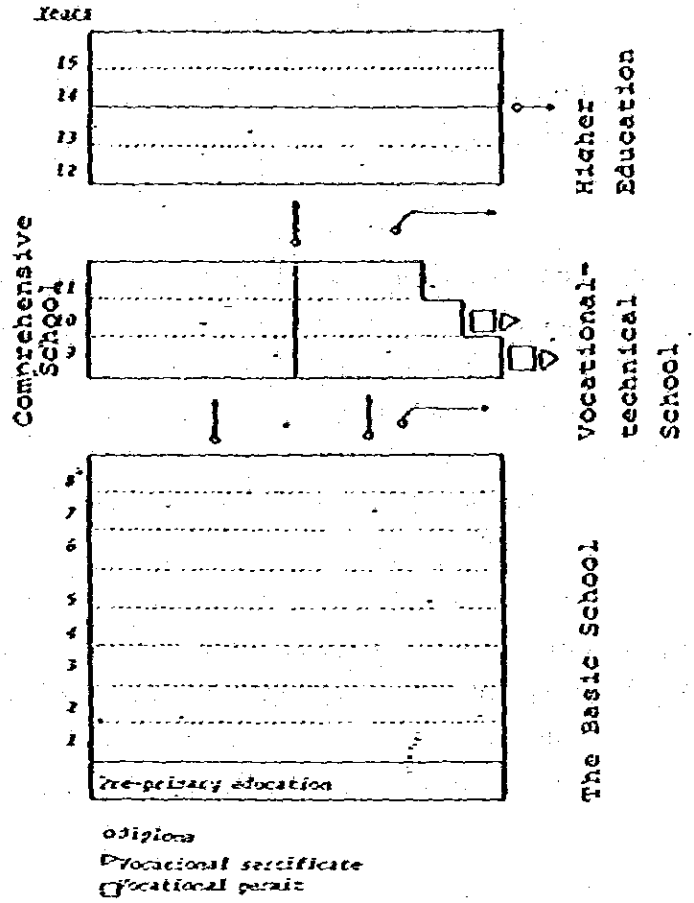
(v) Creates new interests on the part of the individual through comprehensive programmes.

(vi) Leads to materializing of the unifying and amalgamating function of education on the secondary level,

(vii) Gets away from the artificial gap between formal and non-formal education,

(viii) Sees to it that the vocational-technical educational sub-system grant diplomas and certificates on modular basis.

The New Model



The new structure also elaborates on school organization, school administration starting from the local rural level up to metro-politan conditions. Suggestions take place for the central organization of the Ministry of National Education as well.

B.THE CURRICULUM

At the Xth convention of the Supreme Council on Education,decisions were taken to develop a curriculum to meet the need of the ever-developing Turkish society through contemporary,secular and functional programmes directed toward national unity.

The new curriculum design attains:

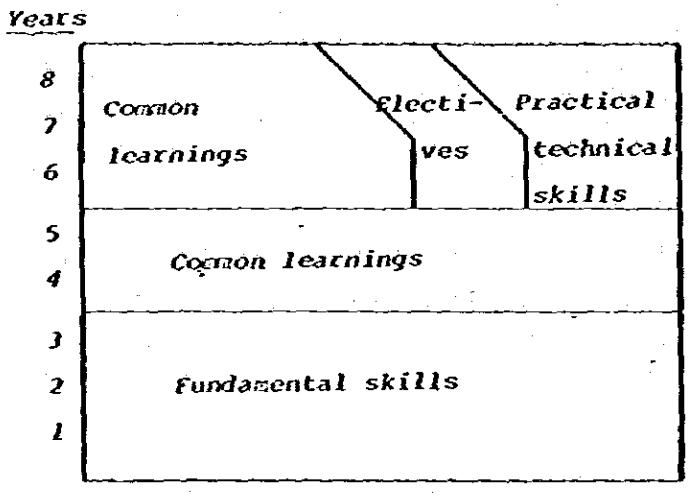
(i) a harmonious development in all dimentions of the educational system.
(ii) Education of economically active manpower in a functional framework,
(iii) Taking educational pre-cautions for drop-outs of each school-level,
(iv) Establishment of organic relations and balance among vocational,technical and general education programs as well as that of extention and in-service programs,thus,hindering the tendency to adopt the classical lise curriculum leading to higher education,
(v) Take pre-cautions to actualize behavioral change in students.

The curriculum is integrated with the guidance programs throughout the system.Content-activity ribbons provide continuous flow of learning experience through secondary education.

For each school level,functions,objectives,content-activity are categorically developed in accordance with the needs of the rapidly changing socio-economic

conditions and the developmental characteristics and those of the age group.The first innovation comes at the pre-primary level which is to get developed into a part of the National Education.

The curriculum structure of the (8) year basic education is as follows:

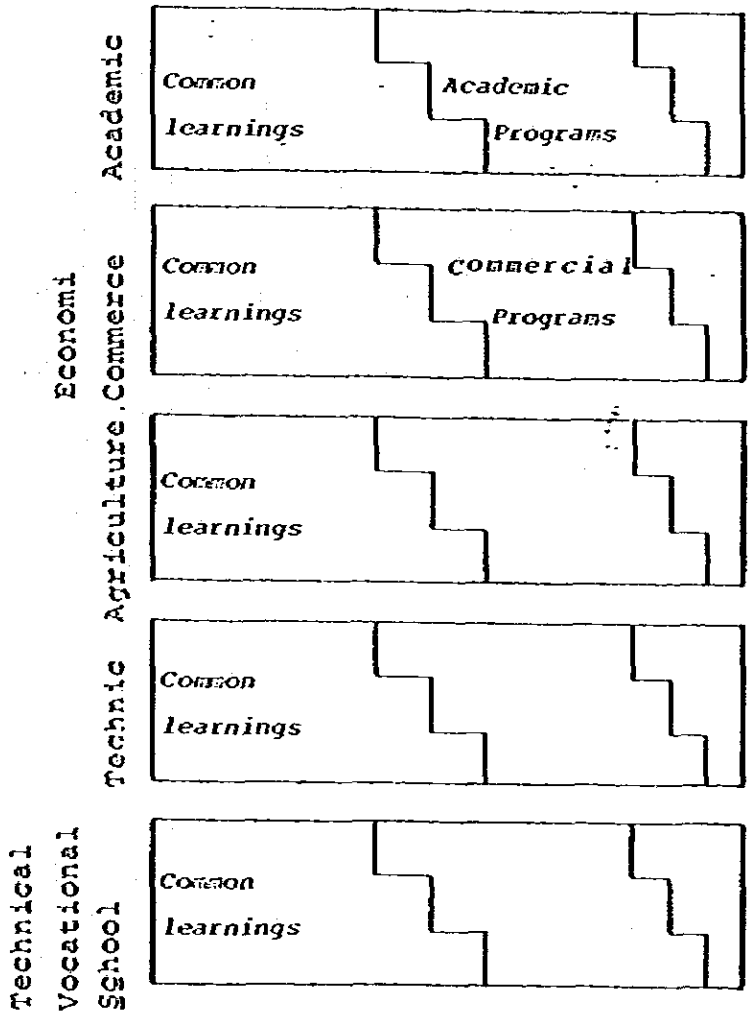


The content-activity ribbons at the basic education consist of Turkish,social studies,basic sciences,mathematics,physical training,fine arts,practical-technical education.The practical-technical activities amount to 35% of the content of the last three years of basic education.Some of the pre-concieved classes at this category are dactilography,handicrafts,commerce,home economics,first-aid,wood-work,metal work,agriculture, etc.

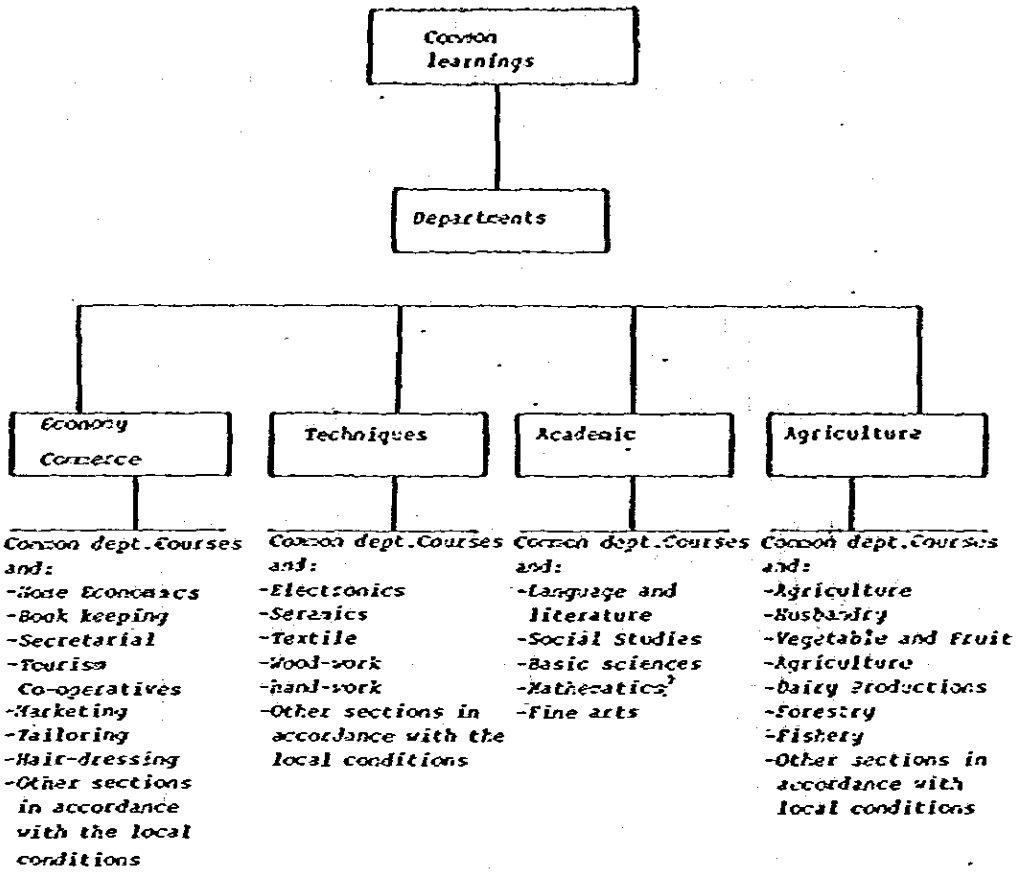
Electives are subjects of interests and needs of children leading to depth in a particular area.

A functional curriculum is designed at the secondary level with reservations for the developed vocational-technical schools,which,will proceed with their vast workshops and laboratories.

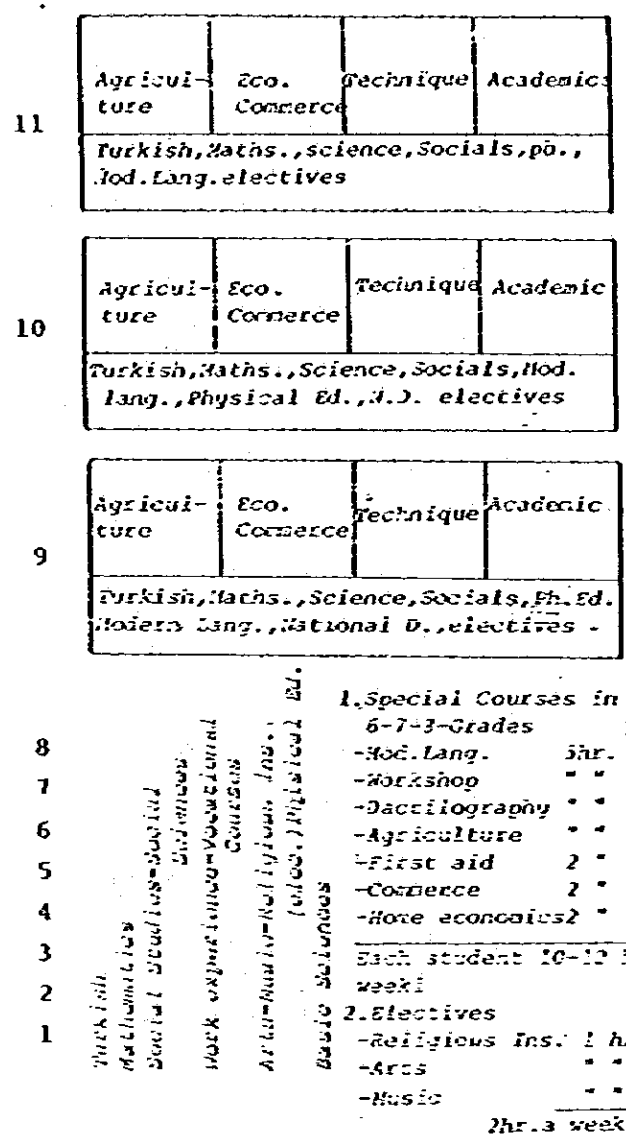
The secondary curriculum consists of three main compartments,namely,common learnings,departments and work experience as is seen below:



Departments and areas in the secondary curriculum



The above departments are function-oriented.This is an innovation if/when compared with the discipline oriented departments.



The functional aspect of the curriculum is differentiated in accordance with the abilities,aptitudes and interest of students. Those electing the science department will take either literature and language,or social sciences,basic sciences,mathematics or etc.

Guidance is to be based on the accomplishments of the individual student.

Content-Activity Ribbons at the Basic and Secondary Education is illustrated on the left.

The curriculum design of teacher education is also developed to fit the over all system.

Extended Education

Extended education functions:

(i) to provide service to schools,
(ii) to provide educational opportunities for drop-outs,
(iii) to actualize spontenuous education,

The following decisions have been taken to materialize these functions.

(i) Institutions for extended education attached to different ministries are co-ordinated at the higher level.
(ii) Extention programs will be in line with development in industry,agriculture and public services.
(iii) More research and inquiry will be made to find out the qualitative and quantitative aspects of man-power needs.
(iv) Labour analysis,definitions and standards are to be worked out.
(v) Principles of transfer from/to formal and non-formal education will be developed.
(vi) Relationship will be established between the industrial organisation and the school to develop tasks and responsibilities of the graduates of extention programs.
(vii) Extended Education Centers will be opened in every city.
(viii) Curriculum will be developed in technical, vocational and general areas.

(ix) The legal arrangements will be made to materialize the above functions.

C.STUDENT FLOW "Admittance to different levels of educational institutions".

In this section,entrance to different schools, system of evaluation,guidance and councilling,problems of accountibility,personnel training are discussed.

(1) It has been unanimously agreed that entrance to (8) year basic education would be free for all.Those handicapped children who need special education will be transferred to programmes developed for the spesific purpose.

(2) Entrance to secondary education is subject to placement according to the data received from guidance services; these services will function as a continuous process.It is foreseen that there is place for every individual of secondary education age group.

(3) Entrance to higher education will be subject to selection in accordance with:

(i) Interest and aspiration of the student,
(ii) His success in secondary programmes.
(iii) His ability,
(iv) Kind of program he has followed at the secondary school.

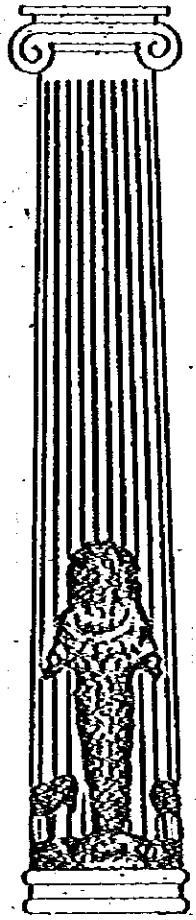
The present centralized system of election for higher education is to be continued.

It is foreseen that vertical transfer be based on accomplishment in individual subjects, that is, repetition of a grade is replaced by repetition of subjects if/when failed.

The program is divided into the terms as to provide for moduler programs.

The system provides for detailed information on tasks and responsibilities of the guidance personnel and their function for a sound evaluation process. In addition, guidelines for a mechanism based on accountability, test construction, quality control and research and development are prepared.

TURKEY



PREPARED BY AHMET SEVGİ

ANKARA

FEBRUARY 1982

turkey

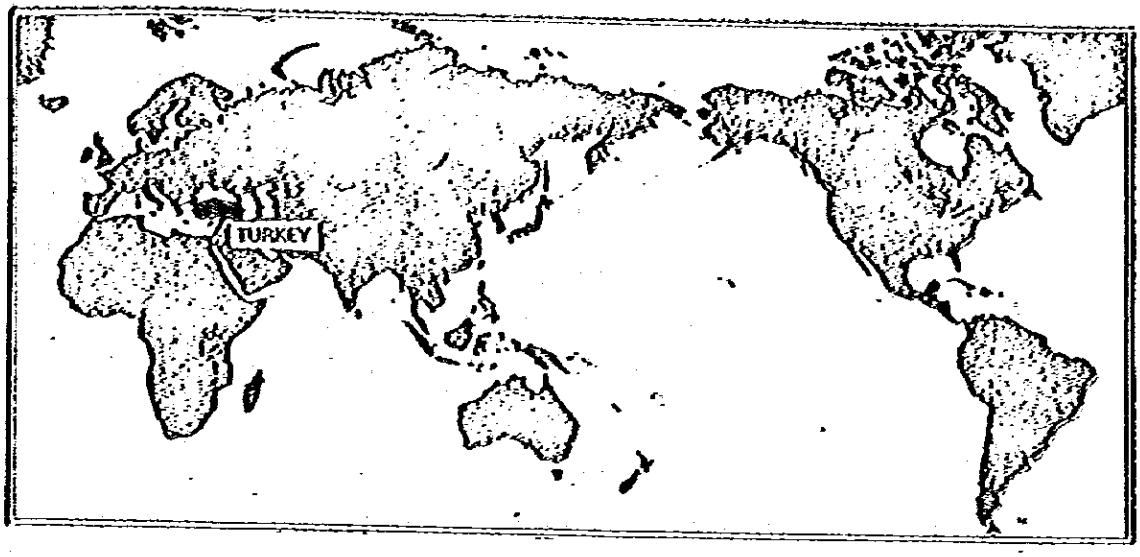
- INTRODUCTION
- DESCRIPTION OF THE SCHOOL SYSTEM
- VOCATIONAL AND TECHNICAL EDUCATION

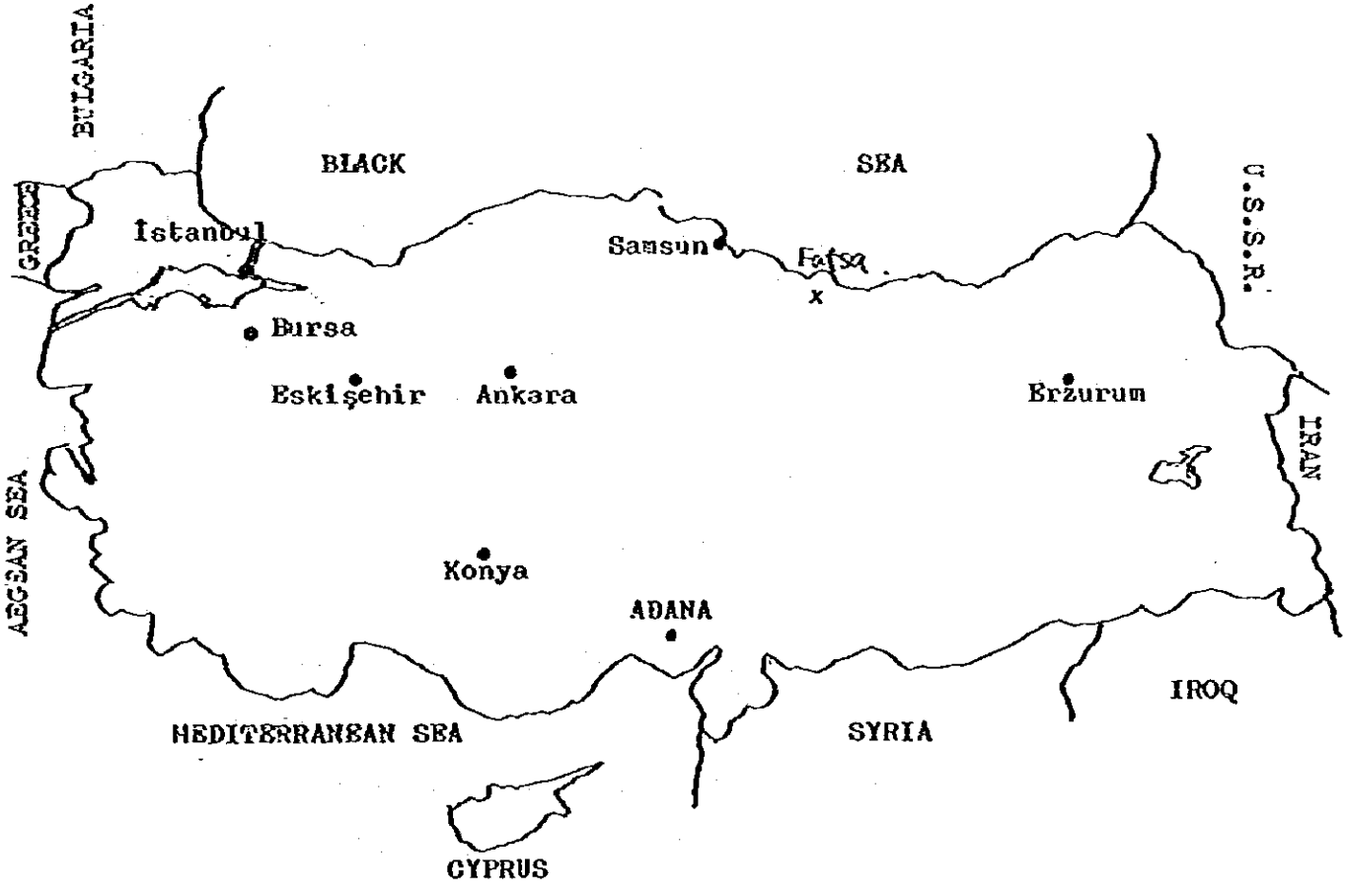
PREPARED BY AHMET SEVGİ
Assistant General Director
of
Vocational and Technical
Education for Men
(Ministry of National Education)

ANKARA

FEBRUARY 1982

TURKEY


TURKEY


BULGARIA
BLACK SEA
GREECE
İstanbul
Samsun
Fatsa
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U.S.S.R.
Bursa
Eskişehir
Ankara
Erzurum
IRAN
AEGEAN SEA
Konya
ADANA
IROQ
MEDITERRANEAN SEA
SYRIA
CYPRUS

TABLE OF CONTENS

INTRODUCTION

Geography

Turkey is one of the countries very influential in affecting the World Balance with its geogrophical location and position, its area (780.000 square Km) its population about 45 million and its fast rate of development. The country has always been important because of its position as a central bridge connecting the two continents of the world, Asia and Europe.

Turkey's borders are very long and bear various characteristics. Her land borders cover 2753 Km. and her sea borders are 5.000 Km. Most of the borders of Turkey have been defined quite recently and in general offer easy access to tourists. However, the eastern and southeastern borders of Anatolia still remain difficult for transportation.

Mountains in Turkey cover a great portion of the land. There are however, a good many plains, plateus, highlands, basins, and penaplains.

Coastal regions in Turkey have varying altitudes all under 500 M. In some sections this altitude covers very narrow area.

Folding mountains of various altitudes, roughly enframe Northern Anatolia along the Black sea coast, and Southern Anatolia in the Mediterranean coast. These ranges extend several parts of Eastern Anatolia as well. The mountains of Northern Anatolia may be considered as lying in successive ranges all along the northern coast. Their appearance is deformed in the west, beginning in the lower section of the Sakarya River. There are a few passages through the Eastern Black Sea mountains and these are at high altitudes.

The Eastern Black Sea mountain range, is a section of the folding mountains that extend all along the black sea coast, They display faulted folded volcanic features.

The Tauros Mountains in South Anatolia longitudonally cover the entire southern part of the country, They bear characteristics of the Southern Alpine System. However the folded Tauros Mountains appear in more than one range. Turkey's major petrolleum sources are in some of these mountains. (In the Southeastern Anatolian region.)

Another group of Mountains extend towards the Marmara and Aegean regions. The major ones are the Türkmen mountains, Uludağ, the Simav etc. They have different formations. Most of them were formed by recently broken very old crystallised schits.

Plains in Turkey have characteristics varying according to their location, their distance to the coasts, size, formation and their altitrude, The most common qualities are, they lie on lower surfaces than their surroundings, they are mostly flat, undulating in some parts where single hills stand. Most are slightly elevated, and videly covered by alluvial deposits.

Turkey's plains may be grouped in two major clases.

1. The lower plains of coastal regions.
2. The highland plains of inner regions

1. The coastral plains are alluvial plains with altitudes ranging from 100 to 150 m. Çarşamba, Bafra, Eşme, Menemen etc. are some of the plains. These plains are mostly covered with alluvions. Sufficiently watered, the climate allows vegetation of various kinds.

2. The inner plains of Turkey bear varying characteristics. Although they are located almost next to the lower plains of the Agean and the southern Marmara they bear completely different characteristics.

There are also flat lands in Turkey. These are flat bottomed basins deeply dissected by rivers or rising plateaus. Their surface is covered with drifted Layers of Lime-stone, sandstone, conglomerate or lava covers. Ergene Basin, Ankara, Beyşehir Lake (at the north of it) Uzun yayla are some of them.

Hilly areas are widely spread Turkey. These areas concentrated mainly in the following regions Southern Thrace and vicinity of the Istrance mountains, both sides of Bosphorus, the Kocaeli peninsula and so on. These hills generally rise to 100-300 m. above sea level and some are even higher.

Most are folded and foulted, deformed, with the layers of lava on the surface worn off the erosed hills of Kocaeli-Çatalca were affected by recent movements. Apart from them, there are higher hills on the mountain ranges of Central-Western Anatolia. These hills cover large areas, the north of the Simav Mountains, north of the Alaçam-Eğrigöz mountains, east of Murat mountain. In Southern Anatolia the parts west of Yavuzeli and Kilis are Volcanic terrain.

Turkey's lakes appear in differing sizes and depths. Numerous lakes of various sizes total up to an area of 9243 Km^2. 50 of these lakes are larger than 10 Km^2. More than 70 lakes are larger than 250 Km^2. Other than the natural ones, new lakes have been added artifically during the last 30-40 years, with the construction of new dams. There are 127 of these dammed lakes. Some of them measure only 5-10 Km^2., but there are also ones like the Hirfanlı Dammed lake which is 320 Km^2. Lake Van, Salt Lake, the Ulubat Lake, Lake Eğridir are some of them Lake Nemrut is the biggest crater Lake in Turkey. Lake Van is Volcanic.

Some of Turkey's rivers have their sources at the peaks of mountains lying parallel to the coast; and with a very short course they reach the sea. They follow their course on narrow deep, steeply sloped vallays, Büyük Menderes, Küçük Menderes, Gediz, Bakırçayı, emptied their waters in the gulfs of the depression ditches. The sea of Marmara is also a depression, sunk in a recent geolocial past. Several rivers flow to the sea of Marmara from the higher places.

Some of Turkey's rivers do not reach the sea. They flow inland. Such regions are called interior drainages.

Climatic Condition

Turkey is under the influence of depressions of distant origin which cause a great number of rain falls. In general, these depressions, passing over Europe, reach Turkey from the North-West. In the western and southern parts of Turkey, they extend from over the Mediterranean sea and when the circumstances are convenient they appear over the country too. Turkey on the other places where the mountains extend, there are many orographic showers as an appendix to these rainfalls. In central Anatolia and Eastern Anatolia, Convective rain showers appear in places surrounded by mountains, All these movements of air, according to place and time, support each other to different degrees.

Since more than half of Turkey is mountains, and high mountains cover a large area there are many snow falls in many parts of the country and the snow cover is considerably thick and lies on the ground within certain period of time. Snow occurs in almost every parts of Turkey.

There are a considerable number of problems concerning drought, which prevails in almost half of Turkey. In order to point out the conception of draught, it is necessary to look for the relation between precipitation and temperature (evaporation occurs in this way) and determine the results of these with a number.

Since Turkey is surrounded on three sides by seas and since the temperature of these seas varies greatly, temperature in Turkey is highly affected. Turkey is between the latitudes 36^{o} and 42^{o} in the Northern Hemisphere so it has the characteristics of a country in the middle of the two zones. Mountains also affect over the temperature.

Geographical features of Turkey have caused several local winds and they blow from various directions. They are at times, hard soft cold, hot or mild. The most popular ones in Turkey are named such as Lodos, Poyraz, Karayel and Yıldız. There are different climate districts of Turkey in various conditions.

I. The climate of the Black sea Region

All seasons are rainy sometimes there is frost, snow and fog over the mountains.

II. The Climate of the Mediterranean Region

High summer conditions dominate. Winter is milder than that in Agean region. There is quite a lot evaporation. Snow and frost is very rare. The sky is clear. Summer drought is quite long.

III. The Climate of the Interior Regions.

Although the precipitation regime resembles that of the Mediterranean climate, most of the rain is in spring, In May it is the most plentiful, summer drought is less than the one in the Mediterranean climate. It snows a lot in winter. It is very cold. There is a continental climate.

IV. The Climate of Eastern Anatolia

It reveals continental climate. Heat changes are enormous.

Economy of Turkey

At present, Turkey may be considered among the developing countries, The new spirit of the republic has achieved considerably steps towards economic development. The development plans are expected to realise the necessity of the capital, technology and the number of personnel, in phases of every 5 years.

During the past 50 years, new views arose on statism, and economic development State Economic Enterprises were established, private sector was granted more freedom, mixed economy was introduced. Besides State Economic Enterprises and private sector; Banks in Turkey, Foreing Economic relations a) Foreign capital b) OECD and Turkey c) The Common Market and Turkey d) Aid Consortium for Turkey and The World Bank are the necessary factors that plays an important part in the Economic Life of Turkey.

Trend Of Industry

Turkey has become a country where is a large number of factories and industrial establishments. Although Turkey has not yet reached the Industrial level of the West, the existance of raw materials (agricultural matellic and pertaining to animals in large quantities, the increase of the number of technical personnel and well qualified workers as well as the increased size of the labour force in the country indicate many future industrial investments and improved industrial conditions.

Today there are many different industrial establishments in Turkey, The industrial activities in Turkey are mainly based on raw materials have also been making considerable progress.

1. The principal industrial branches based on agriculture are foodstuffs, alcoholic bevarages, food preserving, vegetable soaps and fats, animal fats and cheese, sugar factories spirits, tobacco industry, tea industry and for animals.

2. Textile industry, clothing industry, carpet manufacturing and hides.

3. Mining industry, iron-steel industry, the manufacture of motor vehicles. Agricultural machinery and equipment.

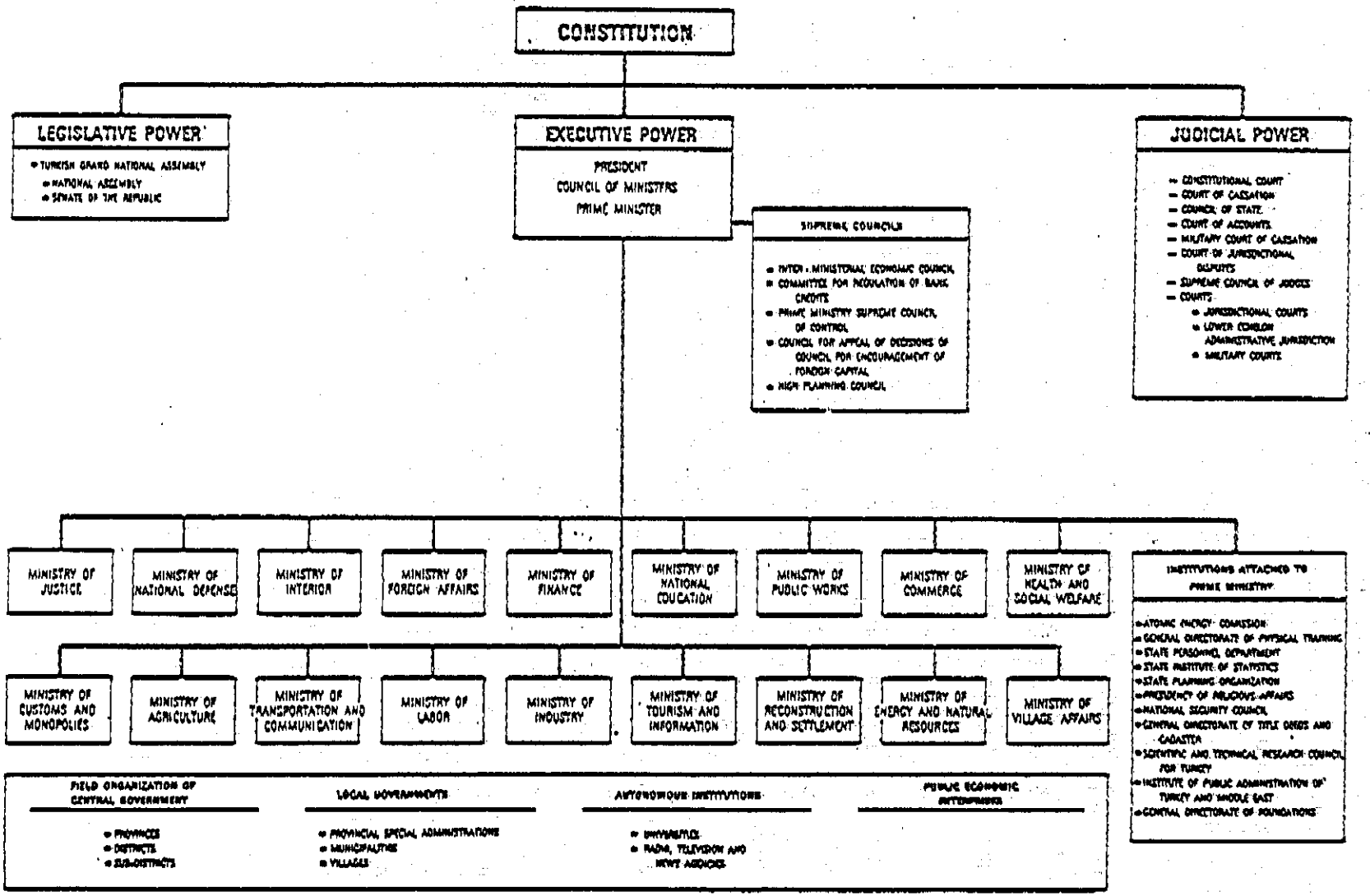
4. Cement Factories, bricks and tiles factories, glass and bottle factories and ceramics factories.

5. Timber Factories, furniture manufacturing, paper factories.

6. Chemical Industry, plastic and rubber industry, petroleum refineries.

To follow the discoveries and innovations of our age and in order to contribute new ideas, it is necessary to do scientific and technological research in industry and also to compete for a long period of time with the Common Market countries.

REPUBLIC OF TURKEY
STATE ORGANIZATION CHART



DESCRIPTION OF THE SCHOOL SYSTEM

Introductory Background

Basic principles of Turkish National Education.

According to the terms of the Constitution of the Republic of Turkey, education under the control and supervision of the State is free. (Item 21)

To meet the educational needs of the people is one of the major responsibilities of the State. Primary education is compulsory for all citizens, male and female, and is free of charge in the State schools. (Item 50)

Universality and equality.

Educational institutions are open to everyone regardless of language, race, sex, and religion. No individual, family, group or class can be favoured.

Individual and social needs.

The national education service is organised in accordance with the interests and abilities of the citizens of Turkey and the needs of Turkish society.

Orientation.

Individuals are directed into various programmes or schools in accordance with their interests, aptitudes and abilities throughout their education.

Right to education.

It is the right of every Turkish citizen to receive a basic education. Citizens can take advantage of post-basic education institutions commensurate to their interests, aptitudes, and abilities.

Equality of opportunity.

All citizens, both male and female, are assured equal educational opportunity. Necessary assistance in the form of free boarding facilities, scholarships, loans, etc., is given to successful students who lack the financial resources to enable them to pursue their education up to the highest level.

Special measures are taken to train those children who are in need of special education and protection.

Continuity.

It is essential that both the general and vocational education of the individual should continue through-out his life.

Atatürk's reforms and Turkish nationalism.

Atatürk's reforms and Turkish nationalism as expressed in the preamble of the Constitution of the Republic of Turkey are taken as a basis in the preparation and application of the curricula connected with all levels and types of the Turkish educational system, and in all sorts of educational activities.

Education for democracy.

Efforts are made in all educational activities to help students develop the necessary awareness of democracy and to acquire information, and understanding about the government of the country, and a sense of responsibility and respect for moral values which are essential for the realization and continuation of a free, strong, and stable democratic social order.

Secularism.

In Turkish education secularism is a fundamental principle. Religious education is given only upon the request of the individual, and for small children upon the request of their legal guardians.(Constitution of the Republic of Turkey,Item 19)

Co-education.

In schools, co-education is a basic principle.

However, dependent upon the type of education, facilities and requirements, some schools can be allocated only to girls or only to boys.

Education everywhere.

The objectives of national education are not only realized in official and private educational institutions, but also at home, in the general environment, in places of work, in fact everywhere and at every opportunity.

Administration

In Turkey the Ministry of National Education, on behalf of the State, is responsible for carrying out, controlling and supervising the whole educational service.

No formal educational institution can be established without the permission of the Ministry of National Education.

The curricula and regulations of secondary education institutions attached to other Ministries are prepared jointly by the relevant Ministry and by the Ministry of National Education and are approved by the latter.

On condition that the comments of the Ministry of National Education have been taken into consideration, the curricula and regulations of the higher schools (with the exception of the War Schools) are prepared by the relevant Ministry and are approved by the Ministry of National Education after review.

Secondary and higher level education institutions attached to other Ministries are subject to the control and supervision of the Ministry of National Education.

The Ministry of National Education is responsible for the organisation of all official procedures related to the education and specialised training abroad of Turkish citizens (with the exception of military students).

The work of the official, private and voluntary organisations operating in the field of general, vocational and technical non-formal education is co-ordinated by the Ministry of National Education.

The buildings and facilities for each level and type of educational institution are designed and built by the Ministry of National Education in accordance with the needs of the local surroundings as well as the special features of the curricula.

Alongside the maximum possible use of the resources of the State for the acquisition of land, the construction and furnishing of school buildings and other facilities, every kind of contribution and assistance from citizens is encouraged and made use of.

The Ministry of National Education is responsible for providing, developing, revising and standardising the educational aids and materials needed by its educational institutions, in accordance with developing educational technology, cirricula and methods, and for determining their period of use, copyright payments, and for fixing the price of textbooks. All these may be supplied free of charge or they may be sold.

Work on making the necessary changes in the structure of both the central and provincial organisation of the Ministry of National Education, so that the new educational system can be applied, is ongoing.

The Minister of National Education, who is a member of the Cabinet, is the head of both the central and provincial organisation of the Ministry of National Education.

There are two undersecretaries in the Ministry of National Education who have the highest authority and responsibility after the Minister and who have the status of civil servants. One of them is responsible for all Ministry affairs excluding technical and vocational education, which is the responsibility of the other. They carry this responsibility on behalf of the Minister and act in accordance with the instructions they receive from him.

There are a number of general directorates and departments in the central body of the Ministry of National Education for the purpose of conducting educational services in a variety of fields.

The two most important departments of the central organisation of the Ministry of National Education are the Board of Education and the Board of Inspection. The first of these can be regarded as the "General Staff" of the Ministry of National Education. It determines the guiding principles

for Turkish national education and undertakes necessary studies for the establishment of an educational order appropriate to the requirements of the country as well as to its development.

The second Board ensures that these principles as laid down by the Board of Education are properly applied.

The Board of Education is the scholarly, consultative and decision making body of the Ministry of National Education. It is responsible for determining the objectives and principles of education, for preparing the curricula for all educational levels, for drawing up rules and regulations, draft laws on education, and for determining the status and equivalences of educational institutions at all levels.

The Supreme Council on National Education discusses the rules and regulations, the curricula, and the principles prepared by the Board of Education and decides upon them. All preparations related to the convening of the Supreme Council are made by the Board of Education. The decisions of the Supreme Council can only be finalised after the approval of the Minister.

The Board of Inspection of the Ministry of National Education is responsible for the inspection and supervision of those institutions that come under the control of the Ministry of National Education, for conducting research, and undertaking

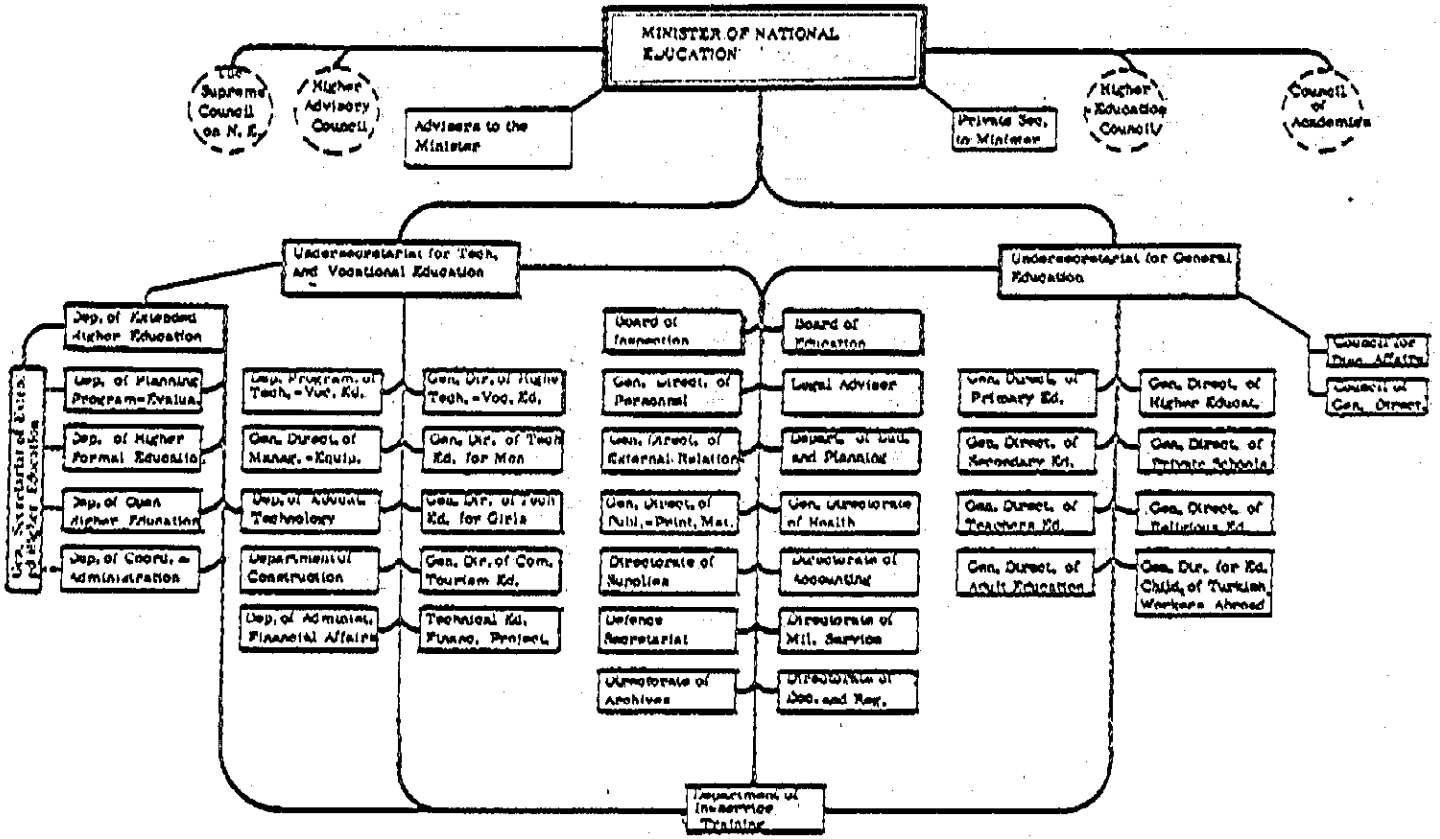
studies that might serve as a basis for any course of action concerning them, but is especially responsible for extending expert help for the professional and intellectual development of administrators, teachers and other civil servants working in these institutions and whenever necessary, undertaking certain kinds of specialised professional investigation. These duties are carried out by the inspectors on behalf of the Minister and they are responsible to him through the Board of Inspection.

Primary school inspectors are attached to the provincial Directorates of National Education. They have the authority and responsibility for the inspection and the supervision of the work and the staff of the pre-school educational institutions, primary schools, adult education institutions, childrens' libraries and of all kinds of privately organised courses and lessons.

The head of the provincial general administration is the governor.

In accordance with the establishment laws of the Ministries there are as many organisations in the provinces as are considered necessary. All these bodies are under the control of the governor. He is the representative of the State and the Government in the province and he represents each Minister individually, being their administrative, and political executive agent.

ORGANIZATION CHART OF THE MINISTRY OF NATIONAL EDUCATION IN TURKEY



Educational affairs in the provinces at the level of basic and secondary education are handled by the Directors of National Education who are appointed by the Ministry of National Education and who work under the direction of the governor.

Pre-Primary Education

Pre-primary education covers the education of children who have not yet reached the age of compulsory primary education. This education is optional.

Kindergarten.

Pre-school educational institutions may be established as independent kindergartens or where necessary, as nursery classes at the first level of basic education institutions or as student practice classes attached to other educational institutions.

Basic Education and Secondary Education

Basic Education.

Basic education generally covers the education of children between 7 and 14 years of age. Basic education schools consist of a 5-year first level and a 3-year second level educational institution.

A primary school diploma is awarded at the end of the first level, and a basic education diploma (middle school diploma) at the end of the second level. The first and second levels of the basic education institutions may be established as separate schools or jointly depending on resources and conditions.

There are a number of basic education schools for those children who need special education.

During basic education, the aim of which is to prepare pupils for life and for a higher level of education, it is essential that each pupil should get one year's education in every class. The pupil will benefit from the curriculum of every class in proportion to his own interests, aptitudes and abilities and will follow the curriculum of a higher class the following year.

Primary School.

The first level of basic education is primary school. It lasts for five years, is compulsory for all boys and girls, and is free of charge in State schools.

Middle School.

The second level of basic education is middle school. It lasts for three years.

The curriculum of the middle school consists of

(1) common subjects giving general culture at the basic level,

(2) optional subjects responding to the needs of the pupils and the characteristics of the region, and

(3) (a) guidance activities,

(b) training activities,

both of which help to determine and develop the interests, aptitudes and abilities of the pupils as well as helping to mould their characters.

Secondary Education.

Secondary education covers all general, vocational and technical education institutions of at least three years' duration, and follows on from basic education.

Every pupil who has completed his basic education is eligible for secondary education and has the right to take advantage of the possibilities of secondary education in proportion to his interests, aptitudes and abilities.

Secondary education consists of lycées following various curricula.

Schools giving weight to a certain programme are given names indicating their areas of training such as lycées, technical lycées and agricultural vocational lycées, etc.

In areas where the population is sparse and scattered, comprehensive lycées following the curricula of

general, vocational and technical secondary education can be established under one administration if it is found necessary by the Ministry of National Education.

The programmes followed in secondary education fall into the following three main groups:

1. Programmes preparing the pupils for higher education.
2. Programmes preparing the pupils both for a profession and for higher education.
3. Programmes preparing the pupils for life or for different occupations.

In order to direct pupils into these programmes, the first year of the general, technical and vocational lycées is organised as a general orientation class. In the orientation class, apart from the compulsory common subjects providing general culture, there are a number of optional subjects leading the pupils to different programmes in the following years in line with their interests, aptitudes and abilities.

Programmes preparing the pupils for higher education. These programmes are followed in the general lycées.

In the second grade of lycée there are two kinds of programmes preparing the students for higher education (a) literature, (b) science.

In the last (third) grade of the lycée there are four kinds of programmes: for those coming from the literature section (1) language and literature, and (2) social sciences and economics; and for those coming from the science section, (3) mathematics and physics, and (4) natural sciences.

These four programmes lead pupils into four main branches in higher education:

(1) Language and literature -
Faculties of Language and Literature, other related academies and higher educational institutions.

(2) Social Sciences and Economics -
Faculties of Law, Economics, Political Science, and Faculties or Academies of Economics and Commercial Sciences, and other related academies and higher educational institutions.

(3) Mathematics and Physics -
Faculties devoted to Applied Sciences, Faculties of Pure Science, and other related academies and higher educational institutions.

(4) Natural Sciences -
Faculties based on Physics, Chemistry and Biology courses, and other related academies and higher educational institutions.

In the various programmes preparing the pupils for higher education there exist,

(a) common compulsory subjects,

(b) special subjects peculiar to the programme, and

(c) optional subjects.

The duration of the programme preparing pupils for higher education is, at the moment, two years above the orientation class.

Programmes preparing pupils both for a profession and for higher education.

The programmes preparing pupils both for a profession and for higher education last for three years above the orientation class. These programmes are followed in schools such as technical lycées, theological lycées, etc.

Programmes preparing pupils for life or for different occupations.

These programmes are followed only in the vocational and technical education institutions. Programmes preparing pupils for life or for different occupations last for two years above the orientation class. Lycées such as agricultural vocational lycées and Industrial vocational lycées belong to this group.

Education in the Fine Arts.

Separate schools at basic education and secondary education levels may be opened, or other measures taken to train from an early age those children with special talents and aptitudes for the Fine Arts.

Admission to Higher Education.

Those students who complete those secondary education programmes preparing them for higher education or both a profession and for higher education are entitled to present themselves as candidates for entrance into universities, academies, and schools of higher learning in line with their previous training.

At the moment, in order to be able to enter a particular higher educational institution, a pupil must gain the minumum score required for admission to that institution in the "Inter-Universities Selection Examination".

Teacher Training

The teaching profession, carrying as it does the responsibilities of the State for education and the administrative duties related to it, is a highly specialised profession. Preparation for the teaching profession is effected through the acquisition of general culture, special subject training and pedagogy.

It is essential that candidates for the teaching profession, regardless of the level at which they teach, should receive a higher education in order to obtain the above pre-requisites. This education is organised at under-graduate, graduate and post-graduate levels in such a way as to allow for horizontal and vertical mobility.

Authority to open teacher training colleges.

All teacher training institutions, with the exception of universities and academies offering teacher training programmes, are opened and administered by the Ministry of National Education.

Qualifications of teachers and selection procedures,

The qualifications, in terms of general culture, special subject training and pedagogy, expected of candidates for the teaching profession are determined by the Ministry of National Education.

Teachers are selected by the Ministry of National Education from amongst the graduates of teacher training institutions, academies, relevant faculties, and educational institutions abroad whose equivalences have been recognised and accepted by the Ministry of National Education.

In cases where teachers who have not received the necessary pedagogical training during their higher education are assigned to teach subjects for which there is an urgent demand, the Ministry of National Education takes the necessary measures to train them during their probationary period.

The subject areas and levels of education required of any candidate, to whatever level and type of educational institution, to whichever inspection and administrative duties he is to be assigned, are stipulated in regulations.

Experts and craftsmen as instructors.

Experts and craftsmen can be employed temporarily as instructors in formal and non-formal educational institutions and in in-service training seminars, courses and conferences.

Regulations stipulate, relative to the type and level of education, the qualifications, responsibilities and duties of such experts and craftsmen as are selected to be instructors.

In-service training of teachers.

Summer schools and evening classes are held to provide further training for teachers, and courses and seminars are organised for their in-service training.

Summer schools and evening classes are organised by the teacher training institutions. Teachers who attend these schools and gain sufficient credits are given the certificate or diploma of that institution.

Certificates are also given to teachers who are successful in the courses and seminars held by the Ministry of National Education.

How and to what extent these certificates are taken into consideration in the appointment, promotion and transfer of teachers is specified by regulation.

Educational opportunities in the country and abroad.

Teachers who wish to further their education or to increase their knowledge and experience in their special subject in the country or abroad are granted leave of absence, with or without pay, under certain conditions. These conditions will be specified in a regulation to be prepared, taking into consideration the needs of the national educational system.

The institutions which train teachers, apart from the academies and universities, are as follows:

Two year Teacher Training Institute.

These institutions train classroom teachers for the first level of basic education, i.e. primary school.

Those graduates of the secondary education institutions (lycées) who gain the minimum score required for acceptance to these institutions in the "Inter-Universities Selection Examination" can attend these schools.

Three year Teacher Training Institute.

These institutions train teachers for the second level of basic education, i.e. the middle school.

Those graduates of the secondary education institutions (lycées) who gain the minimum score required for acceptance to these institutions in the "Inter-Universities Selection Examination" can attend these schools.

Higher Teacher Training School.

The programmes in these institutions last for four years. They train teachers for the secondary education institutions, i.e. lycées. Those graduates of the secondary education institutions (lycées) who gain the minimum score required for acceptance to the relevant university faculties in the "Inter-Universities Selection Examination" can attend these schools. The students of these schools take their special subject courses in the relevant university faculty, and their pedagogy courses in the higher teacher training schools.

Higher Technical Teacher Training School.

Higher Technical Teacher Training School for Girls.

Higher Teacher Training School for Commerce and Tourism.

Higher Teacher Training School for Industrial Arts.

Student Transfer

Student transfer is always possible between the basic education schools.

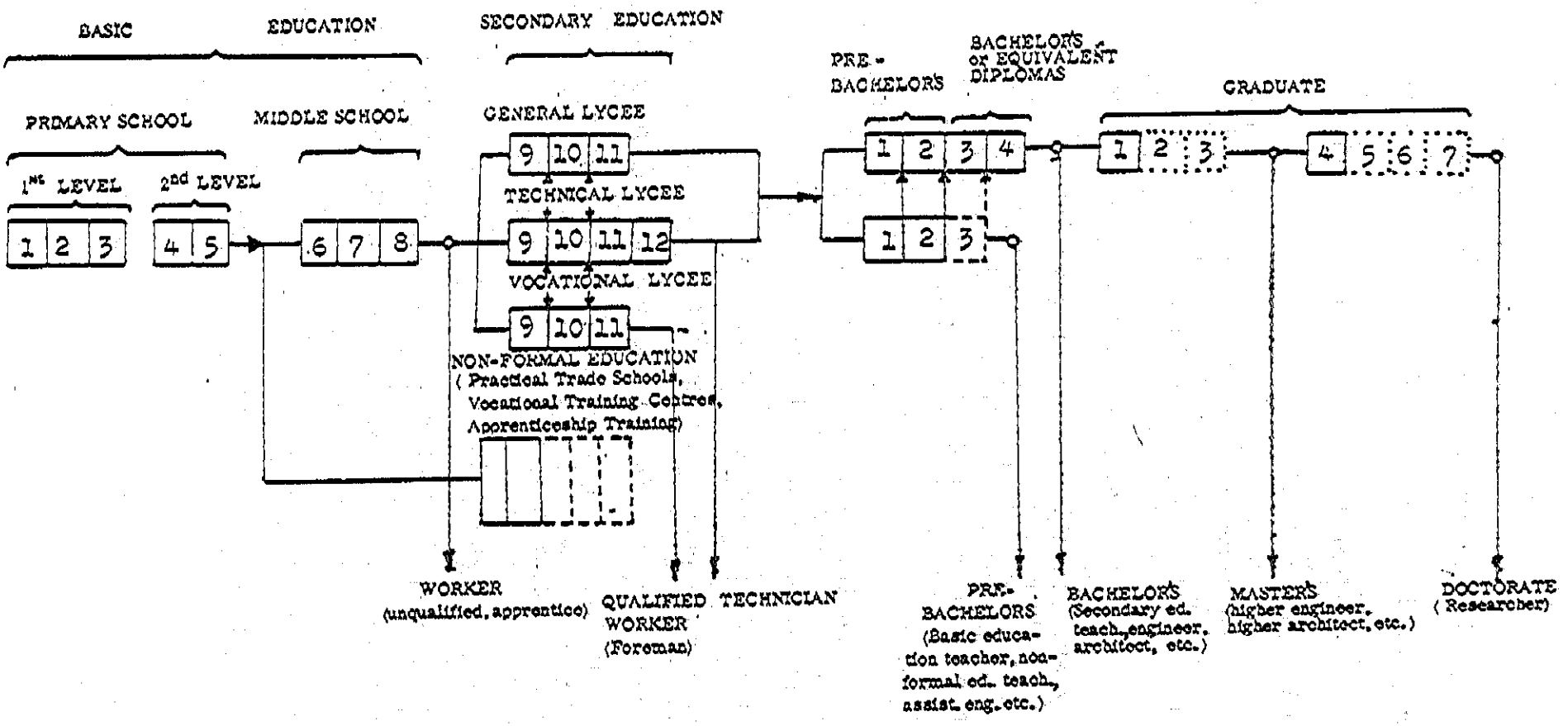
In secondary education, student transfer is possible between the same types of lycées.

In secondary education, both horizontal and vertical mobility are possible between the various programmes preparing pupils for higher education. The additional courses in which a student has to be successful for this purpose are clearly indicated.

In the same way as it is possible to transfer from programmes preparing for higher education to programmes preparing for life or different occupations, it is also possible to transfer from programmes preparing for life or different occupations, to programmes preparing for higher education, by passing examinations in the additional subjects. It is also possible to take graduation examinations externally.

In higher education both horizontal and vertical mobility between different levels and institutions are possible for those students who show the necessary ability.

STRUCTURE OF THE TURKISH EDUCATIONAL SYSTEM



VOCATIONAL AND TECHNICAL EDUCATION

Almost all the vocational and technical schools are operated by the government and some 85 % of them directly attached to the Ministry of National Education. The others are operated and maintained by various other ministries, by official organisations. These schools exist in a number of fields, industry and small industries, home economics and women's vocations, commerce, fine arts, health and social welfare, agriculture and various specialised vocations.

The educational institutions furnishing vocational and technical training at the secondary schools are clasified as follows:

- Practical Trade Schools, (non-formal)
- Vocational High Schools, 309
- Technical High Schools. 67

Each one of the above schools aim different levels of vocational and technical education and training.

Practical Trade Schools

These schools are designed to train youth and adults who have completed primary education or who were not able to continue their secondary education whatever the cause may be in a new trade closely geared to the production work or to train them further in the trade they are in the presently earning

their living to improve and upgrade their skill and develope their ability or to train youth and adults who wish to change their trade because of their healths or rapidly developing technologicial economical and social requirements.

Training is provided during the day or evening through different program units with various durations and levels in modular system.

Objectives of theese schools are ;

- To train youth and adults in a limited division of a certain trade, in order to make them capable to perform the required operations and jobs with sufficient and rapid efficiency,
- To furnish the future skilled workers with good working habits and attitudes,
- To provide youth and adults rapid occupational competence in order to obtain employement suitable to their age and capacity and thus train them as useful and respectful citizens whose services and works are very much needed,
- To assist in meeting operator, semi - skilled and skilled worker type of personnel needs of small and larger industry and in quickening the rate of industrialization of the country,
- To further develope occupational and social

upgrading and assist adapting manpower to economical and industrial needs and processess.

Practical trade schools are organized to start training by October 1969. Two types of practical trade schools are designed ;

- Independent Practical Trade Schools,
- Integrated Practical Trade Schools (within the structural organization of the already existing vocational high schools and technical high schools)

Independent trade schools are going to start operation in the towns where there is a need for such a school, but around the location there is no other vocational and technical schools already operating.

Integrated practical trade schools will be operating in industrial areas and towns within the facilities of already existing technical and vocational high schools. These practical trade schools will be running during the day and evening according to the needs of the community, enrollment requirement and also according to the availability of workshops, the teaching staff of the technical and vocational high schools.

Duration of training programs in these schools varies according to the particular trade. Each program unit continues 1200 hours for major industrial trades. Training is provided 40 hours each week, 32 hours of practical workshop training and 8 hours of related and social sciences. Some program units may last shorter than 1200 hours. To be a skilled worker or operator in some mechanical or electrical trades, modular system is applied. For example, training for a skilled milling machine operator requires to take up three program units; fitter program unit, beginners milling machine program unit and advanced milling machine program unit courses. Each previous course is designed to be pre-requisite for the following course. In between each unit trainee may take up an employement and come back later to take up the following course or may continue the courses without interruption. Some examples of training program units are: fitter, lathe operator, milling machine operator, electric and oxigen welding, auto electricity, outside and inside electrical installation, furniture making, upholstery, polishing and painting, masonry, plastering, sheet-metal work, engine recondiotioning, car maintenance and repair etc.. According to the needs and requirements of the industry and community. School administrations are encouraged to start any course with suitable duration if there are sufficient number of applicants for that particular course.

Although the name of practical trade school is given to these schools, more suitable name with their proper functioning could be "VOCATIONAL AND TECHNICAL TRAINING CENTERS". Actually by the school year of 1969 all of the existing technical and vocational high schools and adult training centers are operating under the name of industry practical trade schools.

Vocational High Schools

These are second cycle schools of secondary education with a specific goal of training young people for a vocation. In this perspective they are very much distinct from the general secondary schools.

In these schools students receive all round trade training supported with some degree of general and technical education. Entrance age is 15 and educational requirements for enrollment is graduation from the first cycle of secondary education schools. The duration is three years. In vocational high schools, there are about 50 branches, such as fitting turning and milling machine operation, cold and hot iron work, foundry and pattern practice, electrical trades, electronical trades, and the number of courses varies according to the needs of locality, such as metalurgy, millery, textile. According trade a part of the time is spent on the workshops in learning a larger trade field such as machinist, electirician etc. and

other part is spent in classroom on related science and general education subjects. The aim of these schools are to train versatile tradesman and future skilled workers, master skilled workers formen, monitor etc... for the industry. These schools have long standing with more than 100 years of history and they are fundamental blocks of Turkish vocational and technical education system.

Technical High Schools

These schools are designed to train technicians to work in occupations requiering a knowledge of technology and related sciences between that of a skilled worker and that of an engineer or technologist. These type of schools started training for the first time in Turkish educational system by 1969 school year. In technical high schools there are branches of machine, electric, electronic, chemistry building construction, computer manupulating, educational equipment.

The aim of these schools are to train technicians to;

- Take over many of technical duties of professional engineers,
- Take over and cope with technical duties which have arisen because of technological development and economical progress of the country,

- Fill in the wide gap of the technical skills and knowledge between the skilled craftsmen and engineer,
- Provide assistance for professional engineers and scientists,
- Open the doors of higher technical education institutions and science schools of the universities to capable vocational and technical high school graduates.

These schools last four years and entrance are completion of first cycle of secondary education. Most interesting and educational point about these schools is which that first year students of 279 vocational high school are also considered common first year students of the technical high schools. The selected students who score certain level of standard in the common core year in science courses are accepted to the second year of technical high schools. Thus, it is so organised that every student in the vocational high schools all over Turkey is given opportunity to continue his education and develop his potentialities to the full through these technical high schools. The selected students are granted government scholarships during their education in technical high school.

The level of general, mathematics and science training is equal or even higher than traditional high schools. At the same time all round technical vocational and practical training is provided to be a professional and proficient technician.

Technical and vocational high schools are free schools and all expenses are met from the national butget some of these schools have accommodation for students who live rural areas and the board and lodging is free.

By the school year 1982, there are 279 vocational high school and 64 technical high schools with 130 000 student.

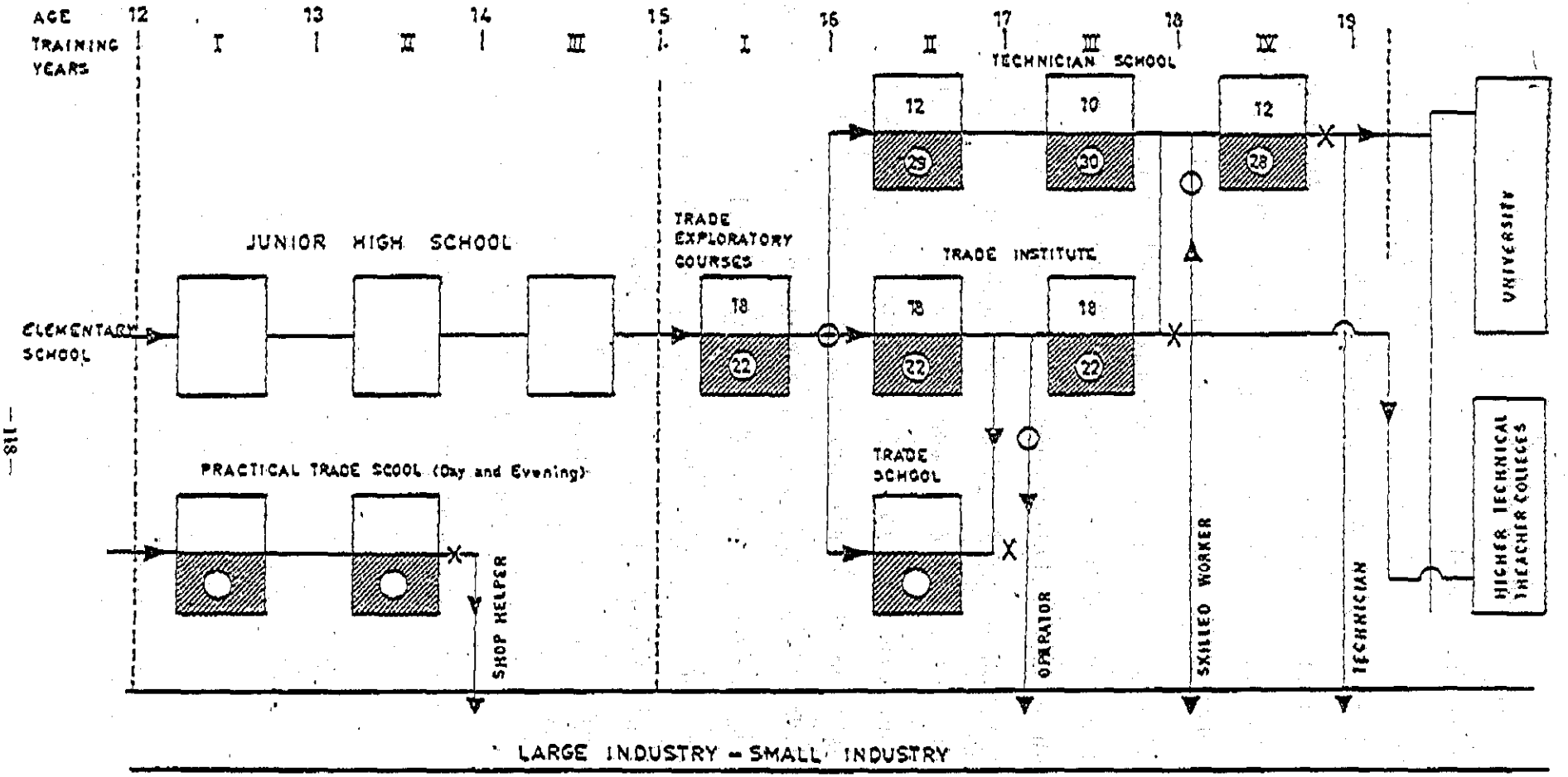
Higher Education

Higher education is provided in universities and a variety of higher schools and colleges. There are also teacher training colleges and educational institues for the training of general and vocational teachers. The minumum requirements for entry to these schools, colleges and universities are successful completion of the final examination at a technical and vocational high schools or ordinary high schools and the passing of an appropriate entrance examination.

The teaching staff requirements of industry practical trade schools, vocational and technical high schools are met by the graduate of Higher Trade Teacher Training Institute and Higher Technical Teacher Training Colleges. Duration of these schools are 2 - 4 years. Entrance is possible by a technical and vocational high schools through an examination.

Among the most important elements which determine the success of technical education program and probably most critical one is the instructor. A good technical teacher should posses adequate knowledge and experience in the field he teaches and related fields. In these schools schools training combines technical subject matters the basic principles of education and techniques of teaching. Technical Teacher Training College is really a technical variant of teacher colleges for the teacher of the general subjects and a history of 40 years. Trade Teacher Training Institutes is established in 1975 school year in Ankara and İzmir.

ORGANIZATION OF MIDDLE LEVEL, MEN'S VOCATIONAL AND TECHNICAL TRAINING SCHOOLS.



Legend :

- ⊕ Guidance
- ⊙ Entrance Examination
- ✕ Graduate Examination
- ▲ Special Admission Requirements
- □ Shop and Shop Related Technology Courses
- ▨ General and Related Tecnical Courses