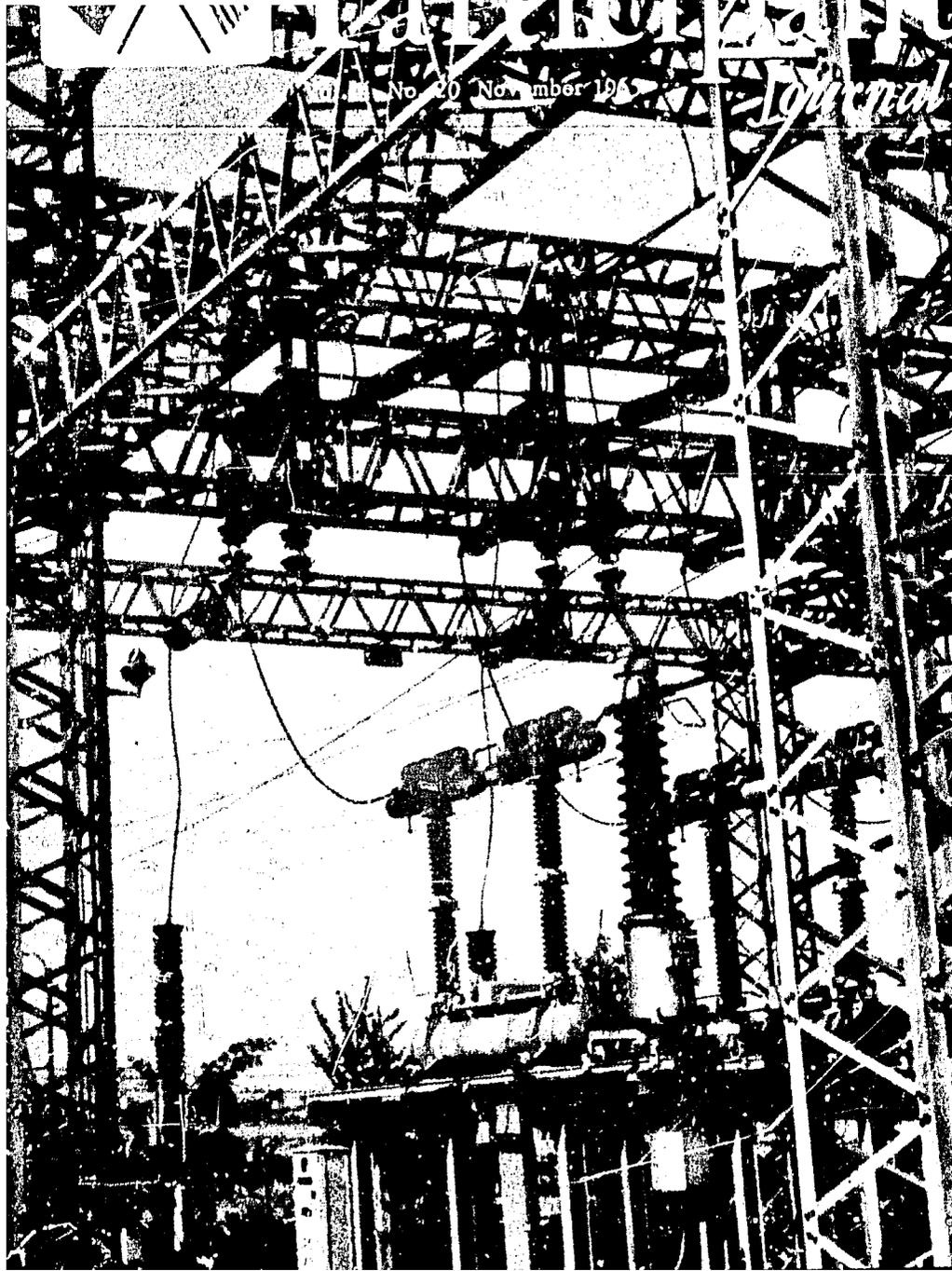
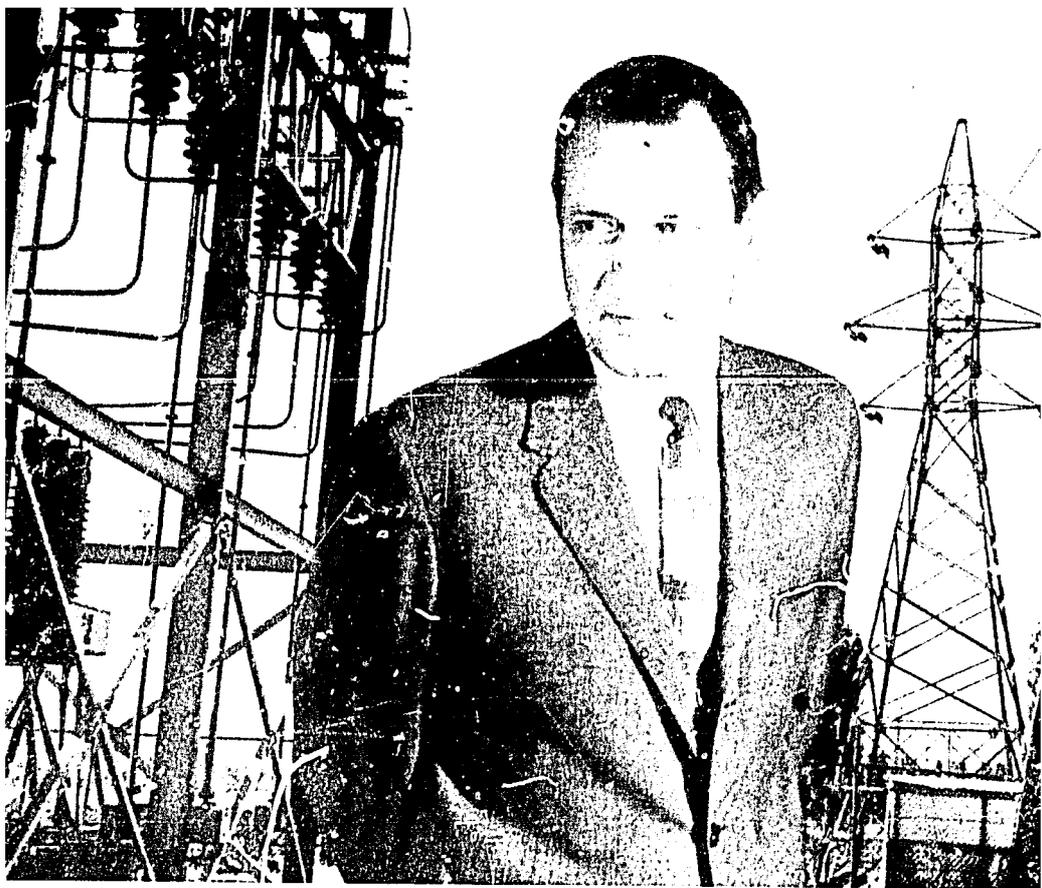


# INTERNATIONAL Journal

No. 20 November 1964





## THE IMPORTANCE OF ENERGY

*By James P. Grant  
Director, U.S. A.I.D./Turkey*

**I**n the United States, the per capita investment for energy is \$1,060; in Great Britain, \$755; in France, \$575; in Western Germany, \$423; and in Italy, \$360. This investment in energy has been a large factor in the development of the great industrial complexes that exist today

in these Western countries.

Turkey has attached considerable importance to development planning, as evidenced by its First Five Year Plan for economic development, and is now engaged in preparing its Second Five Year Plan, in which energy planning is an



*James P. Grant (left) with Ibrahim Deriner, Undersecretary of the Ministry of Energy and Natural Resources.*

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to achieve the enormous investment and technical training necessary to realize these planned electrification projects. But it is essentially the Turkish effort that will be bringing the needed energy to industry, agriculture, mining, and to the people in the towns and in the villages. Many new hydroelectric and thermoelectric power stations will have to be built. *They are now being built.* Hundreds of new technicians will have to be trained. *They are now being trained.* Many new industries which can only operate with increased power are now being planned and will come into being once the needed energy is available.

Increased energy availability in a country increases self-sufficiency by fueling new industry to produce more goods and to provide more jobs.

On the following pages of the *Participant Journal* is some evidence of the giant strides which Turkey is making today toward the goal of enough energy for tomorrow.

integral and vital part. Fortunately, Turkey has the natural resource potential to meet this giant challenge. It is estimated that with the existing plants and those now under construction, Turkey will in 1970 have more hydroelectric and thermoelectric power available than the peak demand foreseen for that time.

The United States and Turkey's other friends are helping financially and technically

# *The Importance of Trained Manpower in Energy*

*By Ibrahim Deriner  
Undersecretary, Ministry of Energy  
and Natural Resources*



*Participant Ibrahim Deriner*

The above and below ground resources of a developing country play a major role in the economic development undertaken in that country – and in the improvement of the welfare and living standards of its people. And if there is also a high population increase in that developing country, a more speedy development of these resources then becomes of vital importance.

Only through well planned and organized exploitation can

these natural resources be successfully developed and, importantly, it is through such improvements that Turkey's balance of payments gap can be lessened.

All these facts, briefly mentioned above, have been reflected in the development efforts which have been undertaken in Turkey in the last few years. Especially in the fields of land use, water, minerals and electrical energy the programs of development have been fast and satisfactory. An examination of the First Five Year Development Plan, 1963-1967, and of the projections for 1963-1977 gives clear indication of the great importance Turkey attaches to the development of its natural resources.

To attain the planned and hoped for development goals it is essential to consider several factors and, based on the results of these considerations, to prepare a realistic program of action.

To succeed in such a complex procedure, and to make the projected programs work in step with other essential elements in the development, one of the most important needs is a smooth-running management or-

ganization. Only through such organization can the available financing and personnel be used in an effective and harmonious fashion.

As early as 1930 several organizations were set up and designated to study and research the benefits and advantages which could be obtained from Turkey's natural resources and later, to put such studies into planning. During the last few years these organizations have speedily developed management capabilities which are now successfully carrying out the heavy burdens placed on their shoulders. Both the central and regional branches of these organizations have in recent years increased both in number and in effectiveness.

The assistance received from U.S. A.I.D. has been a major factor in our efforts to make these organizations still more effective. In reality, the adaptation of modern technology to Turkey in research, planning, construction and operation of the activities of these organizations has been achieved thus:

1. A great number of specialized engineers and technicians from other countries have been brought to Turkey to train

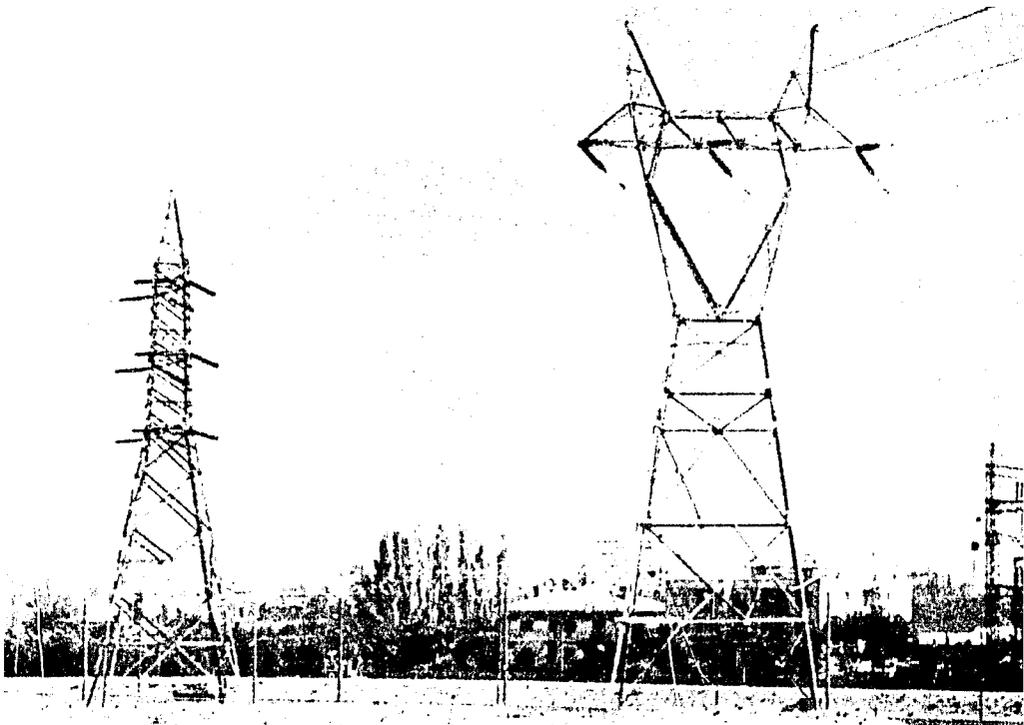
Turkish personnel on the spot – to teach them modern working methods and especially to teach them “technical teamwork.”

2. Another great help in training the vitally needed technical personnel is, undoubtedly, the U.S. A.I.D. technical training program which has systematically been in effect and increasing since 1950. In this training program Turkish technicians in many fields have received intensive training and education in the United States. Of these Turkish participants trained in the United States, about 400 (excluding the Min-

istry's agricultural field) are today in top technical and key administrative positions of the organizations linked to the Ministry of Energy and Natural Resources.

Through this increased effectiveness of qualified personnel whose abilities and skills are at par with those similar in modern countries, Turkey has now entered into a position where she can make a greater and expanded use of her natural resources.

The realization that planning was an absolute must for the development of Turkey's

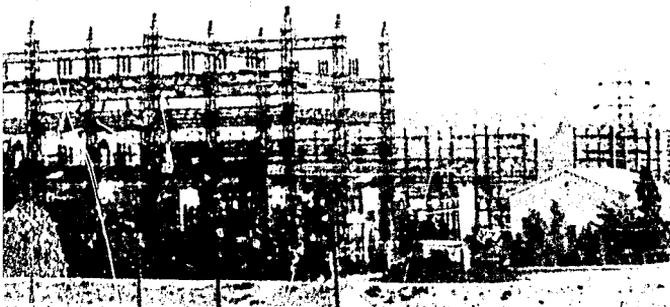


natural resources led Turkey to recently create a new Ministry of Energy and Natural Resources. This Ministry now controls such modern and developed organizations as DSI (State Hydraulic Works), EIE (Electrical Resources Survey and Planning Administration), Etibank, TKI (Turkish Coal Operations), TPAO (Turkish Petroleum Corporation), PO (Petroleum Office), AEK (Atomic Energy Commission), and MTA (Mining Study and Research Institute). Today it has the authority and the responsibility for the planning, construction

and operation of projects which exploit the natural resources of Turkey.

This new Ministry, which is still in the process of organization, will use its authority and exercise its responsibilities, to the best of its ability to continue the development of Turkey's natural resources in an orderly fashion.

There is no doubt that the technical aid received from U.S. A.I.D. has been and will be invaluable to the Ministry in carrying out the duties assigned to it and will contribute to its effectiveness immeasurably.



**MORE**  
*power will bring*

**MORE**  
*industry to*

**MORE**  
*people.*

# ENERJİDEKİ TEKNİK İŞ GÜCÜNÜN ÖNEMİ

*İbrahim Deriner*

*Enerji ve Tabii Kaynaklar Bakanlığı Müsteşarı*

Yerüstü ve yeraltı servetleri; gelişmekte olan bir memleketin ekonomik inkişafında, halkının refah seviyesinin yükseltilmesinde mühim bir mevkiî vardır.

Bu gibi memleketlerde ayrıca süratli bir nüfus artışı da varsa tabii kaynakların daha hızlı geliştirilmesi hayati bir önem taşımaktadır.

Tabii Kaynakların başarılı bir şekilde geliştirilmesi bunların planlı bir şekilde istismal edilmesini icabettirir. Planlı istismar; Gerek ziraat ve gerekse endüstri sahasında istihsalın, miktar olarak arttırılmasını ve çeşitlendirilmesini mümkün kılmaktadır. Bu husus ise dış tediye muvazenesinin düzeltilmesine yardımcı olmaktadır.

Yukarıda kısaca temas edilen vakıaların hepsi Türkiyenin son yıllardaki kalkınma gayretlerinde akislerini bulmuştur. Bilhassa Toprak, Su, maden ve Enerji alanlarında sür'atli gelişmeler olmuştur. Birinci Beş Yıllık Kalkınma Planı (1963-1967) ve bunun projeksiyonlarının (1963-1977) incelenmesi Türkiyenin Tabii Kaynaklarını geliştirmeye verdiği önemi açık olarak göstermektedir.

Düşünülen gelişme hedeflerinin tutulabilmesi pek çok faktörün birarada ve dikkatli bir şekilde incelenmesini ve buna istinaden realist icra programlarının tertip ve tatbikini gerektirmektedir.

Böylesine komplike bir ameliyenin başarılı bir şekilde yürütülmesi ise diğer unsurlarla birlikte ve belki de bunların en başında müessir bir icracı teşkilatın mevcudiyetini icabettirmekte, bu suretle, sağlanan finansman ve mevcut personel imkanlarının yerinde ve ahenkli olarak kullanılması mümkün olmaktadır.

Türkiyenin tabii kaynaklarını etüd etme, bunlardan yapılacak faydalanmayı planlama, tanzim edilen planları tatbik etmekle görevli çeşitli kuruluşları 1930 yıllarından beri faaliyettedir.

Bu teşkilat son senelerde ifa etmekle mükellef oldukları ağır görevleri layık veçhile yerine getirmek için sür'atli bir gelişme göstermişlerdir. Bu teşkilatın Türkiye ölçüsünde vazife gören merkez ve taşra

kuruluşlarında gerek sayı ve gerekse evsaf olarak geniş ölçüde inkişaf olmuştur. Bu geniş ihtisaslaşma ve taazzuv etme faaliyeti halen de devam etmektedir.

Teşkilatın daha da müessir hale getirilmesi için sarfedilen gayretler de AID tarafından yapılmış ve yapılmakta olan yardımlar önemli bir mevki işgal etmektedir. Filhakika kaynakların etüd, planlama, inşa ve işletmesi gibi çeşitli faaliyetlerde modern teknolojinin Türkiye şartlarına adaptasyonu muhtelif şekillerde olmuştur: 1) Çeşitli ihtisas branşlarındaki yabancı uzmanlar Türkiyede; eleman yetiştirmek, modern çalışma usulleri ve bilhassa teknik "takım halinde" çalışmaların nası yürütülmesi gerektiğini göstermişlerdir.

2) Teknik eleman yetiştirilmesi konusunda AID'ce yapılan yardımların diğer bir şekli hiç şüphesiz ki 1950 senesinden beri sistematik bir şekilde devam eden ve gelişen teknik yardım programıdır.

Bu programlarda; Türkiyenin bu konular'a ilgili uzman ve san'at sınıfı elemanları muhtelif sürelerle Amerikadaki kuruluşlarda eğitim ve öğrenime tabi tutulmuşlardır. Vüs'ati ve evsafı devam'lı olarak gelişen bu programlara tabii kaynakların (ziraat hariç olmak üzere) geliştirilmesi ile ilgili olarak katılan elemanlardan 400 kadarı halen Enerji ve Tabii Kaynaklar Bakanlığına bağlı kuruluşlarda, teknik ve idari mevkilerin üst kademelerinde vazife görmektedirler.

Eleman imkanlarının artması ve bunların kalitesinin muasır ileri memleketlerdeki seviyeye yükselmesi, bugün Türkiyeyi kaynaklarını çok daha şümüllü ve güvenilir bir şekilde kullanabilecek duruma ulaştırmıştır.

Diğer taraftan kaynakların geliştirilmesindeki topyekun planlama zaruretinin idrak edilmesi Türkiyeyi bir Enerji ve Tabii Kaynaklar Bakanlığı kurmağa sevk etmiştir. DSİ, ELE, ETİBANK, TKİ, TPAO, PO, AEK, MTA gibi gelişmiş ve modern kuruluşları bünyesinde toplıyan bu Bakanlık, Türkiyedeki Enerji ve Tabii Kaynaklar gelişmesinin etüd, plan, proje, inşa ve işletme selahiyet ve mes'uliyetini elinde toplamıştır.

Halen kuruluşu devam etmekte olan bu bakanlık mes'uliyet ve selahiyetlerini en uygun şekilde değerlendirecek ve Tabii Kaynaklar gelişmesini rasyonel esaslara göre devam ettirecektir.

Bu görevin ifasında AID'ce yapılacak teknik yardımların büyük bir ferahlık temin edeceği ve istenilen müessiriyeti sağlayacağı şüphesizdir.

# Participants in Power Engineering

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Cevdet Uğur  
A. Galip Mutdoğan  
Hikmet Kargı  
Kutlu Büyükdoluca  
Kurtcebe Sirmen  
Turgut Özal  
Halim Doğrusöz  
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Saffet Erdem	Elec. Eng., Dir. of Market Survey Division of EIE
Melih Çetin	Elec. Engineer, Geologist of EIE
Süheyl Elbir	Civil Engineer
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Adnan Dinçel	Electrical Engineer, Chief Engineer of Project Division of EIE
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Selami Üner	Mechanical Engineer
İhsan Tuncay	Elec. Eng., Electrical Section Dir.
Demir Mehmet Aykor	Elec. Eng., Section Chief
Hayrettin Özbek	Chief Electrical Engineer
Beyhan Gazneli	Electrical Technician

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Nuran Akın  
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Bekir Apaydın  
Firuzan Ardiç  
Muzaffer Balcı  
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İsmail Başkaya  
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Mehmet Gölhan  
Yılmaz Güngör

Selahattin Kılıç  
Muzaffer Kıyıköğlü  
Güney Özcebe  
Fahir Sabunış  
Saim Soydam

Yaşar Turgay

Necdet Akıncıtürk

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Nazmi Karatekin  
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Selami Özenç  
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Nurhan Yazıcı  
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Ahmet Kuru  
Şemsettin Okutan  
Şevki Kaptanoğlu  
Hasan Tuncay  
Mustafa Özerman  
Sacit Ünal  
Faruk Koloğlu  
Mustafa Özkök

Assistant General Director  
Assistant General Director  
Assistant General Director  
General Secretary  
Chief, Design and Construction  
Chief, Construction Division  
Chief, Dams Division  
Chief, Generator Division  
Dir., Hydrology Technical Board  
Director, Planning Technical Board  
Chief, Village Drinking Water Dept.  
Dir., Rehabilitation Technical Board  
Director, Drilling Section  
Director, Study Technical Board  
Director, Repairs and Maintenance  
Technical Board  
Dir., Smallwater Projects Technical  
Board  
Dir., Operation and Maintenance  
Chief, Irrigation Installations Oper.  
Director, Drinking Water Section  
Director, Budget and Cost Technical  
Board  
Chief, Survey and Planning  
Director of Equipment Section  
Director, Canals Technical Board  
Director, Supply Technical Board  
Director, Investigation and Planning  
Technical Board  
Director, Construction Technical  
Board  
Dir., Project Committee Dams and  
Hydraulic Stations  
Director, Groundwater Department  
Chief, Maintenance and Repairing  
Div. Chief, Study and Planning Div.  
Head, Board of Advisors  
Chief, Heavy Equipment Division  
Chairman, Board of Engineers  
Dir., Supply and Technical Board  
Director, Training Department  
Personnel Dir. of Executive Branch  
Director, Çubuk Dam  
Director, Machine Training Center  
Chief, Warehouse Control  
Purchasing Director  
Chief, Design Section  
Chief, Equipment Department  
Director, Water Supply Department  
Director, Groundwater Planning  
Chief, Geophysicist  
Chief, Education Division

Kazım Sapmaz

Ahmet Varisligil

Müfit İsmail Kulen

Şeref Özgül

Örhan Songuç

Cudi Cemil Eke

Muammer Yaralı

Osman Faruk Çamlı

Mustafa Aslantürk

Selahattin Çapçı

Selçuk Özenci

Sıddık Sütçüoğlu

Cevdet Yıldırım

Avni Karsu

Kemalettin Güneş

Erdal Özbilen

Halis Batur Ardıç

Timur Kılıççöte

Basri Sürercan

Akdoğan Mat

Timuçin Tümer

Güven Türkman

Orhan Ağaoğlu

Ömer Beyazıt

Abdullah Demir

Sezer Özil

Enver Törelı

Ahmet Ünver

Ethem Sağ

Ertuğrul Amasyalı

Kadir Tunca

Mahmut Dinçer

Recep Üstüner

Bahri Kılıç

Orhan Ural

Süha Aksoy

Ahmet Turhan

Kaya Sezen

Muammer Özkaner

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Attila Yalçın

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Technical Group

Director, Soil Conservation Technical Board

Assistant Director, Design and Construction

Asst. Dir., Soil and Drainage Board

Asst. Chief, Supply and Maintenance

Assistant Director, Construction

Assistant to Chief Engineer

Chief, Supply Accountant

Training Officer

Deputy Executive Chief

Assistant Section Director

General Services Officer

Chief, Files and Archives

Technical Advisor

Technical Advisor

Technical Advisor

Instructor, Gasoline and Diesel Engines

Instructor, Electricity (Machines Training Center)

Teacher, Diesel Motors (Machines Training Center)

Assistant Section Director

Chief Technician, Design and Construction

Chief Technician, Oper. and Maintenance

Chief Engineer, Maintenance Div.

Chief Engineer, Soil Mechanic Lab.

Chief Engineer, Design and Constr.

Technical Chief and Geologist

Chief Technician, Planning Division

Chief Engineer, Planning Division

Chief Engineer, Dams and Hydraulic Stations Division

Chief Technician, Project and Construction Group

Chief Technician, Project and Construction Group

Eng., Machine and Training Center

Specialist Eng., Technical Planning

Deputy Chief, Operations

Chief Technician, Dams

Civil Engineer, Planning Board

Chief Technician, Rehabilitation

Chief Agricultural Economics Eng.,

Study Planning

Civil Engineer

Geologist

Chief Engineer

Ahmet Semim Kızılkaya  
Fahrettin Özen

Legal Advisor  
Legal Advisor

## CHIEF ENGINEERS AND TECHNICIANS — REGIONAL AND ANKARA

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## D.S.I. REGIONAL, ASSISTANT REGIONAL AND PROVINCE DIRECTORS

### Regional Directors

Muammer Aksoy, Abdurrahim Erdem, Mustafa Kasnakođlu, Recai Mehmet Kutun, Mehmet Sumra, Hasan Uđurlu, Mehmet Ergöktaş, Cevdet Uđur, Fethi Beyhars, Osman Melikođlu, Yüksel İşleyen, Şaban Canakın.

### Assistant Regional Directors

Erdođan Bilal, Selahattin Saygı, İsfendiyar Tuncer, Ertuđrul Çelimgirtürk, Ertuđrul Tunalı (Deputy), Vedat Talu.

### Province Directors

Numan Ataman, İsmet Çamlıbel (Asst.), Süleyman Çopur (Asst.), Erdoğan Uđur (Asst.), Adnan İbrahim Sancar.

## D.S.I. PARTICIPANTS PRESENTLY IN THE UNITED STATES

Akdođan Sıtkı, Mustafa Altınkaynak, İbrahim Batukan, Şakir Bekem, İhsan Ceyhun, Osman Çamlı, Mustafa Demir, Güneş Egel, Nejat Erdemgil, Talha Ermiş, Mehmet Ali Güleç, Ergun Halim Ökmen, Murat Serdarođlu, Nevzat Sinanođlu, Nihat Mehmet Şenalp, İbrahim Taşkın, İsmail Tepençelik, Hilmi Yağcıođlu, Atalay Yıldız, Fikret Çelenligil, Samim Özbek.

## ETİBANK

### Electrical Engineers

Cemal Kulaahl (Chief Engineer), Ramazan Dođramacı, Cihat Mehmet Erez, Mustafa Kemal Özyiđit, Abdurrahman Őerbetçi, Gültekin Türkođlu.

### Training Chief

Burhan Cahit Demiral

### Chief Electrical Technicians

Bedri Mece, Fikret Öncel

### Electrical Technicians

Ali İhsan Kalım, Ahmet Kethüda, Ahmet Kızıltuđ, Ahmet Mercan, Mustafa Ongün, Mahmut Bahçe, Sami BaŐtuđ, Faruk ÇalıŐır, Zeki Çaldemir, Yılmaz Çetinalp, Melih İzzet Erkal, Necmettin Ercimek, Mevlut Usta, Orhan Yetkin, Nafiz Yücel, Ođuz Bayar, Emel Baykal.

## NUCLEAR TRAINING CENTER AND RESEARCH LABORATORY ÇEKMECE, ISTANBUL

Sait Akpınar

Galip Baran

Kaya İmre

Selahattin Göksel

Talat M. Erben

Envare Ünseren

Ayhan Çilesiz

Ercüment Özizmir

Ayhan Pekün

Recep Sevdik

Director

Atomic Energy Specialist

Atomic Energy Specialist

Chief, Health and Physics Branch

Chief, Chemical Branch

Atomic Energy Technician

Atomic Energy Technician

Atomic Energy Technician

Atomic Energy Technician

Atomic Energy Technician

## IETT (ISTANBUL ELECTRICITY, TELEPHONES AND TUNNEL - LINKED TO ISTANBUL MUNICIPALITY

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Sait Yaltrak

Sadık Erengil

Mehmet Kömürçüođlu

Elec. Eng., Dir. Electricity Dept.

Chief Electrical Engineer, IETT

IETT Electrical Network Engineer

IETT Silahtar Plant Electrical

Power Plant Director

IETT Deputy Section Chief

IETT Deputy Section Chief

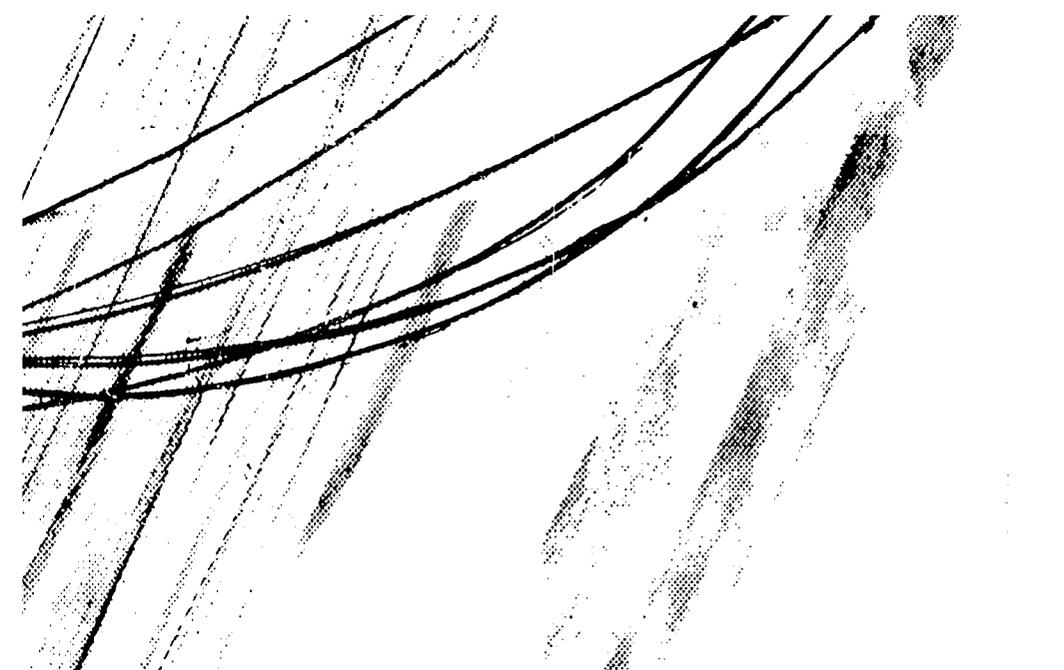


# KEBAN

*Keban is not a dream.  
It is the will, the need,  
the urge of the people.*

When a developing country starts thinking big, and its friends and allies agree that this country is thinking big—and rightly so—then that country has begun to prove its success in development. In Turkey the Ereğli Iron and Steel Plant was the first big example of thinking big. Now Ereğli is no longer a dream, nor a project, it is a reality.

Keban Dam is the second example. On July 1 of this year when American Ambassador Raymond A. Hare and U.S. A.I.D.



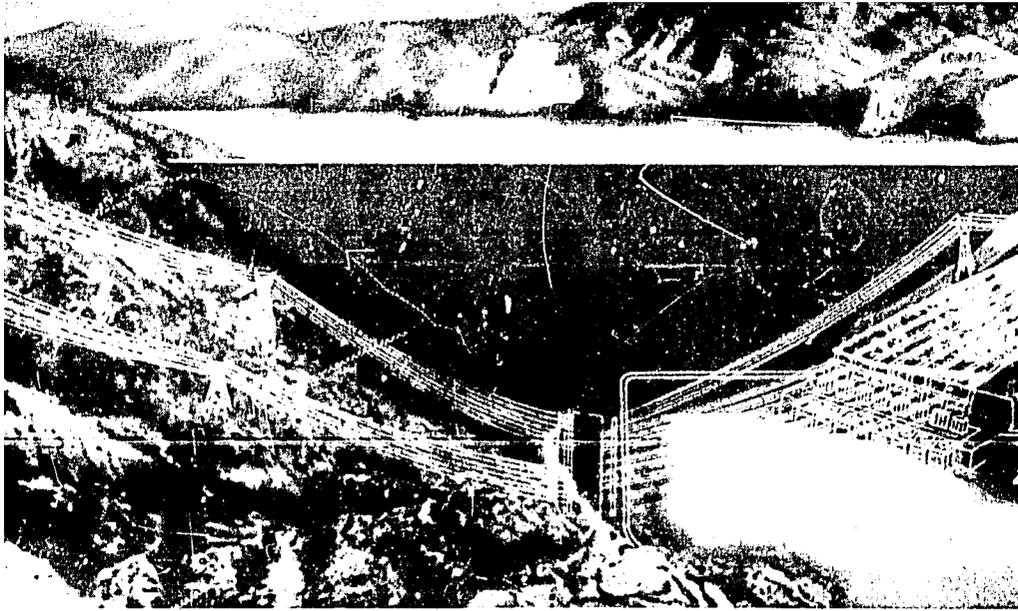
## **POWER FOR 30,000,000 PEOPLE**

Director James P. Grant informed Turkey's Prime Minister Suat Hayri Ürgüplü of their government's intention to provide a \$40 million loan to meet a major share of Keban's construction costs, Keban also became a reality.

Keban is not a dream. Nor is it the wish of any special political party in Turkey. Keban is the will, the need and the urge of the people. By helping the Turks make Keban a reality, the United States and the other allies of Turkey who have contributed to the project have

helped every single man, woman and child of developing Turkey.

Keban will bring a vast change to Turkey. Its impact will affect major areas in Turkish life. Since Keban will bring more power for industries, there will be more products available to the consumer at a lower cost. There will also be more jobs. The Turkish farmer will be aided by the availability of low-cost fertilizer for his land. All in all, Keban Dam will be a stimulus for development—both economic and personal in Turkey.



*In 1970 developing Turkey will need*

## **WHAT KEBAN CAN DO FOR TURKEY'S**

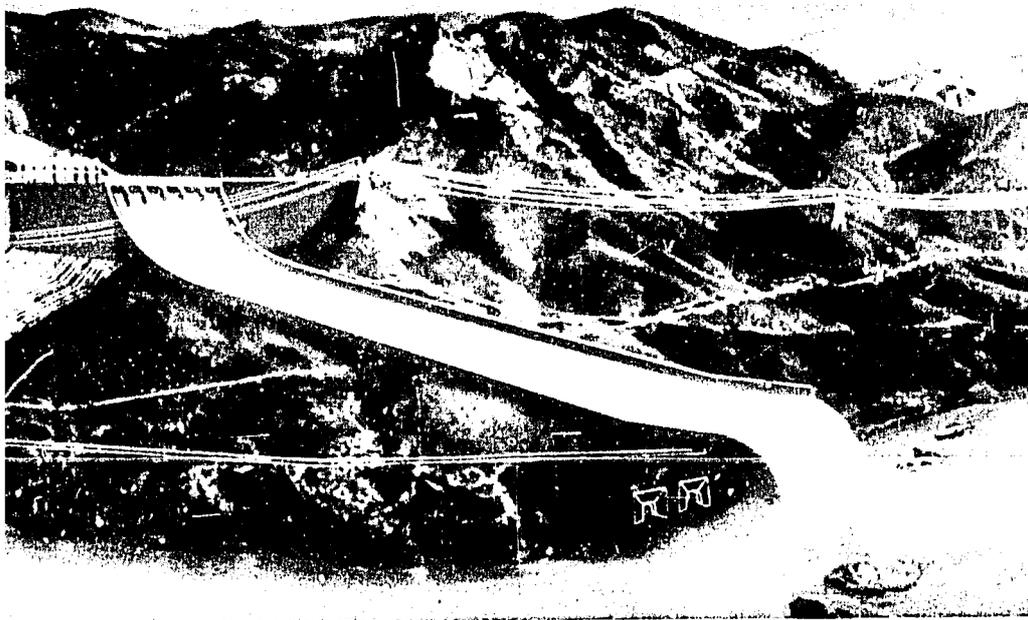
Fundamentally, Keban was proposed as a necessary response to the needs of a constantly growing industrial sector. It should be viewed, however, also as a stimulus to economic development.

In the first instance, the provision of an ample and dependable supply of electricity will have a direct impact on the level of industrial production and productivity.

In the past, power failures, and especially slippages of voltage below acceptable toler-

ances, have often stopped production and have caused delays and considerable losses to manufacturing plants. To safeguard against the extra costs of power shortages, industries have had to maintain expensive "stand-by" generating units to protect themselves against power failures.

Firm and reliable power from Keban will help increase Turkey's attractiveness to private investors interested in industrial ventures. Investment in alternate generating facilities



*more than double the electric power available today. Keban will furnish this power.*

## **INDUSTRY AND AGRICULTURE**

might also satisfy this requirement, but from an economic viewpoint what distinguishes Keban is the low price at which it will produce energy and deliver it to major load centers.

The effect of this low-cost energy in stimulating industrial expansion will vary widely according to the type of industry. Many industries such as textiles and food processing will be affected only marginally. Energy costs are usually under 5 per cent of their total costs. Other industries such as cement and

tire manufacturers will be assisted significantly by the availability of a large block of inexpensive energy, but investors are likely to give only secondary weight to this factor.

There are industries, however, where the availability of substantial loads of low-cost power is one of the controlling factors in determining the scale and technology of new facilities, as well as whether to make the investment at all. This is particularly true in the field of electrical metallurgical opera-

tions where the cost of electricity can constitute 20 per cent or more of the value added at a stage of processing. Six prospective industrial projects are especially identified by specialists where the cost of electric power will significantly influence the feasibility of the enterprise. They are:

1. Maden area – iron and steel operation (electric reduction)
2. Gulenian area – ferro-chromium plant

3. Ergani area – electrolytic copper refinery
4. Maden area – superphosphate plant
5. Seydişehir area – alumina and aluminum reduction plant
6. Black Sea area – copper smelter/refinery

Industries, such as the above, will play a key role in Turkey's future development. They cannot even be considered unless adequate, reliable, low-

*Thousands of workers will meet the power demand of millions.*



cost electricity is available. These projects are consistent with Turkey's intention to further its industrialization by exploiting more fully its primary resources and encouraging the development of related industries.

In the past few years, assisted by United States technical and capital assistance, an extensive program of mineral exploration has revealed that Turkey is endowed with deposits of various minerals of sufficient size and quality to justify commercial exploitation. Wherever feasible, the Government of Turkey plans to process these resources into materials that can be directly used in the fabrication of final goods, rather than exporting them to be refined by and for the benefit of more developed economies.

For example, before the Ereğli Iron and Steel Works began operating, Turkey had exported both iron ore and bituminous coal, while it imported its finished steel. In this process, Turkey has in past years paid the more highly developed steel-producing countries considerable profits for a product that Turkey now produces herself. Another striking

example is the process of reducing alumina to aluminum ingots where the value of the material is increased by almost 400 per cent.

These finished metals will be needed to meet the increasing domestic demands for materials used in the manufacture of the variety of industrial and consumer goods required by a constantly developing economy. In addition, increased production of these metals will contribute to the goal of quickened relief from Turkey's balance of payments difficulties. When Turkey adds industrial manufactured products to agricultural products in her exports, then she will have reached the final stage of development for which she has planned and toiled.

The level of Turkish imports as well as of exports will be closely related to the expansion of the industries which have the greatest relative need for power at reasonable rates. A specific example of a project that will be influenced by the cost of power with significant import substitution implications — which can prove of extraordinary importance to Turkey's overall agriculture — is the superphosphate plant mentioned

above as one of the illustrative six examples. The agriculturalists of Turkey, both in government and in the field, have today recognized that agricultural productivity can be accelerated by a major increase in the application of fertilizer—but at present, increased consumption implies substantial increase in imports.

Undoubtedly, the benefits of cheap power from Keban will also be passed on to the consumer. Keban will directly enhance the standard of living for

Turkish citizens who will have electricity for radios, lights and appliances at more reasonable rates than currently applied.

Keban will have a large effect on Eastern Turkey. By all indices, this region—territorially about one third of Turkey—lags seriously behind the more advanced industrial and agricultural regions in Western Turkey.

The very size of the investment insures an appreciable direct impact upon the level of economic activity in the im-

*Millions of tons of now wasted water energy will bring millions of kilowatts of electricity.*





*The beginning – men and machines at work at Keban.*

mediate region. Various associated capital investments will have to be made—including roads, airports and cement factories, as well as housing, schools and hospitals for the many thousands of technicians who will be involved in the project before it is completed. The market for consumer goods will also be greatly stimulated by this influx of people.

Electricity will be available to regions that previously had none. In addition to directly benefiting the people in Eastern cities, the availability of cheap power in this region may attract industry which would otherwise tend to concentrate in Istanbul. Turkey's mineral wealth is located primarily in the East and, as noted earlier, the cheap power from Keban is likely to enhance the feasibility of processing these minerals within Turkey. It will eventually prove wiser to undertake these metallurgical operations near the mine site rather than pay the transport costs for the raw material to processing facilities in cities in Western Turkey.

Today a total of 24 million hectares of land are being cultivated in Turkey. Much of this land is not very productive and

the farmers in these regions have a very low living standard.

The use of fertilizer in Turkey is very low compared with other parts of the world. While the use is low, the need for fertilizer is great. Most of the crops now cultivated in Turkey can be considerably increased if and when fertilizer is applied.

Since 1962 there have been some subsidies to the buyers of fertilizer in Turkey; however, the cost to the farmer, particularly of nitrogenous fertilizers, is still too high. It is rule of thumb that a farmer should be able to buy one kilo of fertilizer with less than one kilo of wheat. An example of the price of a certain grade of hard wheat as established by the Toprak Mahsulleri Ofisi (Soil Products Office) is 70 kuruş per kilo. Superphosphate is from 42 to 45 kuruş per kilo, and ammonium sulphate is 63 kuruş per kilo, which doesn't include the cost of transportation to the farmer. The small volume of production of fertilizer in Turkey and the fact that the price is based on imports are the major reasons for these high costs.

Suitable implements for farmer distribution in the field

are not extensively used by Turkish farmers. Consequently, most of the fertilizer used is spread by hand. This results in a considerable waste, making fertilizer even more expensive for the small farmer.

If and when Keban makes

the superphosphate plant at Maden a reality, the farmers of Turkey will have access to the fertilizer they need, and every kilogram produced in this factory will constitute import substitution, lower cost of crops and more farm products.

## **THE PAST — THE PRESENT — THE FUTURE**

When the Republic of Turkey was established in 1923, the use of electric power in Turkey was minimal. Although the city of Istanbul had enjoyed electric service since 1913, in 1923 the total installed generating capacity in Turkey was only 33,000 kilowatts.

The new Republic, through granting franchises to foreign organizations, tried to satisfy the rising needs for power in the country. But the rising demand, especially by new industries, was never met. Turks were hungry for electric power.

By 1945, at the close of World War II, the total installed capacity was 246,000 kilowatts, much of it in isolated units. Since 1945 Turkey has been engaged in a program of expansion and improvement of facilities for production, transmission and distribution of electric

power. By 1962, the generating capacity of all plants had increased to 1,330,000 kilowatts, of which 95 per cent was owned and operated by agencies of the national government and municipalities.

With the electric power industry under government control, the number of agencies involved proliferated over the years, until the organization grew unwieldy. No one ministry was responsible for electric power. Since the 1964 reorganization of the institutions concerned with power development, the newly-organized Ministry of Energy and Natural Resources controls the Electrical Survey and Development Administration (EIE), Etibank and its subsidiaries and the State Hydraulic Works (DSI).

Forecasts of load growth in Turkey establish the need for additional generating capacity

beyond the plants now under construction, such as Gökçekaya, Anbarlı (Istanbul) and Sarıyar. Keban and the associated transmission system is the answer.

The Keban project has been one of the most important projects in the development plan of Turkey. The fact that the allies and friends of Turkey have decided to help in the financing of this project—the most important characteristic of which is not its vastness, but that it is in the public domain—should be regarded as a universal acceptance that Turkey has proven it has become an equal partner with the free nations who have adopted the philosophy of self-help as the only acceptable philosophy and way of life.

A Capital Assistance Committee was set up among the countries which decided to finance Turkey in the Keban Project. These are the United States, Germany, France and Italy.

In 1970 when the first planned stage of Keban—four 155,000 kilowatt (kw) generating units—is completed, an additional 5.4 billion kilowatt hours (kwhr) will be provided. This should relieve the immense

burden which would otherwise greatly hinder Turkey's industrial and agricultural development. This large quantity of power, added to the 3,946,600,000 kwhr expected to have already been provided by completed projects and projects now under construction, will come very close to meeting Turkey's peak demand.

Keban and the other systems linked to the Northwest, West and East Anatolia Systems will help to meet the energy demands of developing Turkey.

Energy from Keban will be carried by a 380 kilovolt (kv) transmission line to connect with the primary 380 kv system at Ankara, 603 kilometers away. This energy will ultimately be transmitted to the main load center at Istanbul 967 kilometers from Keban, where about 50 per cent of Turkey's industry is concentrated.

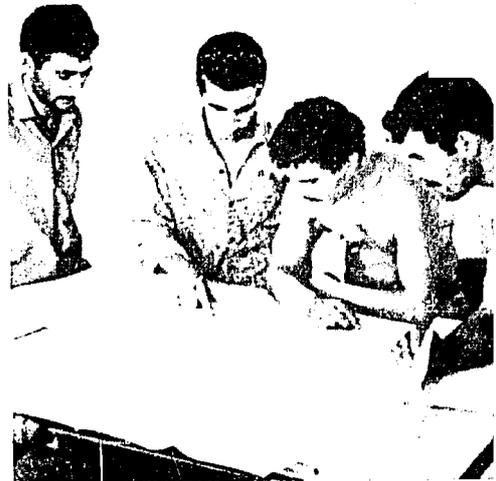
Even by world standards the Keban project is immense. The dam which will be one of the major dams in the world, will be rolled rock fill construction, the first major dam of this type in Turkey. The height of its crest above the river bottom will be 155 meters almost a third higher than any existing dam in



*Men from all parts of Turkey have come to Keban to work...*

Turkey. Its length will be over one kilometer. Eventually, it will have seven 155,000 kilowatt generating units with the possibility of adding an eighth unit. Immediate plans call only for the installation of four generating units with a 620,000 kw total.

Turkey has already moved rapidly to set the Keban project in motion. The basic engineering studies have been completed; a road from Elaziğ to the site has been completed and opened to traffic. Many other phases of preliminary work have also been



*...under the guidance and control of Turkish engineers trained in Turkey and the United States.*

set in motion. Construction of the diversion tunnels, the first actual stage in the construction of the dam itself, has begun this summer.

Several agencies are responsible in the building of the Keban Dam. Below is a table of the responsible agencies and the work assigned to them:

<u>Portion of Keban Project</u>	<u>Responsible Agency</u>	<u>Cooperating or Interested Agency</u>
1. Final Designs of Dam and Power Plant	E.I.E.	D.S.I.
2. Design of Transmission Lines	E.I.E.	Etibank
3. Employment of Consulting Engineering Firm	D.S.I.	Ministry of Finance
4. Construction of diversion tunnels	D.S.I.	Ministry of Finance
5. Mapping reservoir area	D.S.I.	General Directorate of Maps
6. Survey of land to be expropriated	D.S.I.	General Directorate of Land & Settlement
7. Main dam construction	D.S.I.	Ministry of Finance
8. Construction of Hazar power plants	Etibank	Ministry of Finance
9. Hazar-Keban transmission lines for power during construction	Etibank	Ministry of Finance & D.S.I.

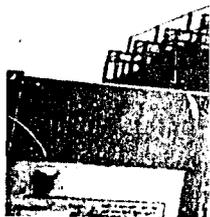
10. Keban - Ankara transmission line	Etibank	E.I.E. & D.S.I.
11. South - East Anatolia transmission line	Etibank	E.I.E.
12. Elazığ - Keban Access Road construction	State Highways Department	D.S.I.
13. Construction of Kuluskur Bridge	State Highways Department	Ministry of Railroads, Construction Department
14. Relocation of roads to be inundated	State Highways Department	D.S.I. & E.I.E.
15. Relocation of railroads to be inundated	State Highways Department	Ministry of Finance, D.S.I. Karabük Iron & Steel Works
16. Removal of Elazığ Sugar Factory from reservoir site	Sugar Factories	D.S.I. Highways Department, Railway Department
17. Material flow to main construction	State Planning Organization	D.S.I., E.I.E., Etibank, Highways, Railways
18. Removal of inhabited places which will be inundated	Ministry of Reconstruction	Ministry of Rural Affairs, D.S.I.
19. Removal of telephone & telegraph lines which will be inundated	P.T.T. General Directorate	D.S.I. & E.I.E.

What all this will mean to Turkey is sufficient reason why the Turkish Nation decided to build the Keban Dam and why

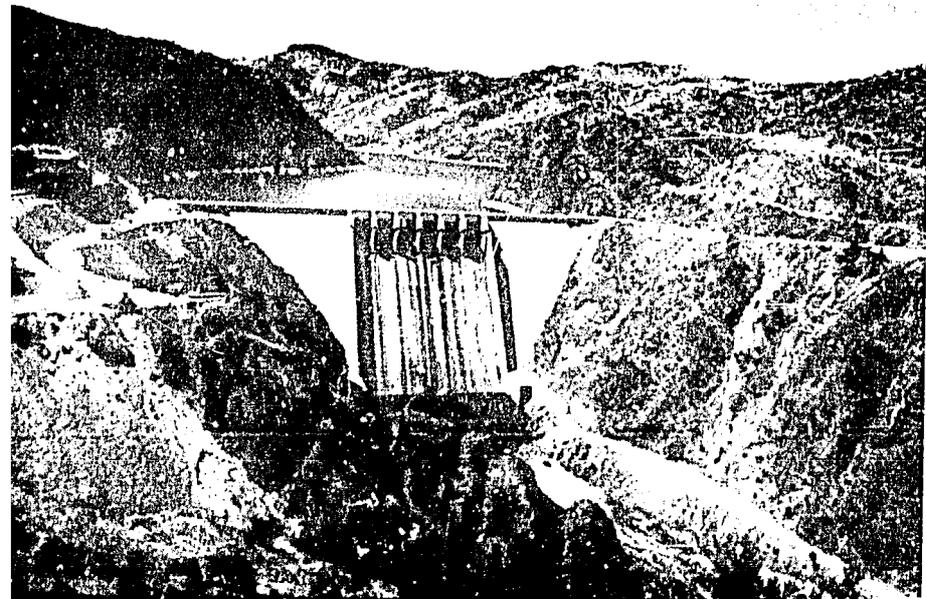
its allies and friends have decided to assist in this greatest venture of development yet to be undertaken in Turkey.

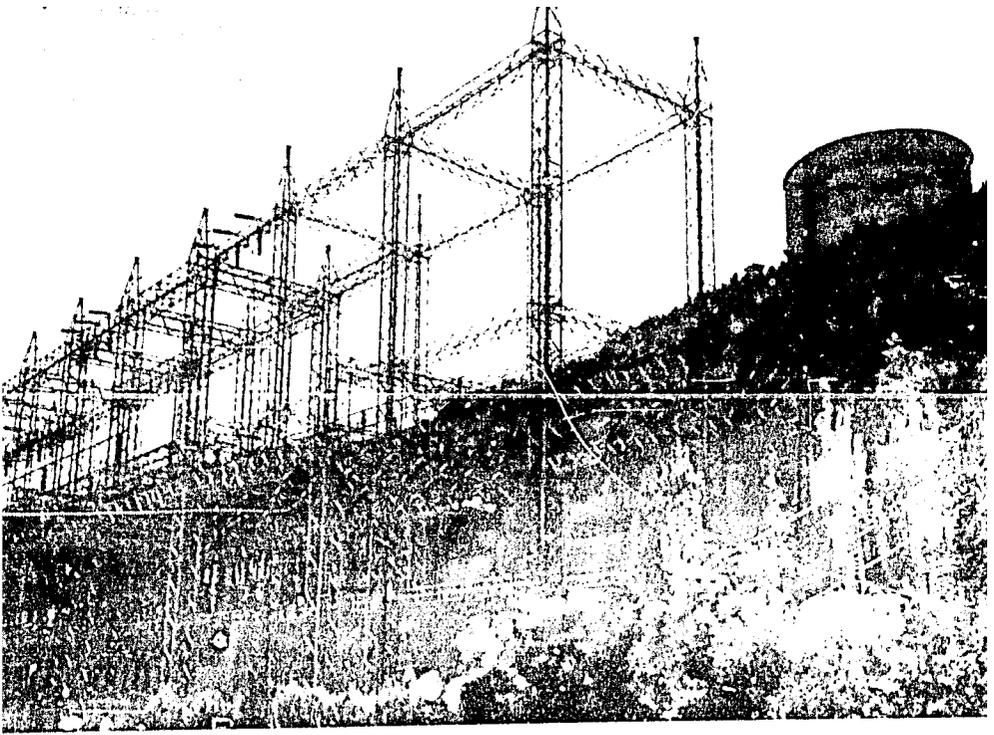
# THE NORTHWEST ANATOLIA POWER SYSTEM

U ntil the early 1970's, when the three billion Turkish Lira Keban Dam will add 620,000 kw to Turkey's electrical energy, Turkey will rely mostly on the energy generated from the Northwest Anatolia Power System.



*Sarıyar Dam*





*Sarıyar Hydroelectric Station which began operating in 1956 presently furnishes a large portion of the power of the Northwest Anatolia Power System.*

At present the Northwest Anatolia Interconnected Power System serves about 70 per cent of Turkey. To help the nation keep abreast of its growing need for power until Keban is actually in operation, many new projects are being added to this intricate network of power stations, some through American aid programs. Among these are the Anbarlı thermal power station and the Gökçekaya and Sarıyar hydroelectric projects.

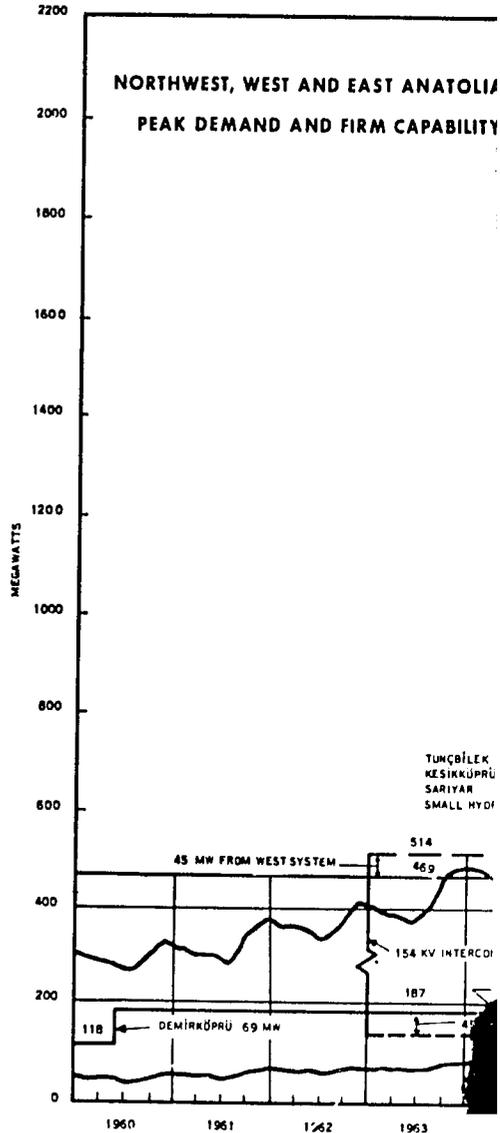
Sarıyar Dam, located on the Sakarya River approximately 165 kilometers west of Ankara, was begun in 1952 and completed in 1956 with two power units installed of the four originally planned. The remaining two Sarıyar units, each with a capacity of 40,000 kw, were begun in April of 1965 and are expected to go into commercial operation in June of 1966. These two units are being constructed with funds provided under a loan

agreement between the Government of Turkey and U.S. A.I.D. Completion of the Sarıyar expansion will add 80,000 kw to the Northwest Anatolia Power System.

Another major project on the Sakarya River is the construction of the Gökçekaya Dam and Hydroelectric Plant located 30 kilometers downstream from Sarıyar. The Gökçekaya Dam will be about 350 feet above the bed of the river and 1,066 feet between abutments, with the total crest length reaching 1,427 feet. Its reservoir will be dependent on water released from Sarıyar Dam upstream, and the two power plants will be interconnected.

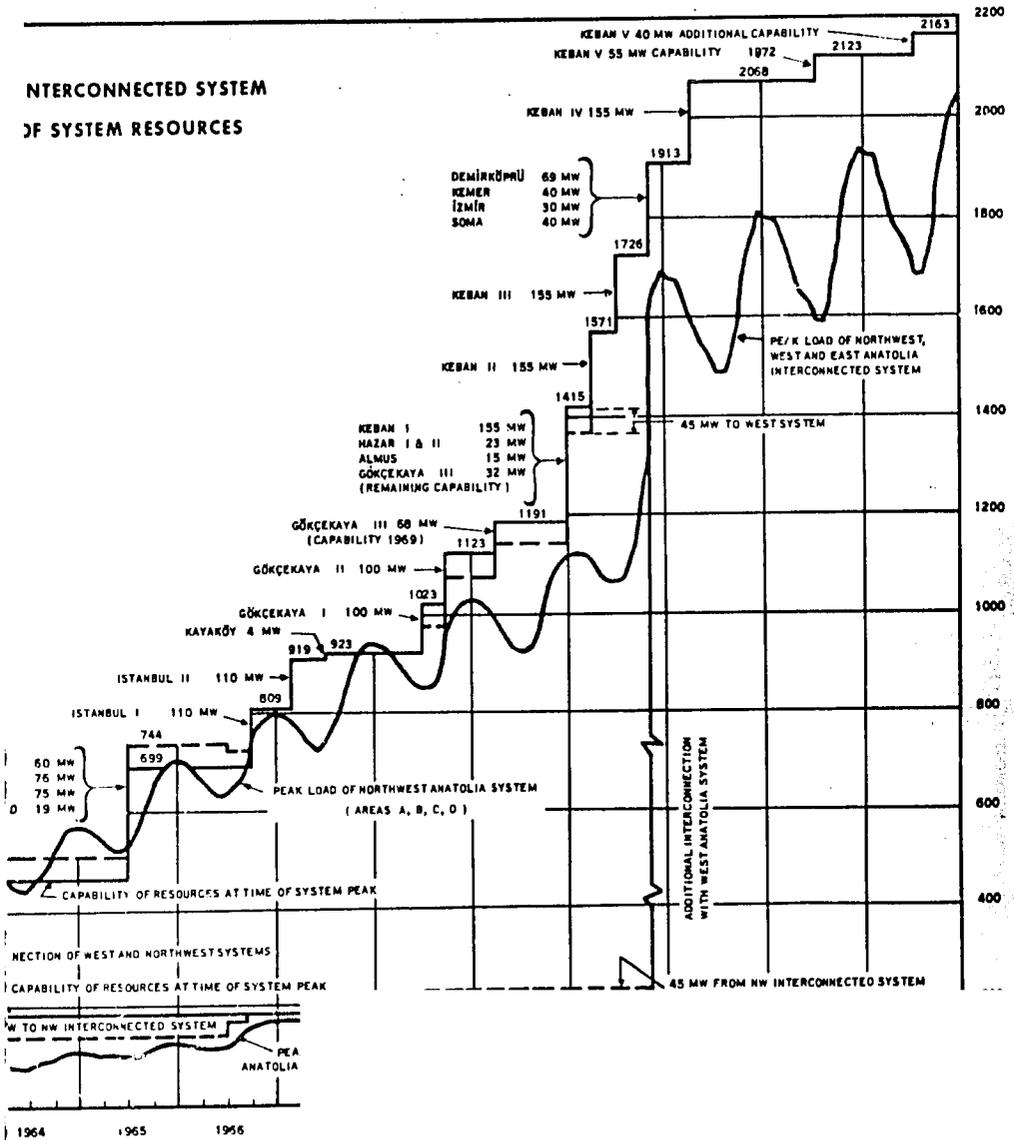
This project will result in the addition of 300,000 kw to the Northwest Anatolia Power System at a total cost of 559 million Turkish Lira, of which a U.S. A.I.D. loan is supplying 183.6 million Turkish Lira (\$20.4 million). The United States loan will be used to cover exchange costs of the project.

In addition, a 380 kilowatt transmission line will be constructed from Gökçekaya Dam to interconnect Istanbul and Ankara. This will be the first



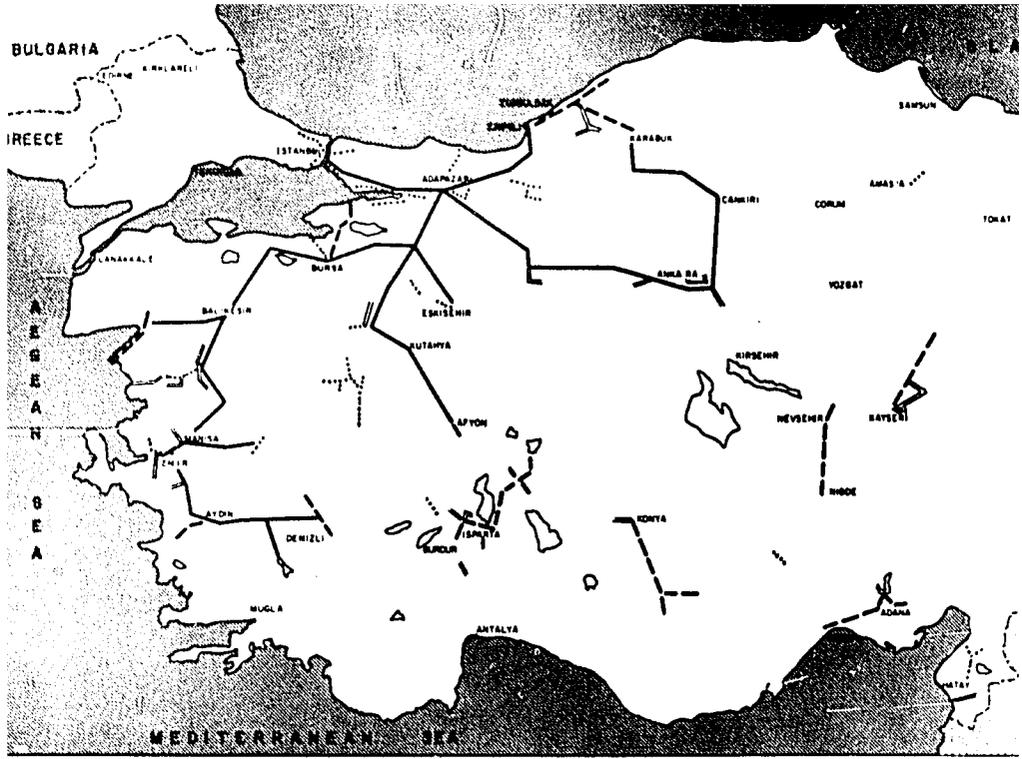
380 kv line installed in Turkey and will become a part of the system required to meet peak

# INTERCONNECTED SYSTEM OF SYSTEM RESOURCES

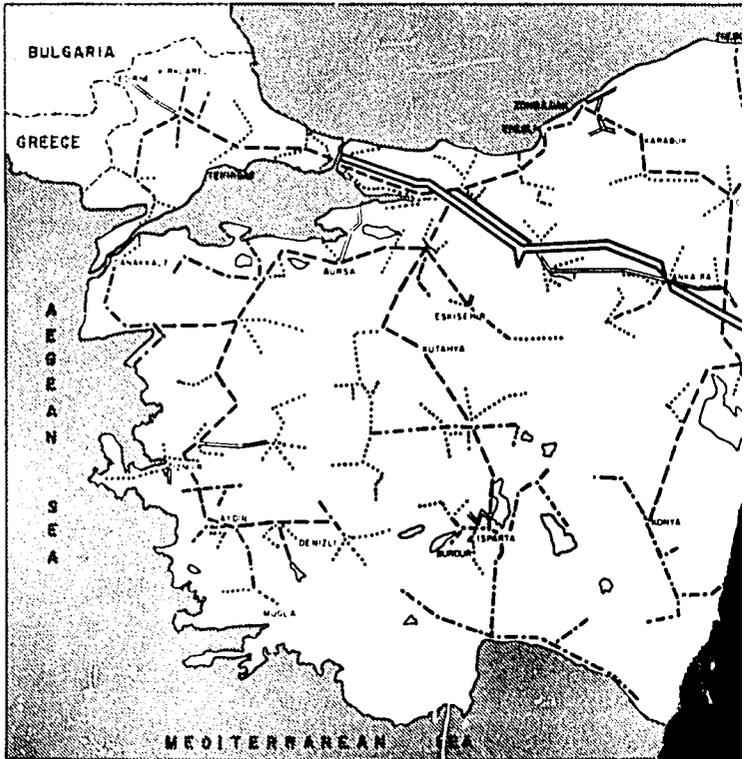


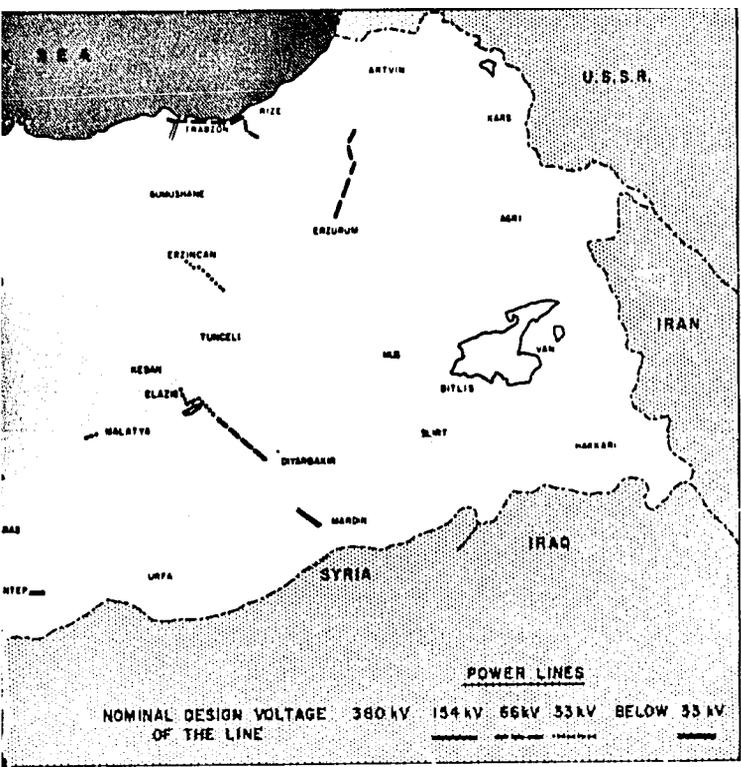
load demands as industry expands in the Northwest Anatolia area. The loan for this project,

which has recently been signed amounts to \$7,690,000 or 69,210,000 Turkish Lira.

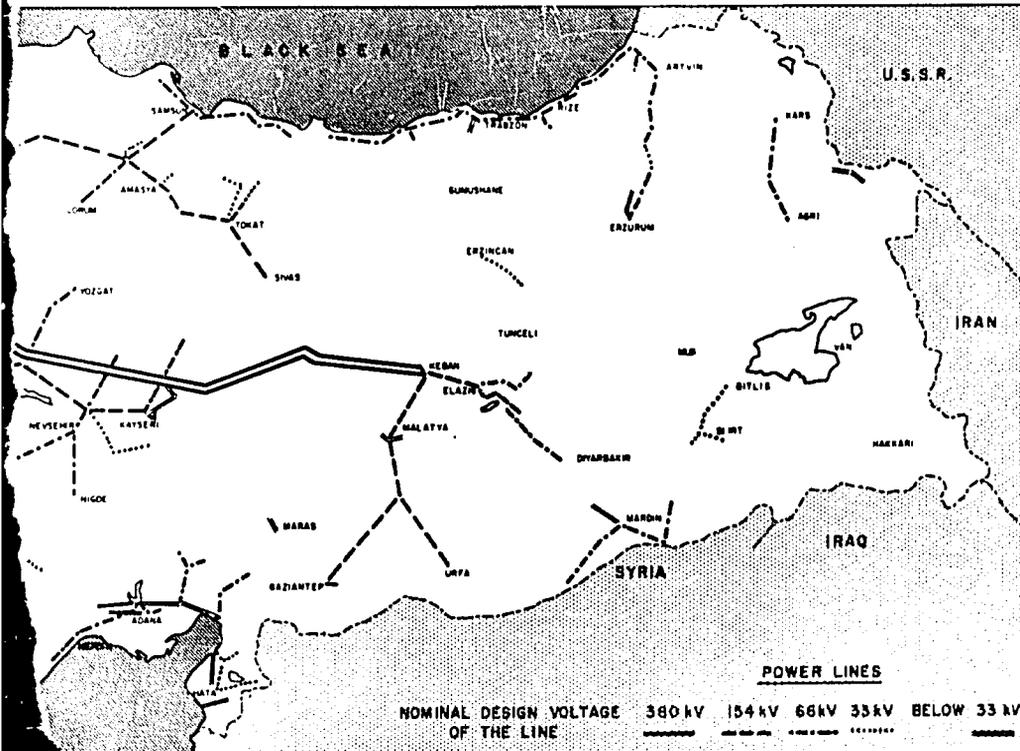


ACCORDING TO  
 PLANS MADE IN  
 1965 THE FUTURE  
 INTERCONNECTED  
 SYSTEM WILL SERVE  
 THE TOTAL NEEDS  
 OF AN ESTIMATED  
 POPULATION OF 35  
 MILLION PEOPLE





THE INTERCONNECTED SYSTEM IN 1964 PROVIDES 70 PERCENT OF THE AVAILABLE ELECTRICITY TO 30 MILLION PEOPLE OF TURKEY.



## *Hydroelectric and Thermal Power for the Istanbul Area*

In the Istanbul area, where about 50 per cent of Turkey's industry is concentrated, the main source of electric power has long been the Silahtar Plant, located in the city and containing six power generating units. Although beginning with Çatalağzı and then with transmissions from Sarıyar, the energy capacity for the Istanbul area was considerably increased, it never met the increasing demand of the expanding industry in this area.

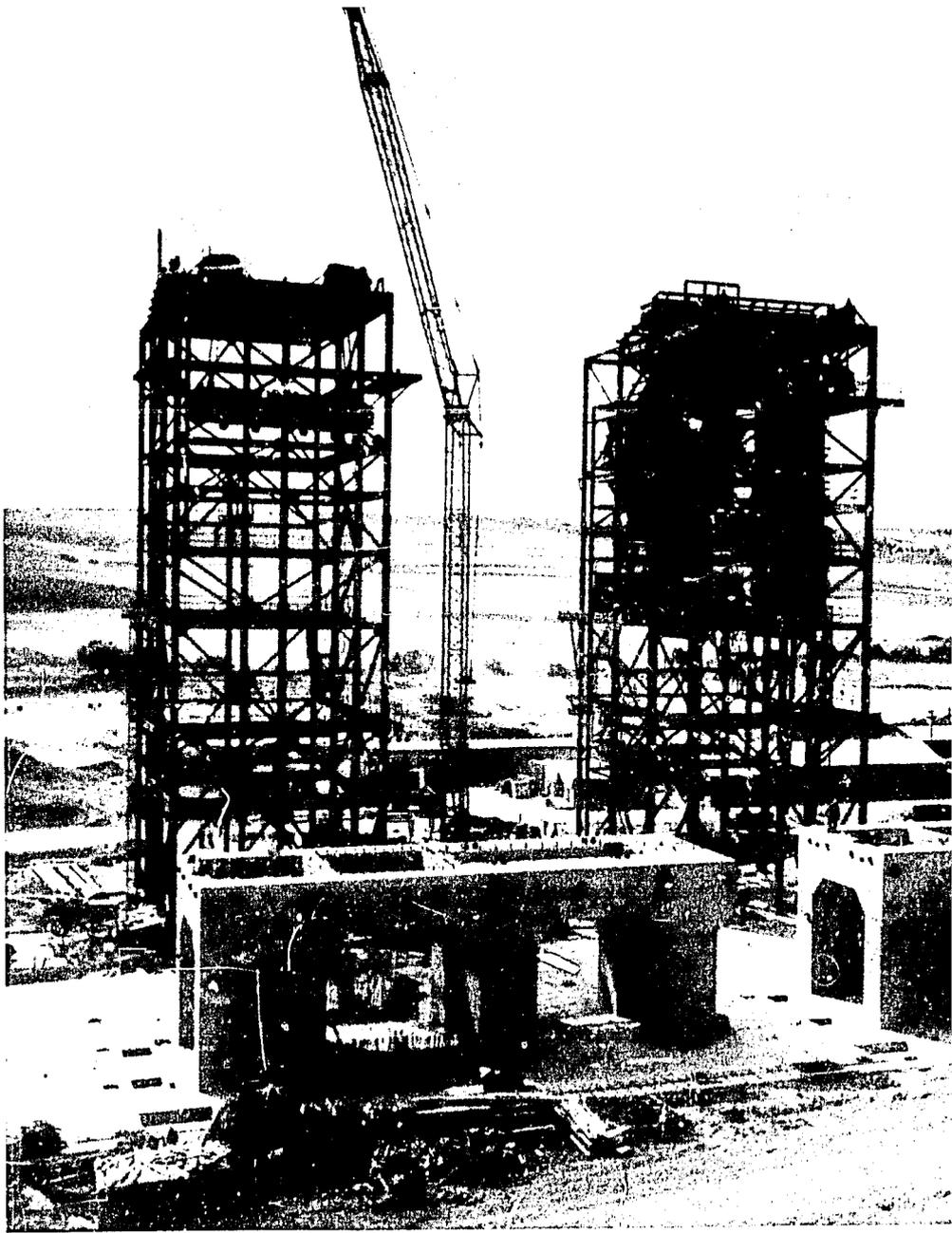
To meet this need, Turkey and the United States entered into a loan agreement providing

approximately 234 million Turkish Lira for construction of a new thermal power station at Anbarlı, on the sea of Marmara, near Istanbul in Thrace. Ground was broken for this 200,000 kw plant in July of 1964.

The Anbarlı project is an extension of the Silahtar Plant, although the two installations are 20 kilometers apart. The project involves installations of two new thermal power units of ultramodern design, each having a peak capacity of 100,000 kw. Combined additional power output of Anbarlı and Sarıyar, when construction is completed in early 1967, will be 280,000 kw.

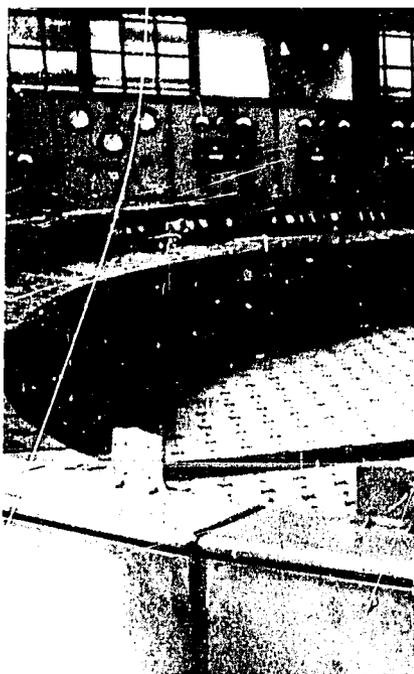
With completion of the Anbarlı thermal power project and





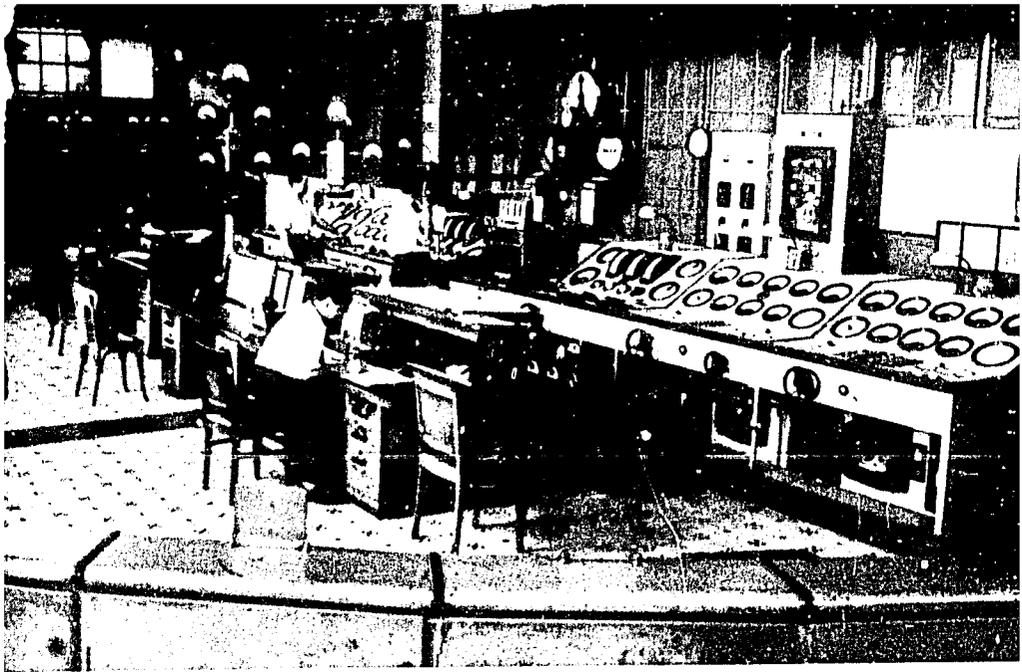
*Voltage insufficiency (shown left at Silabtar Electric Plant in Istanbul) often has hampered industrial development in this sector. Anbarli (above) when completed will meet the ever increasing demand.*

*Silabtar Electric Plant is today the heart of Istanbul's industry where approximately 50 per cent of the total industry in Turkey is located.*

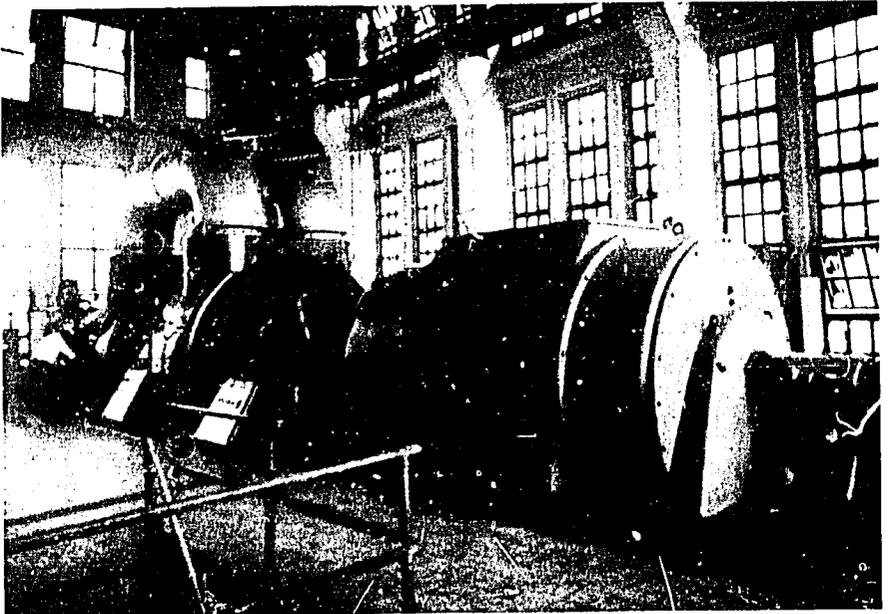


*Coal turned into electricity at the Silabtar Plant.*





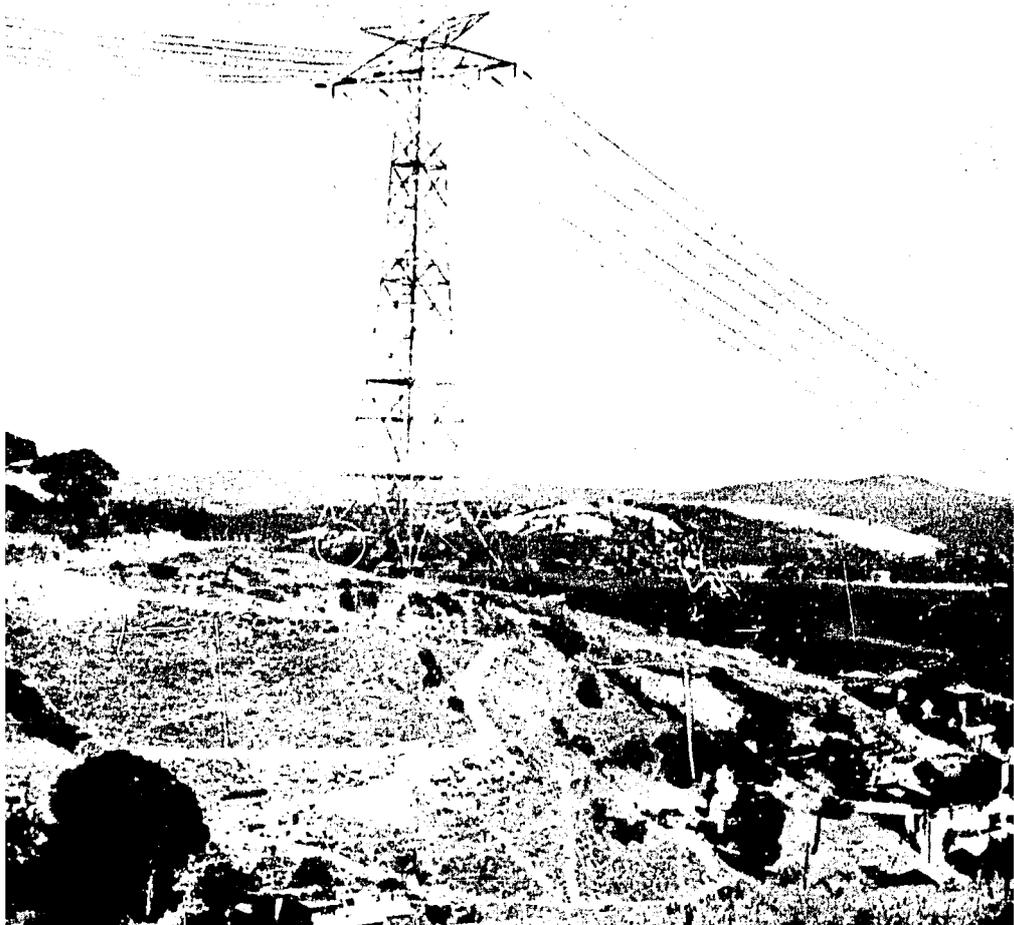
*One of six turbo-generators at Silabtar.*



the expansion of the Saryar hydroelectric project, it is estimated that 2.4 billion kwhr of new energy will be available to serve Turkish industry in Istanbul and Western Anatolian areas. Earlier, to assist in meeting the power demand of the area and to provide more flexibility in the operation of the power grid, U.S. A.I.D. assisted in the financing and

planning of the aerial transmission line across the Bosphorus which connects the European portion of the system with Anatolia.

The cooperation of the Government of Turkey and the United States in the long-range program of constant examination and expansion of the Northwest Anatolian Power System is a significant part of Turkey's



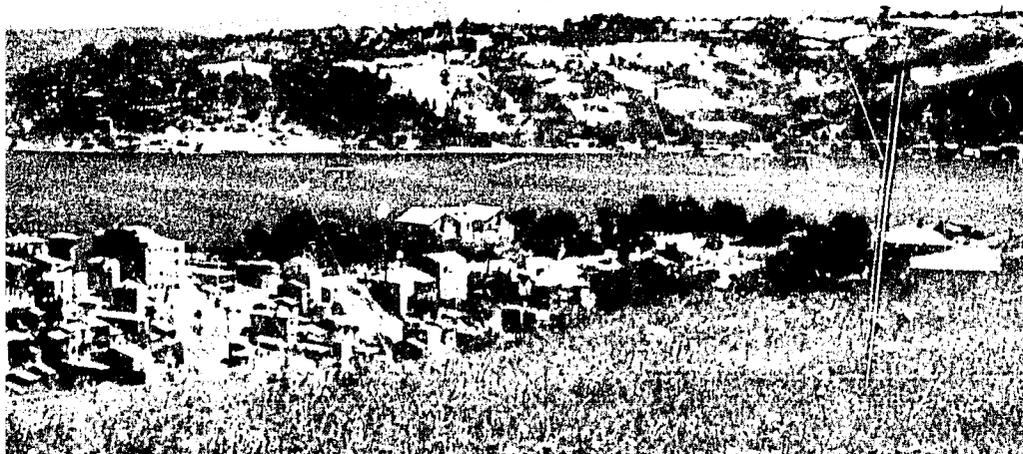
march toward economic development. Its importance is demonstrated by the fact that the power system currently serves approximately 70 per cent of the population of Turkey and the greater part of its industry.

As American Ambassador Raymond A. Hare stated at the groundbreaking ceremony at Anbarlı: "Industry today lives by the availability of electric

power—a raw material of equal importance to the natural resources which eventually are turned into finished products for the economy. Without sufficient power, there can be no industry—without industry there can be no economic growth.

"For these reasons, this is an important and significant step we are taking today in the course of Turkish development."

*Aerial electrical transmission line over the Bosphorus— from Asia to Europe.*





## ***NO LONGER TOMORROW***

**I**n a developing country one often hears about “the tomorrows of that country.” In the lower Seyhan region that term no longer applies. The Seyhan Dam and Hydroelectric Power Station, completed in 1956, have been the realization of that sector’s people to help themselves improve.

While in Turkey the yearly population growth is a high—many economists claim too high—three per cent, the growth



in the lower Seyhan region since 1960 has been five per cent due to an influx of transient labor. Here there is no exodus from villages to other industrial regions. Since the Seyhan Hydroelectric Power Station has brought long-sought power to this region of Turkey, factories have been springing up like giant mushrooms – which, in addition to supporting local labor needs, has absorbed the labor influx from other regions; irrigation and the use of fertilizer have become normal procedures; and mechanization of every phase of agriculture is becoming universal.

When the Lower Seyhan Project is completed, it will

have cost the Turkish people 1.9 billion Turkish Lira. Outside financing has come from the World Bank. The first loan from the World Bank was \$20 million, and was made available to the Çukurova region for construction of the Seyhan Dam and Power Plant, having an initial generating capacity of 360,000 kw of power. DSI constructed the dam and the power plant. However upon completion, in accordance with prior agreements, the power plant was turned over to Çukurova Electric for operation. DSI now operates the dam and is collecting from Çukurova for the construction of the power plant.

A second loan of \$26 million is now in effect and has

*Seyhan Dam and Hydroelectric Power Station.*



been made available to DSI (State Hydraulic Works) who controls the dam and the irrigation system. DSI first makes the necessary investment and then collects the necessary funds from the World Bank after the Bank's controllers in Seyhan have approved the expenditures.

The Seyhan Dam is a multi-purpose project consisting of irrigation, flood control and power production. The net irrigable land in Adana alone is 170,000 hectares. Through the canals built by DSI, one third of this area will become irrigable in 1966. The hydroelectric capacity of the Seyhan Dam Hydroelectric Station will be 54,000 kilowatts (kw) when completed this year and it will be capable of producing about 419 million kilowatt hours (kwhr) of energy per year. A second 6,300 kw power station is also planned to be constructed in one of the connecting canals.

The length of the growing season in the lower Seyhan region is 365 days. Two crops per year can be obtained from all irrigable land. Almost all of the agricultural products cultivated in the Seyhan region are exportable crops whose sale brings a great deal of foreign exchange.

This more than helps to cover the 120 million Turkish Lira investment Turkey yearly puts into the Lower Seyhan Project.

The Lower Seyhan region had an acute power shortage in the past which made investment in industry a hazardous venture. Today, investors from all sectors of the country are coming into Adana—already the fourth most populated town in Turkey. Flour mills, spaghetti factories, pressing plants, cotton thread and textile factories, cement tile factories, bus and truck body factories, and many others are now operating at full capacity. They no longer feel the constant strain of power shortages that used to result in delays and often in considerable financial losses before the hydroelectric plant was built.

Every day the Seyhan area's role in the overall development of Turkey is increasing. The cultural, commercial and industrial conditions in the region are suitable for all kinds of development and the transportation facilities include excellent highways linking the lower Seyhan region to all parts of Turkey; railroads; and seaport facilities—the nearby Mersin and İskenderun harbors. These

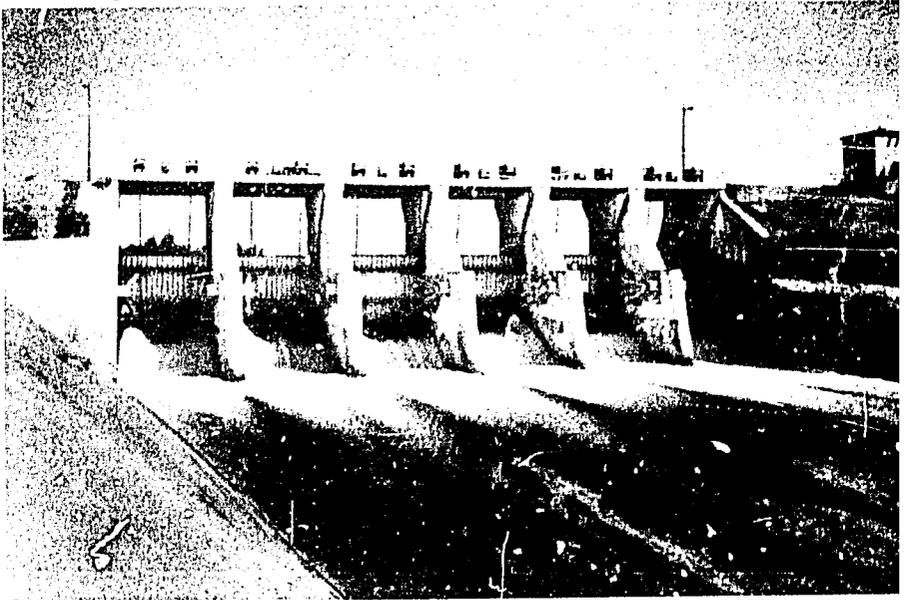
are extremely important for imports to and exports from the Seyhan region.

Turkey has a total of 17 million hectares of economically arable land. But in recent years, pastures and grasslands have been converted into fields, and 24 million hectares are being cultivated. This is a serious economic situation which has to be corrected quickly if Turkey is to make maximum profits from its livestock population which is nearing the 80 million figure. Seyhan is the example of how it can be done. Since the Seyhan

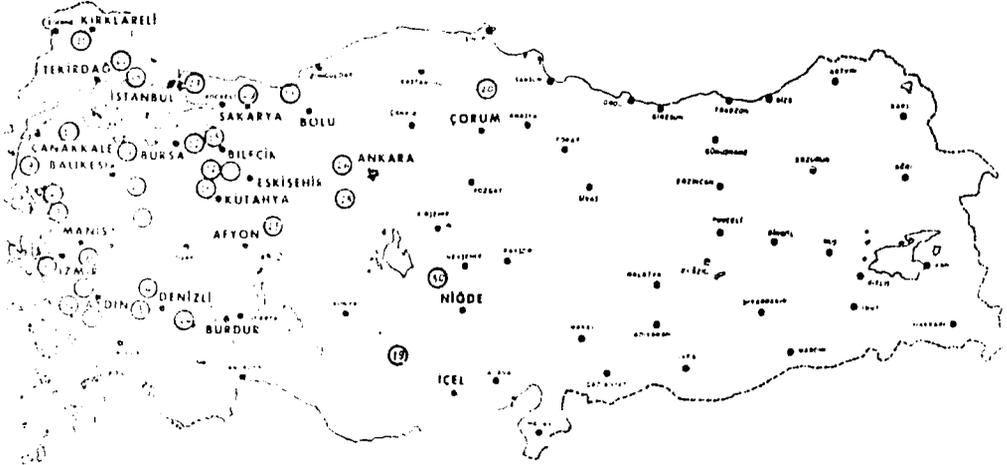
Dam has brought power and irrigation facilities to the lower Seyhan region, many villages have doubled and several have tripled their yearly outputs.

It is true that all agricultural sectors of Turkey are not as rich and productive as the Seyhan region. But to reap the most from wherever possible is the task that developing Turkey has set for herself. By helping themselves, the farmers and the industrialists in the lower Seyhan region also help the overall Turkish economy – and thus help all of the people of Turkey.

*Seyhan's captured water has brought electrical energy to one of the richest regions in Turkey. Now it will be used for irrigation.*



## 32 SUBSTATIONS



## FOR 1,280,000 PEOPLE

Of the many projects plotted within the vast range of Turkey's present Five Year Plan, there is one which, though minor in comparison with Keban, Gökçekaya, and other main projects, has vital meaning to 1,280,000 inhabitants of 32 areas in Western Turkey.

Before the Five Year Development Plan began, while it was still in the formulation stage, many studies had been or were being carried out to evaluate Turkey's power situation. One of these was made by Ebasco Services Incorporated, under a contract executed in October

1959. This study which was financed by the United States Agency for International Development, involved the capacity and future consumption of electric power in Northwest Anatolia and was supplemented by a similar report for Western Anatolia made by Elektrik İşleri Etüd İdaresi. The final results of the study revealed that there were 32 separate areas where electric power was vitally necessary or would be so in the near future.

Following the expansive blueprint of the Five Year Plan, the Government of Turkey set up

plans for the 32 load areas and made a loan application to the United States Government through the Agency for International Development. This request by the Turkish Government was accepted by the U.S. Government, and after a \$6,400,000 foreign exchange loan, was authorized by U.S. A.I.D. in July of 1965. The Government of Turkey provided 177,912,000 Turkish Lira for local currency costs, and immediately set the project into effect.

The project itself concerns the construction of substations in the 32 areas and the installation of corresponding transmission lines. This will be done by Etibank, which will also design, operate and retain ownership of the substations. The transmission lines will be of five different power-carrying capacities and will be a total of 2,515 kilometers—an impressive web of power links.

There are definite facts upon which Ebasco based its recommendations for power in the 32 load areas. There are 130 small cities and towns with an estimated 1,280,000 inhabitants which will be affected by the new system. Of these 130 towns, 41 have no electric serv-

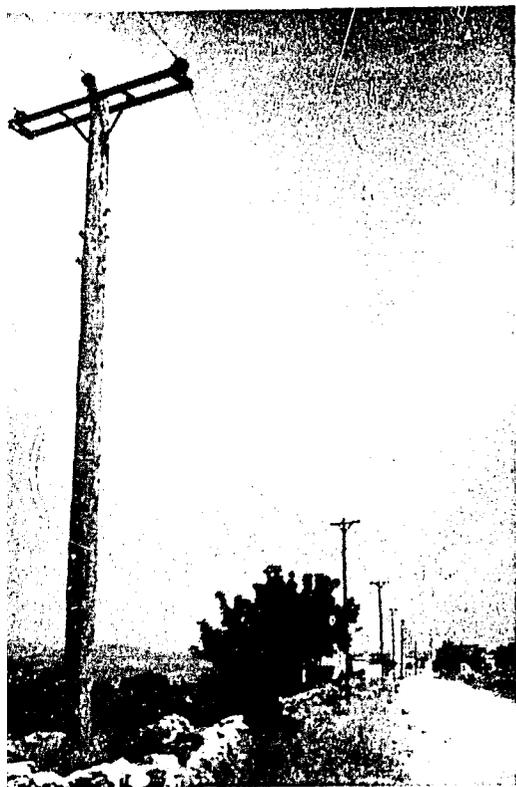
ice. By making sufficient power available in small municipal cities and rural areas of Turkey, it will enhance investment prospects and help induce the establishment of enterprises in those areas.

At the present time, there is a great and growing gap between the conditions of life in the major cities of Turkey and the rest of the country. An important benefit of a project such as this will be its partial effect in arresting, at least for a time, this widening gap. Private initiative and competition should be encouraged by improved power service. Technical efficiency of industry, agriculture and commerce in those areas should also be greatly improved by the provision of cheaper and more reliable service from each load center.

Turkey needs development and development needs power. But power used sparingly can only cause imbalance in economic values. For this reason Turkey has carved a path to rural development in its giant strides towards progress. The building of these substations and connecting lines constitutes a striking example of this progress.

# MORE POWER FOR MORE PEOPLE

*Electricity comes to the first  
five villages of Mersin*



Three years ago on October 28, 1962, Arpaçsakarlar, a village eight kilometers from Mersin, received a surplus electric generator from U.S. A.I.D. As an individual incident, the electrification of this one village was not regarded at that time as being of great importance, but it triggered off a demand for power from the whole sector—one of the richest agricultural sectors in Turkey.

In their quest for electrical power, the neighboring villages began to go to the Governor of Mersin, to Etibank, to the State Organization, and to DSI which controlled the Hydroelectric Power Station at the Seyhan Dam.

Today, the lines for the first five villages in Mersin province have been strung by Etibank. Within a month, Arpaçsakarlar, Bekirde, Civanyayla,



*Three years ago electricity came to the first village in Mersin – Arpaçsakarlar.*

Yalınayak and Çavak will be electrified by direct links to the power station in Mersin.

“Our generator gave us electricity for three years,” said Mehmet Karabıyık, one of the Arpaçsakarlar village council members. “Now we and four neighboring villages are getting power from Mersin. Etibank is buying our generator and paying us for all the work we did setting up our poles and stringing 2.5 kilometers of wires to electrify our village.”

Modernization in village life has followed on the heels

of power. There are 20 tractors in Arpaçsakarlar. “Not one decare of land is ploughed by oxen or horses here,” said Mehmet Karabıyık. “Although the tractors are owned by only 20 people, they plough all the land in our village. We do not only have a cooperative in name, but we work together. Self-help in a village is otherwise not possible.”

The same thing applies to the other four villages now being electrified. Muhtar Remzi Çelik of neighboring Bekirde village said: “The history of



our village is as old as the history of Mersin. We are a hard-working lot. We are a successful village. Now that power is coming to our village we will become an exemplary village."

Bekirde and the other four villages receiving the first rural power in Mersin have paid to Etibank in advance and in cash 26 per cent of the cost of bringing electricity to their villages. The remaining 74 per cent will be paid in 20 years. What the farmers in these villages are most concerned with is not power for lighting, but power for future industries. Bekirde, which has 200 farm families, and Arpaçsakarlar intend to build sawmills to make boxes for their fruits, flour mills for village use and perhaps small pasteurization plants for their milk and milk products.

Irrigation is also one of their big problems. In these advanced villages every farmer uses fertilizer. They have learned "by trying and seeing," says Muhtar Remzi Çelik, "that both fertilizer and irrigation, although

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*Over 1,000 villagers of Arpaçsakarlar, and hundreds from neighboring villages, the governor of Mersin, and scores of guests came to share the joy of this village.*

expensive, pay dividends we farmers did not think possible in past years."

"We may give up growing cotton here," says the Muhtar. He added, "not because it does not pay, but because pre-season vegetables pay more. Until recently the farmers of Bekirde used to plant vegetables only for their own use."

Every year the village of Bekirde earns one million Turkish Lira from the sale of grapes. "After we have built our (electric-powered) sawmill, we will be able to make our own boxes and become exporters of fresh grapes," said the Muhtar. The State Planning Organization is studying the feasibility of this project for Bekirde and the

*A film is shown for the first time in Arpaçsakarlar.*



neighboring villages.

The five Mersin villages, which will soon receive ample power from the Seyhan Hydroelectric Plant, grow grapes, cotton, citrus fruits, grain and vegetables. All five are outstanding examples of self-help. The spirit of community development, of helping one's self and one another is so striking in these villages that it is impossible to over-emphasize the spirit of these men who are so ambitious that they are never satisfied. The lethargy one could see here 15 years ago is buried and even forgotten. The terms "modest," "unpretentious" and "satisfied," no longer apply to the people who live in this sector. They have been replaced by "urge," "initiative" and an insatiable desire to do better.

A report on village electrification in Turkey, prepared for U.S. A.I.D. says:

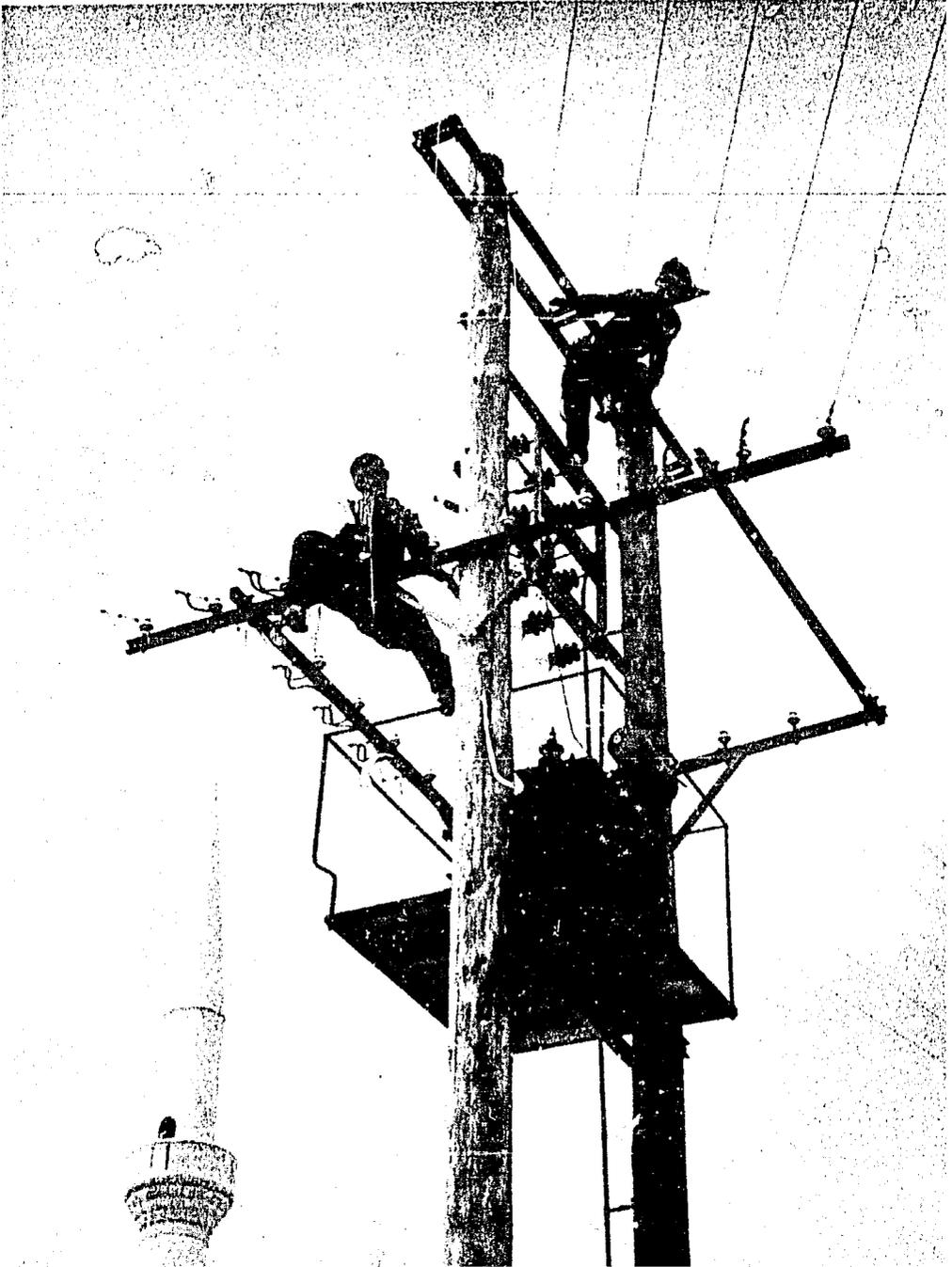
"In 1962 all 67 provincial capitals were served with electricity and only eight had partial service. Two thirds of the 570 county seats and six per cent of the 923 small towns could claim electric power systems, most of these with partial service. But only 36 of Turkey's 35,635 re-

cognized villages possessed electric service of any quality although the majority of the Turkish population was in these communities. Obviously, a vast market for electric power exists in villages...

"... The key to understanding the problem of village electrification is the realization that villages in Turkey vary immensely in economic and social characteristics. There are some villages that raise cash crops, have ample water for irrigation pumping, are near electric power distribution centers, and are determined to be leaders in mechanization and in the introduction of new concepts. There are other villages that continue subsistence farming, cannot now absorb quantities of electricity feasibly, and prefer to remain remote geographically and psychologically from outside influences. Between these two extremes lies the bulk of the villages, but the shift is perceptibly toward progress in villages, which makes them feasible markets for electric energy..."

What has happened in Arpaçsakarlar, Bekirde and the other three villages in Mersin is the beginning of the answer.

*The first five villages of Mersin which received electricity through their own initiative and efforts were Arpaçsakarlar, Bekirde, Yalınayak, Civan-yayla and Çavak.*



# IMPORTANCE OF COUNSELING AT UNIVERSITY LEVEL

**A** Science Center Foundation was established at the Faculty of Medicine and Health Services at Hacettepe in January 1965, to support scientific teaching and research and for further educating scholars.

Several new branches have already begun operating under the School of Basic Sciences. Dr. Feriha Baymur, a former Fulbright Grantee, is in charge of the recently-founded Psychology Department. This Department trains personnel for psychological services, such as guidance workers and vocational counselors.

Dr. Baymur has been in the United States several times as a student and a researcher. She

worked as a psychologist at the Counseling Service of Boston University and initiated a personal counseling service for foreign students.

"The importance of guidance in schools is well realized in Turkey," Dr. Baymur says, "and steps have been taken by the Ministry of Education to train specialists and to establish centers in this field. But Hacettepe is the first higher education institution in Turkey to offer counseling to its students and to train guidance workers."

The Counseling Service was founded at Hacettepe during the academic year of 1964-65. Dr. Baymur and two psychology

*Many difficulties and problems that exist among Turkish youth can be helped through the counseling and guidance service*



*Dr. Feriha Baymur*

assistants, Miss Gülgün Tosun and Miss Meral Çulha, have been conducting research and helping the students with their problems.

Dr. Baymur reported that many students applied to the Counseling Service and were helped during the last year. Students who came to Ankara from other cities had problems of homesickness, adjusting themselves both to life in Ankara and to the University and lack of company. Some of them suffered from lack of concentration and fear of failure in the courses.

As Dr. Baymur explains it, counseling is professional psychological help. While the counselors interview them, the students have the opportunity to talk about their problems and handicaps in a warm, friendly atmosphere.

Many difficulties and problems that exist among Turkish youth, Dr. Baymur believes, can be helped through the counseling and guidance service. If such help is offered in schools it will effect the development of students' personalities, their success rate will increase and drop-outs will be minimized.

# PIONEERS OF SOCIAL WORKERS IN TURKEY

*The role of social workers  
in a country is to enable  
an individual, a family,  
a group or a community to  
function more effectively*

**T**he Social Services Academy in Ankara held its first graduation ceremony in June this year. A university level institution, it was established in 1960. The student body of the Academy numbers 120. The first two years of the curriculum cover basic courses and during the last two years students are required to take professional courses and to do field work.

Miss Birsen Gökçe, a lecturer of social problems at the Academy, explains that the history of welfare institutions is quite old in Turkey. Since the 13th Century various organizations have been functioning in this respect in volunteer and private forms. But the first official and professional service started with the founding of the Social Services Academy.

The first graduates of the Academy will work at the General Directorate of Social Welfare under the Ministry of Health and will develop plans on how social work will be conducted in Turkey. The second step—application of these plans—will follow with the graduates putting their plans into operation in the various ministries.

“The role of social workers in a society is to enable an

individual, a family, a group or community to function more effectively," says Miss Gökçe. She adds that a good social worker should have knowledge of people, resources and environments. In order to provide the students with this knowledge, social welfare, as it is planned in the Academy, is conducted in three forms: case work, group work and community work. Each student spends an equal length of time working on these subjects while doing his field work.

Last year Miss Gökçe and her students built a village education center at Yeşilyurt near Kayseri as a part of their community work training. In this center trainees taught the villagers child care, hygiene, home economics and how to use their resources.

While supervising the students, Miss Gökçe often refers to her experiences in the United States. In 1963-64 she participated in the Cleveland Youth Program when she attended Chicago University. She also had a chance to work at Taylor House and observe the application of recreational activities to an international group of people of various ages.

Another grantee who is teaching American methods of social research at the Academy, is Dr. Janet Gruener, a professor at the Jane Adams School of Social Work of the University of Illinois. Dr. Gruener is in Turkey as a Fulbright professor. She has been advisor to ten fourth-year students who were writing a descriptive study of the "Gece Kondu" families. They have conducted research on these families' reasons for coming to Ankara, the positions they held here, the characteristics of their families, their incomes and expenditures.

According to Dr. Gruener, a social worker always has to study the situation first. They cannot help people if they do not know what is bothering the community.

Both Miss Gökçe and Dr. Gruener agree that social work in every country has been extremely helpful. The graduates of the Academy will contribute to the advancement of the country through teaching the importance of health, the ways of improving relationships with the family and the society, and methods of adjusting to the institutions and organizations to which they belong.

# IMPROVEMENTS IN HOTELS LEAD TO DEVELOPMENT OF TOURISM

“Qualified hotels and hotel personnel are the keys to the development of tourism in Turkey,” says Mr. Osman Darıcı, Assistant Director of the Hotel School in Ankara, which was established three years ago with assistance from U.S. A.I.D.

Mr. Darıcı, a graduate of the Education Department of Gazi Teachers' Training College, studied in Missouri's North East State Teachers' College in 1960-62 and obtained his certificate in English as a Fulbright Grantee.

In Turkey, in addition to his administrative job, he teaches English at the Hotel School in Ankara. Mr. Darıcı reported that when the school was opened in 1962, an intensive program was first conducted as an experiment. Later the school offered two different

curricula: a year's intensive course for lycee graduates; and a three-year program for secondary school graduates. In 1964 the first group of the three-year program graduates received their certificates.

Mr. Darıcı also says that next year a hotel and tourism higher school will be established in Tarabya, Istanbul, along with the opening of a new big hotel which is under construction now. The graduates of Ankara Hotel School will have the opportunity to continue their higher education at this higher school. At the same time, lower level schools will start in İzmir, Antalya and İskenderun. No previous education will be required for the candidates who want to enter these schools.

For the practical training of the students, a school hotel is being built in Ankara and it will be completed next year. This 20-bed capacity hotel, with a restaurant open to the public, will be run by the students of the hotel school.

“Through these short and long-term institutions of training,” Mr. Darıcı says, “tourism will improve and will play an important role in the economical development of Turkey.”

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