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# USAID IN JORDAN

## 5 YEARS OF COMMITMENT

The USAID Seal:  
This symbol, used worldwide,  
indicates projects funded by the United States  
Agency for International Development.



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# Dedication

Partnership... that's what this story is about. The citizens of two nations acting on their faith in the ability of people to improve their lives, and their patience and perseverance in doing so.

It's the story of 35 years of striving together to enhance every aspect of Jordanian life --its health, education, food production, industry, administrative services, the use of natural

resources, the environment and the infrastructure to support these programs.

Behind the visible results are the hidden stories of shared hopes, frustrations and joys, and the friendships which have lasted a lifetime.

To the thousands of people from the ministries, private businesses and the voluntary organizations who have been part of this partnership, we dedicate this book.

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# Message from the Ambassador



The United States is proud to have made a contribution to Jordan's vigorous development over the last 35 years. We like to be even a small part of big success stories, and Jordan's dramatic development is an exciting story indeed. The Jordan Valley, where perhaps 8,000 people lived in 1967, now sustains over 150,000 people on the basis of one of the world's most successful programs of integrated regional development. Sophisticated irrigation methods and agricultural technologies, as well as roads, schools and health centers were all components of this Jordanian creation in which U.S. aid played a part.

Today American assistance is helping ignite creative sparks in a different area - business development. Using transferred technologies, training and other tools for increasing productivity, U.S. aid is helping to generate greater private investment and job creation in Jordan's new growth sectors, such as financial and professional services, food processing and light manufacturing.

The strong coincidence of American and Jordanian interests in the Middle East continues to underpin U.S. aid efforts. We want to continue to help Jordan prosper as an anchor for stability and secure relationships in this historically important region.

**Roscoe S. Suddarth**

*Roscoe S. Suddarth*

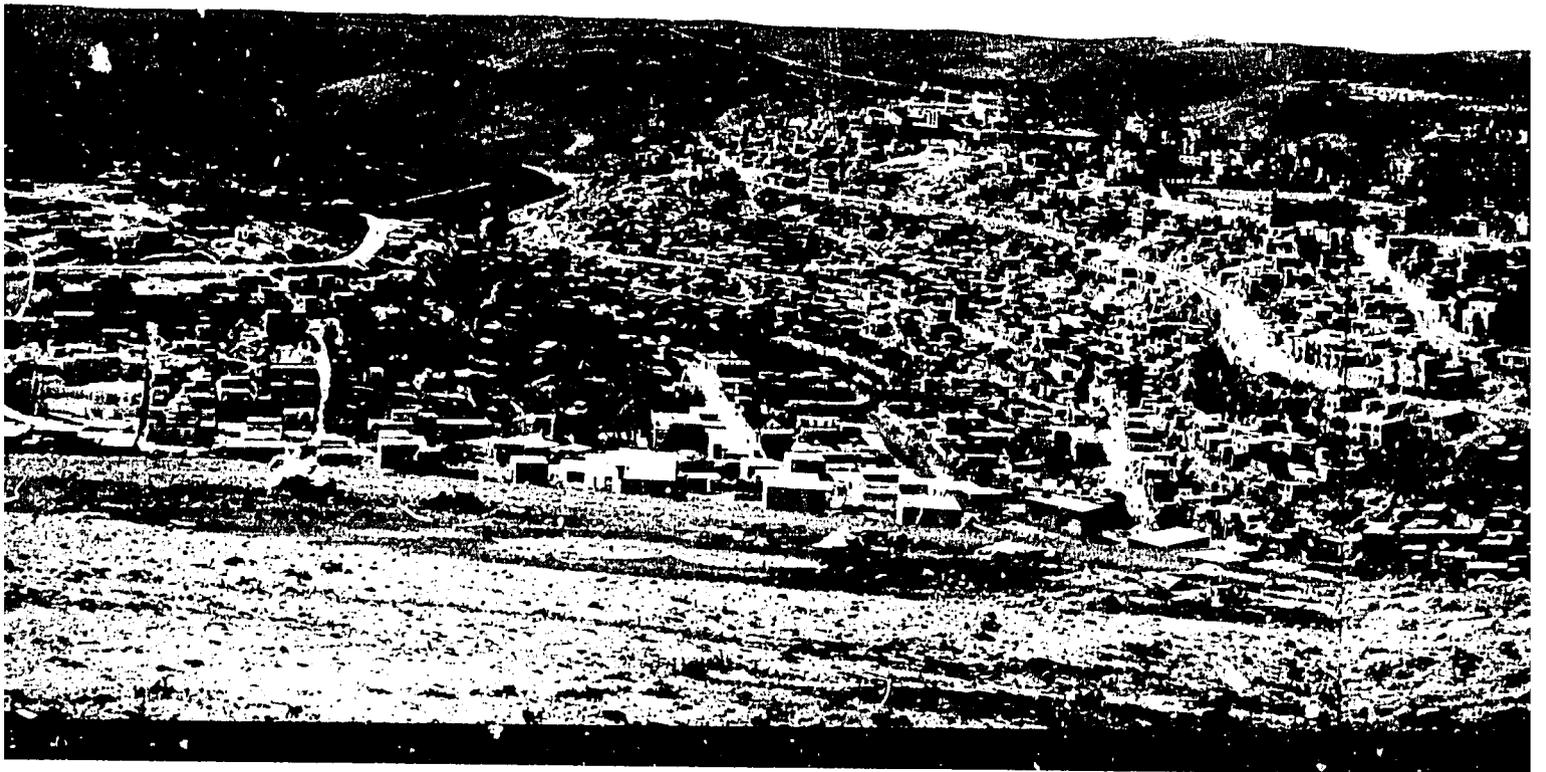
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# Message from the USAID Director



Jordan's record of development is unmatched anywhere in the world. It is a small country with limited natural resources which has managed to achieve incredible physical and human development under strong political and social pressures. Jordan has now reached a different age and state of development. Its infrastructure is good, its human capital well-developed, its health status is excellent and its institutions are strong and growing. Because of this, USAID's program has changed in the last year to face a development challenge of a different sort. Our goal is to develop the private sector in Jordan as the engine of economic growth and equity in the Kingdom, a goal fully in cognizance with Jordanian government policy under its current Five-Year Plan. We expect this program to be just as successful as previous development efforts in Jordan.

**Lewis P. Reade**



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# Introduction

Since 1952, the United States has provided over 1.7 billion dollars to expand Jordan's economic base and improve the quality of life for all its people. The hundreds of projects touching

every economic sector and the millions of man hours spent have reflected the high commitment of both Jordanians and Americans to these goals.



*Amman, mid-1950s: Aerial view of the capital and its suburbs at the beginning of the Point IV assistance program.*

Transjordan, until 1948, was a relatively uncomplicated agricultural society of half a million people. However, with the end of the war in 1948 and the establishment of the Hashemite Kingdom of Jordan shortly thereafter, 400,000 Palestinians on the West Bank immediately acquired Jordanian citizenship, as did some 600,000 refugees from lands occupied by the state of Israel. In the course of only two years, the population of Jordan more than trebled.

The United States, increasingly concerned over the enormous pressures placed on the government by the emergency requirements of the refugees, and wanting to assure the stability of the nation, committed itself to a program of economic assistance.

With the establishment of this first assistance mission, called the U.S. Foreign Operations Administration, an initial assessment was made of the problems that Jordan faced in providing for its new population. It was quickly evident that the challenges were staggering. Among the difficulties were lack of industrial development, an agricultural sector which was still unexposed to modern farming methods, limited natural resources, an inadequate transportation infrastructure, disorganized governmental finances, an education system struggling to meet the needs of a vastly expanded population with only a few trained teachers and marginal facilities, endemic malaria in the Jordan Valley, and widespread malnutrition, particularly among refugees. In addition to all of this, one third of the work force was unemployed.

Because Jordan's most urgent requirement was meeting the refugees' basic needs for jobs, food, and medical care, the American mission decided to focus on providing the badly needed services in the quickest way possible while simultaneously undertaking long-range studies. Immediate measures were taken to improve existing water resources, introduce modern agricultural techniques, embark on malarial eradication, and build health facilities, roads and educational systems. It coordinated the

distribution of free foodstuffs under the "Food for Peace" program to those suffering from malnutrition, and contributed to UNRWA, the refugee relief agency dealing with the most urgent needs of the refugees. To assure a highly educated group of future leaders for Jordan, hundreds of students were sent to the American University of Beirut to complete undergraduate degrees.

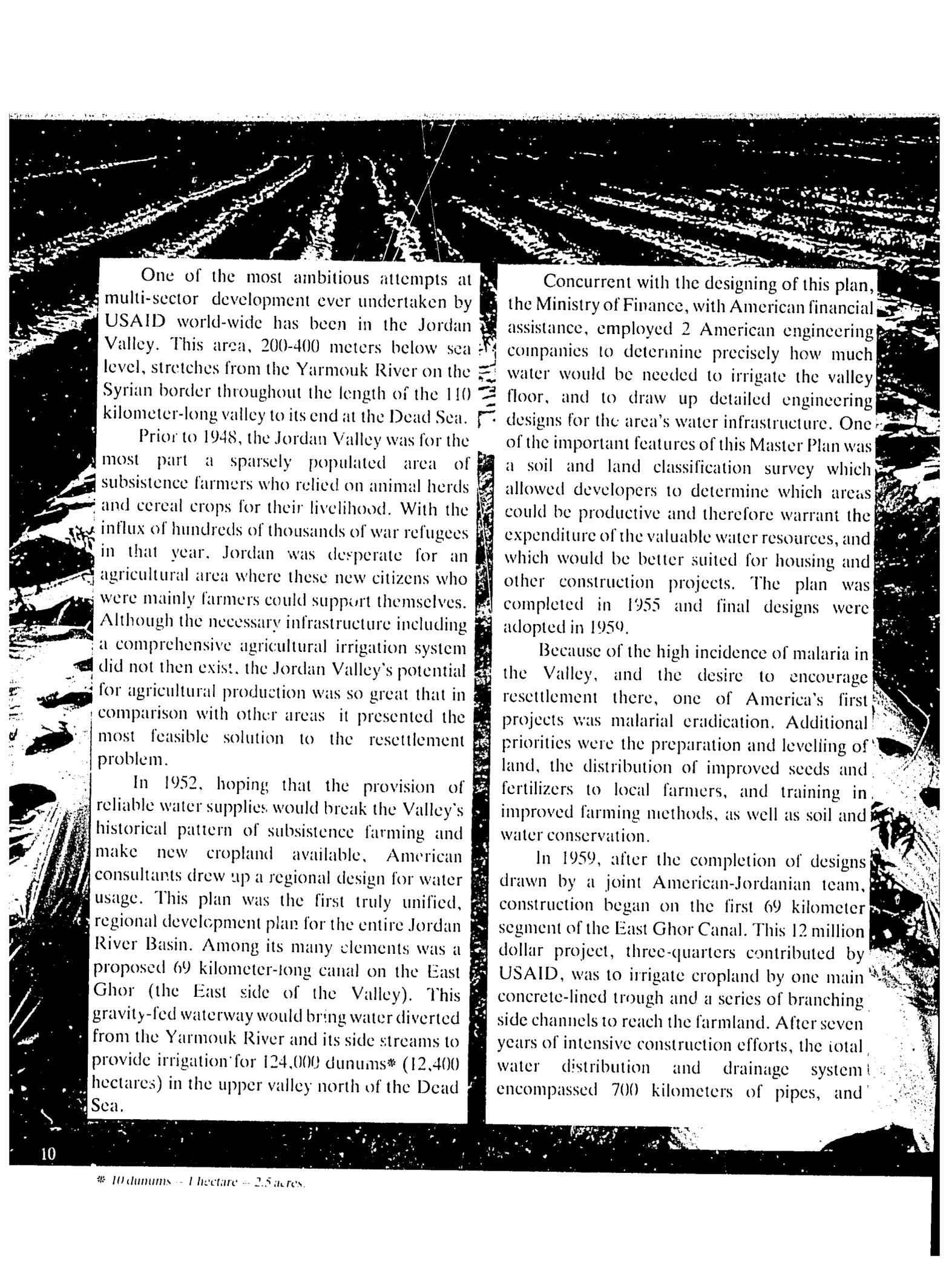
The dramatic impact of these early projects on Jordan's development was the catalyst for a continuing Jordanian-American partnership lasting several decades.

After hundreds of joint projects undertaken with financial assistance from USAID and its predecessor organizations, Jordan now ranks as a middle income country with a per capita GNP of 1,570 dollars, four times the level of the early 1950s. Jordan's social development has resulted in a marked improvement in education levels, better health and improved living conditions. Electric and water services reach 90 percent of the households, up from fewer than 20 percent three decades ago. With an expanded economy, the labor force has branched out from agriculture to mining, manufacturing and service industries.

With the basic infrastructure for growth now in place, USAID changed its economic strategy in 1986 from large, capital-intensive, public construction projects to encouragement of the private sector in participating in further development. As needs for investment and employment continually increase, the public sector can meet only part of Jordan's needs. Accordingly, USAID is supporting a series of new initiatives which will help the private sector take advantage of new opportunities. The Government of Jordan's Five Year Development Plan for 1986-1990 which encourages the private sector and the free play of market forces will be the focus of USAID's continuing development partnership with Jordan.



*Point IV: First U.S. Agency Mission director and dignitaries dedicate earliest water project - repair of Roman cisterns crucial for settlement of desert.*



One of the most ambitious attempts at multi-sector development ever undertaken by USAID world-wide has been in the Jordan Valley. This area, 200-400 meters below sea level, stretches from the Yarmouk River on the Syrian border throughout the length of the 110 kilometer-long valley to its end at the Dead Sea.

Prior to 1948, the Jordan Valley was for the most part a sparsely populated area of subsistence farmers who relied on animal herds and cereal crops for their livelihood. With the influx of hundreds of thousands of war refugees in that year, Jordan was desperate for an agricultural area where these new citizens who were mainly farmers could support themselves. Although the necessary infrastructure including a comprehensive agricultural irrigation system did not then exist, the Jordan Valley's potential for agricultural production was so great that in comparison with other areas it presented the most feasible solution to the resettlement problem.

In 1952, hoping that the provision of reliable water supplies would break the Valley's historical pattern of subsistence farming and make new cropland available, American consultants drew up a regional design for water usage. This plan was the first truly unified, regional development plan for the entire Jordan River Basin. Among its many elements was a proposed 69 kilometer-long canal on the East Ghor (the East side of the Valley). This gravity-fed waterway would bring water diverted from the Yarmouk River and its side streams to provide irrigation for 124,000 dunums\* (12,400 hectares) in the upper valley north of the Dead Sea.

Concurrent with the designing of this plan, the Ministry of Finance, with American financial assistance, employed 2 American engineering companies to determine precisely how much water would be needed to irrigate the valley floor, and to draw up detailed engineering designs for the area's water infrastructure. One of the important features of this Master Plan was a soil and land classification survey which allowed developers to determine which areas could be productive and therefore warrant the expenditure of the valuable water resources, and which would be better suited for housing and other construction projects. The plan was completed in 1955 and final designs were adopted in 1959.

Because of the high incidence of malaria in the Valley, and the desire to encourage resettlement there, one of America's first projects was malarial eradication. Additional priorities were the preparation and levelling of land, the distribution of improved seeds and fertilizers to local farmers, and training in improved farming methods, as well as soil and water conservation.

In 1959, after the completion of designs drawn by a joint American-Jordanian team, construction began on the first 69 kilometer segment of the East Ghor Canal. This 12 million dollar project, three-quarters contributed by USAID, was to irrigate cropland by one main concrete-lined trough and a series of branching side channels to reach the farmland. After seven years of intensive construction efforts, the total water distribution and drainage system encompassed 700 kilometers of pipes, and

# The Jordan Valley



*A rich harvest: Acres of young tomato plants in the Jordan Valley, supplying domestic consumption needs and a vital cash export product.*

productive acreage had increased by approximately 450 percent.

In 1960, American advisors helped establish the East Ghor Canal Authority. With U.S. management assistance the Authority began licensing farmers and their crops (including orchards) to provide for equitable water distribution. In 1962, Valley land was redistributed into units which could be effectively irrigated, with each settling family receiving approximately 30 dunums (3 hectares).

The East Ghor Main Canal, the largest single U.S. contribution to Jordan's development effort, made an immediate difference in the quality of life of the area's residents. Reliable water availability attracted thousands of people who were still searching for productive farmland. These new settlers quickly transformed the Valley into an area of modern, irrigated farmland producing high-value, marketable fruits and vegetables.

Unfortunately, the 1967 June War brought the agricultural momentum to a halt. Shelling demolished 60 percent of the homes, schools and roads, put thousands of dunums of farmland out of use, and damaged parts of the canal. The diversion tunnel bringing the canal water from the Yarmouk was almost completely blocked. Constant repairs became overwhelming, and before long the canal began to collect silt and shelling debris. Potable water, the essential ingredient for life, was inadequate for the second stream of refugees who fled from the west side of the Jordan River into the Valley. Together with most of the 60,000 Valley inhabitants they headed for the safety of the eastern hills. Only 4,000 - 5,000 people remained.

With the restoration of stability and security in late 1971, the original families began to return. They were accompanied by thousands of new refugees, mainly small farmers from agricultural communities who were looking for available land. The Valley's potential for irrigated agriculture and the long growing season appeared as in earlier years to offer the best opportunities for productive employment and livelihood.

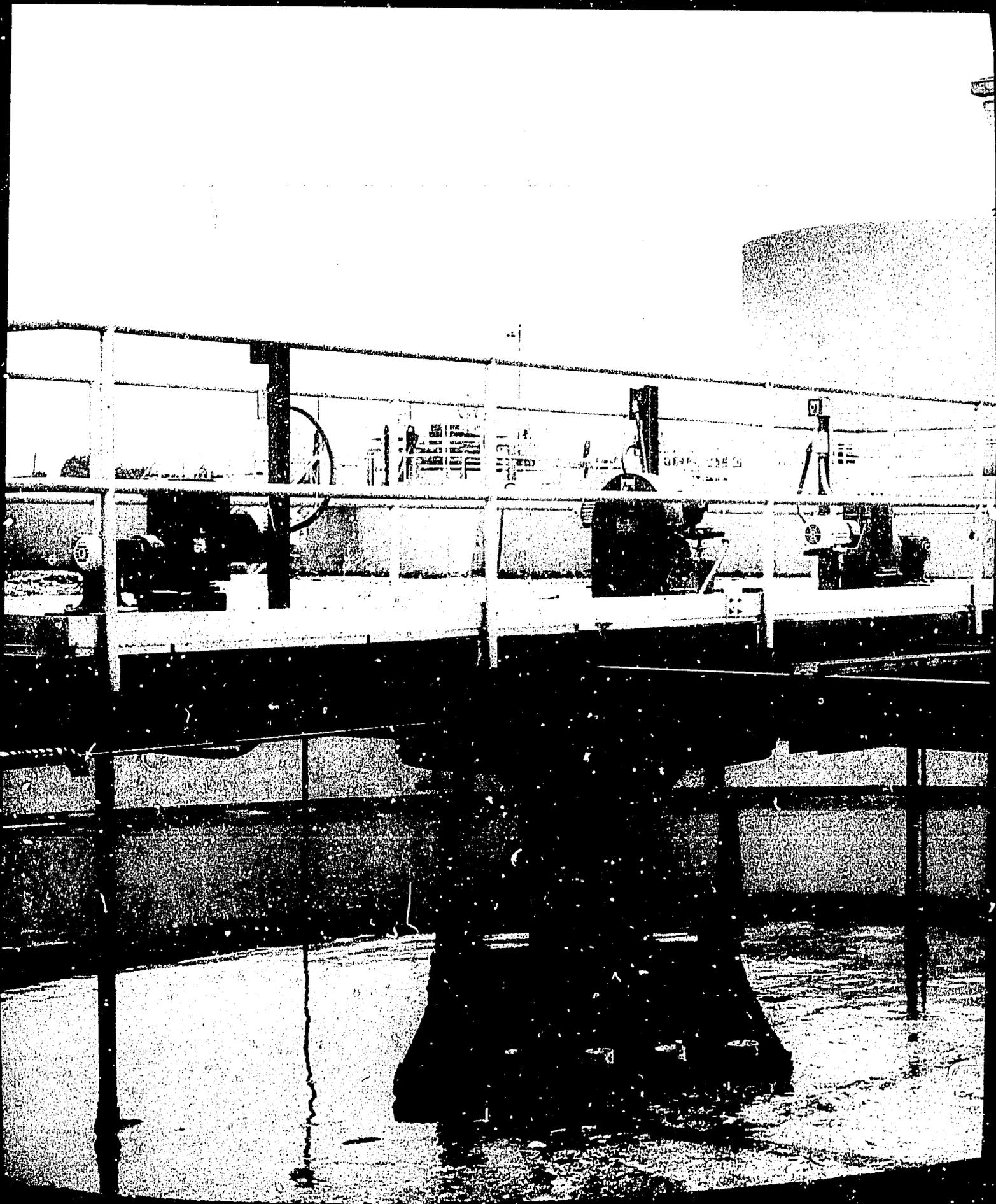
Faced with the twin tasks of providing for these new refugees and rebuilding its shattered economy, the Government of Jordan again placed a high priority on developing the Valley. In 1972 with the assistance of a team of USAID consultants, the government formulated a comprehensive plan to restore the area to its pre-war condition and provide for future growth. This plan, based on a proposal written earlier by the Jordan Valley Commission (JVC), went a step further than previous designs by integrating social services with the economic infrastructure.

USAID did not wait for the finalization of the designs to resume its economic assistance. In 1973, it loaned 10 million dollars to construct an 18 kilometer (11 mile) extension of the East Ghor Canal. A new network of 350 kilometers of pressure pipes provided water for 944 more farms. USAID also funded the Zarqa Triangle Irrigation Project which drew water from the King Talal Dam to irrigate lands too far east to be served by the main canal. These projects irrigated an additional 90,000 dunums (9,000 hectares).

In order to provide better market access to farmers, USAID also upgraded and extended the main 105 kilometer (65 mile) road from the north end of the Valley to the Dead Sea.

In 1975, with a contribution of 29.15 million dollars from USAID, construction of the Valley infrastructure began. Within five years, the Valley achieved unprecedented growth. For the first time, there were roads from each of the 36 villages to the main highway, enabling farmers to sell their produce within a few hours of packing it. Seventy new schools provided education for children who previously had not been able to travel the long distances necessary to reach the few classrooms. The 16 new hospitals and health care centers, commercial centers, housing, a modern telephone system, and the 14 government administration offices attracted thousands of people who wanted to take advantage of these new employment opportunities and services.

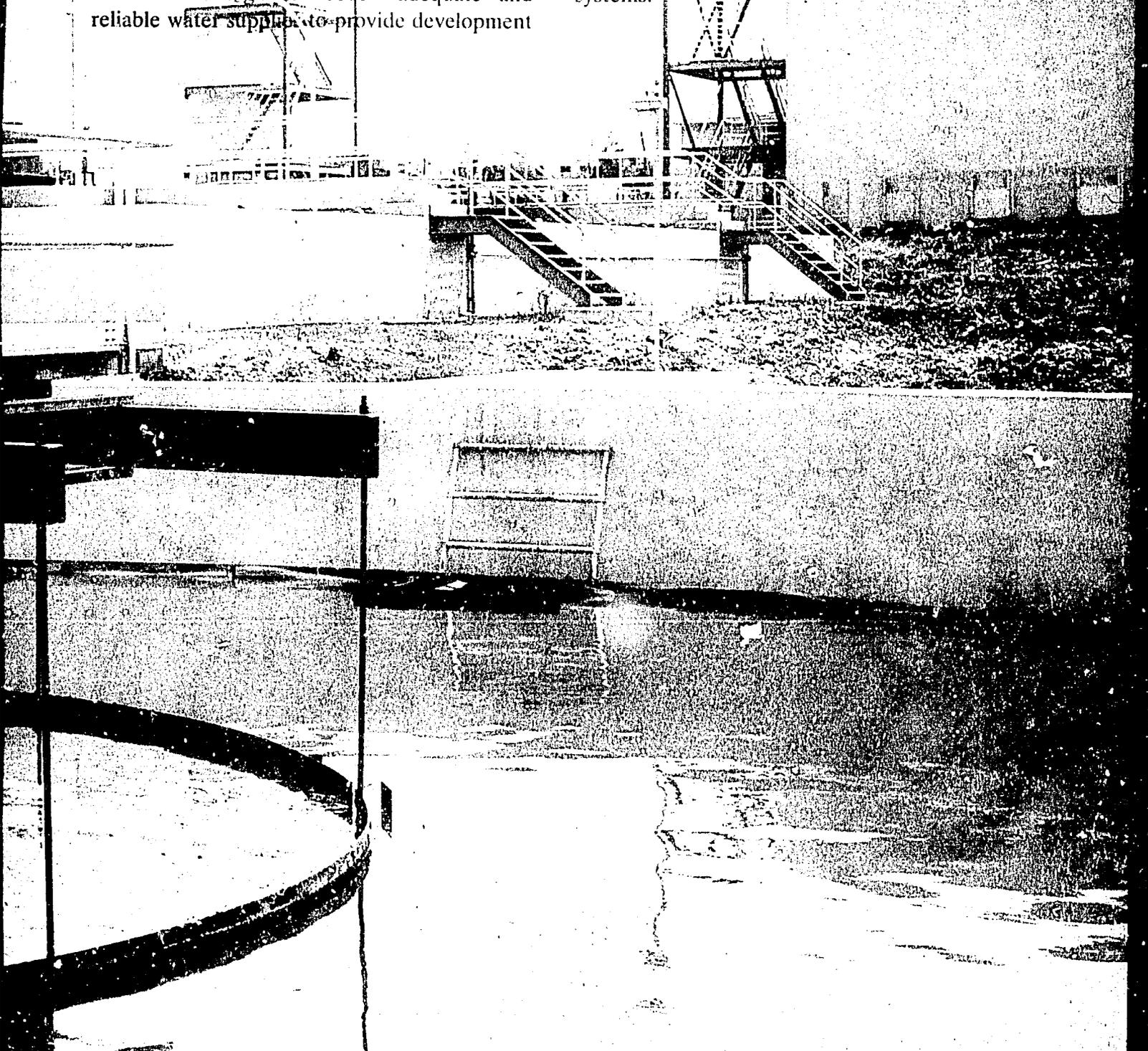




# Water

More U.S. economic assistance to Jordan has gone to preserving and developing water resources than to any other sector of the economy. Knowing that the newly created Hashemite Kingdom needed adequate and reliable water supplies to provide development

opportunities and to enhance its political and economic stability, the first U.S. assistance program, called the U.S. Foreign Operations Mission, placed a high priority on basic water systems.



*Irbid, wastewater treatment plant: Serving the nation's second largest city and suburbs, the Irbid facility now treats 12,000 cubic meters of wastewater per day.*

Because of the immediate need for domestic and irrigation supplies, the Mission decided to concentrate on the improvement and expansion of Jordan's existing systems while undertaking long-term studies for more massive infrastructure projects.

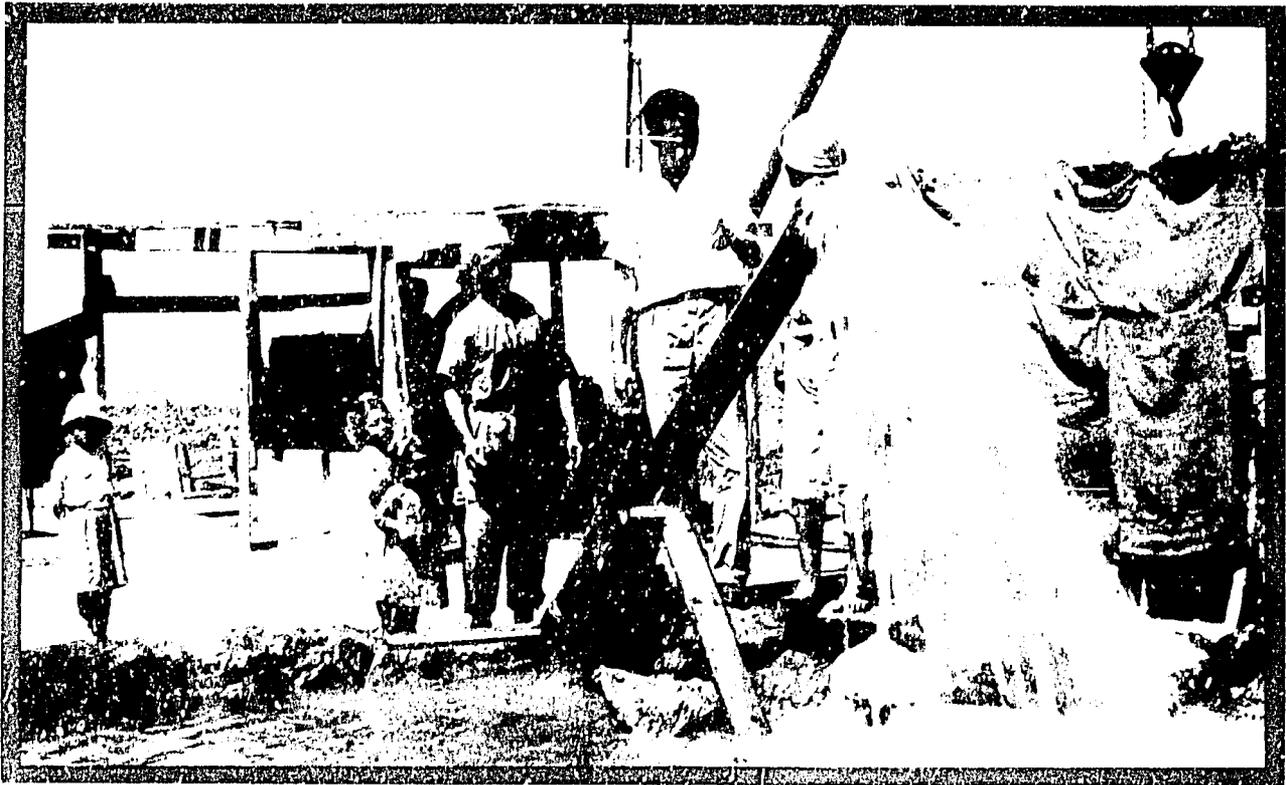
One of the first activities undertaken by the U.S. in 1952 was the renovation of 75 Roman cisterns which had filled with silt and were no longer capable of holding runoff water. In addition, 180 new wells were dug, 100 existing wells were rehabilitated, and springs cleansed and improved to increase water to the desert tribes. By 1958, for the first time, there was reasonable assurance that a man's herds would not perish from drought, and communities which previously were limited by the lack of drinking water could consider expansion.

To control the erosion of top soil by winds and heavy rains, and to develop and protect forest lands, forestation and watershed management schemes were carried out on thousands of dunums. Nursery operations produced millions of seedlings which were planted during the first four years of American assistance. Three thousand Jordanians were involved in these environmental programs.

These early projects were only the beginning of American efforts to increase Jordan's water resources. In 1958, the United States embarked on a massive project to increase the irrigation potential of the Jordan Valley. Utilizing the American-designed Master Plan for the area, the U.S. commenced the construction of the famous East Ghor Canal. This waterway enabled the Valley to develop from an area of subsistence farming to a modern, market-oriented agricultural center. The Canal project has been one of America's most successful water assistance projects in the world. (See section on the Jordan Valley, page 12 ).

Although the project produced remarkable results in terms of increased agricultural production, both Jordanians and Americans realized it was not enough to meet the country's development requirements, that Jordan needed a national authority to investigate, develop and control all aspects of the country's water resources. As a result, USAID assisted in establishing the Central Water Authority (CWA) in 1960, an organization which, combined with other entities, later became the present Water Authority of Jordan. This organization, directed by an American for the





*Test well drilling, 1960s: Essential to developing permanent agricultural communities after the tribes were settled, existing village wells were cleaned and hundreds of new wells dug.*

first six years, immediately embarked on a program of hydrological mapping to form a basis for a comprehensive national water policy.

The completion of the first mapping project in the mid-1960s resulted in the construction of a series of small dams, and approximately 40 small agricultural irrigation systems which brought water to 750,000 people. The drilling of 376 exploratory wells together with local springs provided enough domestic water for Amman, Zarka, Irbid, Nablus, Ramallah, Bethlehem, Hebron and 275 small villages. In 1962, the Central Water Authority, the Jordanian Army, and USAID, having located excess pipes in U.S. army European stockpiles, combined forces to pipe and pump well water from Hebron to Bethlehem and Jerusalem, a water-access system still used today.

While the mapping, well-drilling and smaller agricultural irrigation systems were underway, USAID, again with the assistance of the army and private contractors, began the construction of the first major dam on a side wadi of the Jordan Valley. The Wadi Ziglab Dam, funded by a 2 million dollar grant in 1963, is the largest dam below sea level in the world. It draws winter storm run-off from a 45 square mile watershed and stores it in a 4.4 million cubic meter reservoir to irrigate farmlands in the Jordan Valley during the dry summer months.

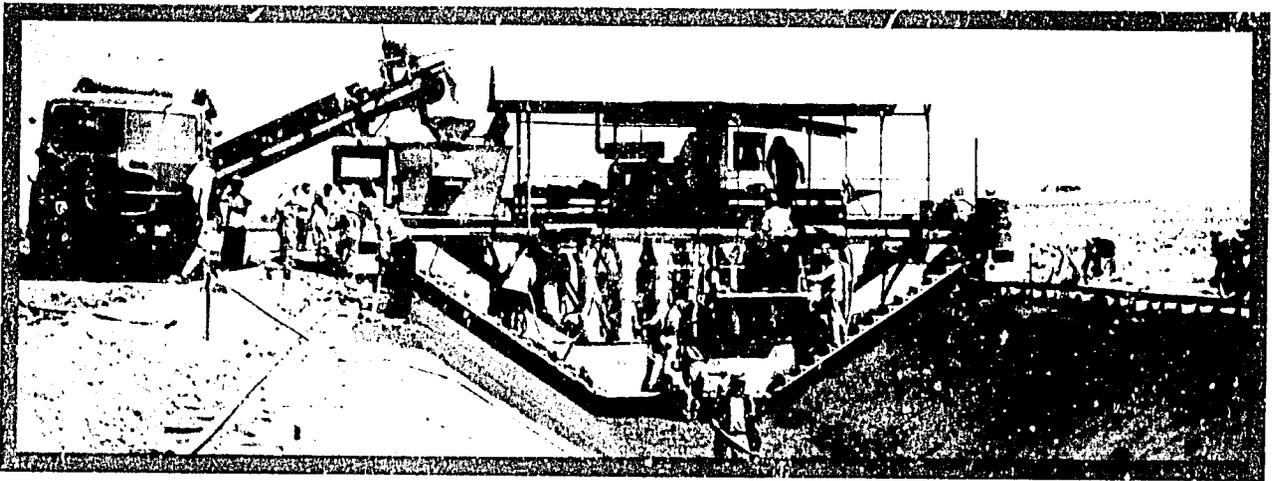
The June 1967 War threw Jordan into another major crisis. The problems of feeding the new wave of refugees were compounded by the occupation of 80 percent of its total fruit-growing lands and 45 percent of Jordan's vegetable growing capacity located on the West Bank. Again, the government was compelled to

locate new and adequate water resources to support a major agricultural development scheme.

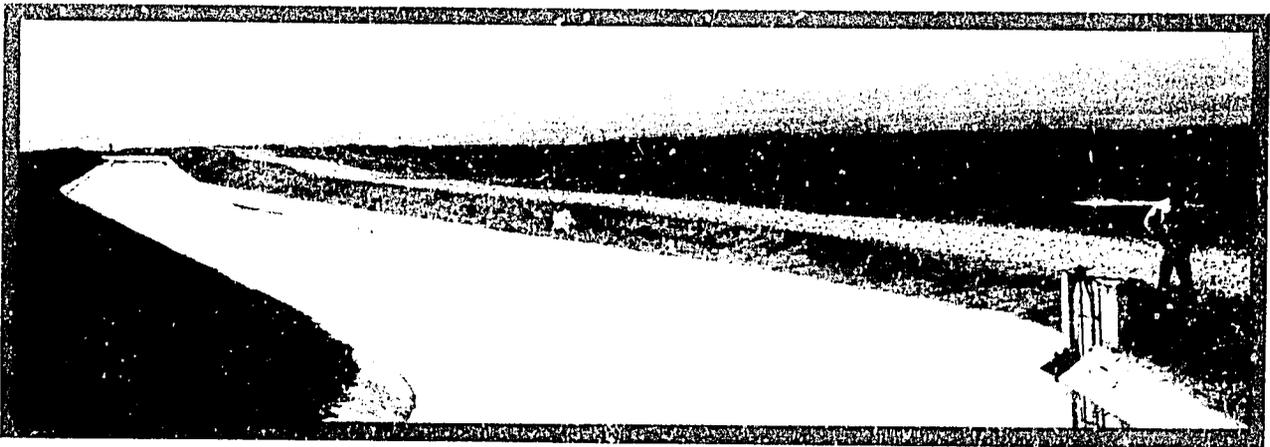
With the end of the fighting, USAID began to concentrate on the reconstruction of the damaged Jordan Valley, the area which presented the best opportunities for the resettlement of the new refugees. The first major American-funded project after 1967 was the construction of an 18 kilometer (11 mile) extension to the East Ghor Canal and the side feeder systems to reach each farm community. USAID contributed 10 million dollars of the 16 million dollar cost for this program. The United States also contributed 4.5 million dollars for the

Zarqa Triangle Irrigation Project. By drawing water from the reservoir at the King Talal Dam on the Zarqa River, 1,000 new farms received irrigation services.

The exploration and development of water infrastructure systems, and the training of engineers and managers to plan for and oversee the maintenance of Jordan's water systems remained a USAID priority for the next fifteen years. At the time of the construction of the East Ghor Main Canal, there was not one hydrologist in Jordan. Now, after having received academic training at U.S. institutions, there are dozens of Jordanian hydrology professionals providing expertise and professional direction at the



*Construction of the East Ghor Canal, 1960s: Built in the early 1960s, the original 70 km. Canal and its lateral feeder system changed the pattern of agricultural development in Jordan.*



*East Ghor and lateral feeder systems completed, 1970s: The Canal and its lateral feeder systems were extended another 18 kms by 1975, reaching even the most outlying farm communities, now forming Jordan's agricultural life line.*

middle and top management levels in the Government of Jordan. These highly-trained workers are also in great demand in the Gulf states.

As in other countries, the 1980s has brought tremendous growth to Jordan's urban areas. The establishment of new neighborhoods suddenly increased domestic water requirements. As a result, USAID shifted its emphasis from the construction of irrigation systems to municipal water service. By the end of the decade, the Government of Jordan, using 38.5 million dollars in USAID loans and 47.5 million in grants, will be able to provide domestic water distribution and sewage collection systems, and wastewater treatment plants for 740,000 additional people in 15 urban areas.

Searching for new water resources remains a Jordanian and USAID priority. At the present time, USAID is providing 5 million dollars to the Water Authority of Jordan for increased efforts in hydrological mapping, and in planning storage and retrieval systems for Jordan's future development needs.

WATER																		
51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1952-1959 Water Infrastructure Improvement (wells, cisterns, dikes, etc.)																		
1952-1964 Urban Domestic Water Systems																		
1959-1971 East Ghor Canal and Side Irrigation Projects																		
1960-1972 Engineering Design, Equipment and Resource Mapping																		
1973-1979 East Ghor Canal Extension and Irrigation Projects																		
1974-1979 Zarqa Triangle Irrigation																		
1976-present Water and Wastewater Systems for 15 Cities and Towns																		
1980-1986 Ground Water Investigation																		

- *The name derived from the fourth point President Truman made in his 1949 inaugural address in which he discussed the need for American technical assistance to developing countries.*

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# Agriculture

The United States began its involvement in Jordan's agricultural development in 1952 under the Point IV Program\*. At that time, agriculture was the mainstay of the Jordanian economy. Production, however, was at subsistence levels,

requiring the Government to import more than 20 million dollars worth of food annually. Crop yields, due to a lack of water storage and irrigation systems, were dependent on unpredictable winter rains. At least once every



*The staff of life: Before 1952, crops failed due to poor farming methods and drought at least once every 5 years. For 35 years, USAID funding for research and development of modern crop management techniques has continuously assisted Jordanian farmers, now achieving world standard yields per dunum.*



*North Shunch eggplant harvest, 1960s: Women pick first produce irrigated by water siphoned from the East Ghor Canal*

five years, the country's wheat crop suffered complete failure due to drought. Additional constraints included wide spread soil erosion, plant disease and the absence of modern farming technology. The Jordan Valley possessed the potential for high agricultural productivity, but its water resources were undeveloped and the presence of malaria discouraged settlement. Although it was generally felt that production increases could be made under both rainfed and irrigated conditions, there was no national agricultural policy to direct the necessary changes.

USAID's arrival was the catalyst for a hard look at agricultural problems and the formulation of possible solutions. Given the importance of reliable water supplies in increasing and sustaining crop production, which in turn would lead to improved incomes and political stability, USAID's first priority was to improve the availability of dependable water supplies.

By placing an emphasis on dozens of small, quick-fix projects, such as rehabilitating existing wells and repairing small dikes, farmers were able to benefit almost immediately. The American technicians also introduced water-spreading systems on desert lands to promote the cultivation of forage crops for bedouin herds.

One of the most successful agricultural assistance efforts which continues to this day has been the establishment of research and extension centers. As early as 1953, USAID established the Rural Development Department (later the Department of Extension) in the Ministry of Agriculture to educate farmers in all phases of crop management and animal husbandry. Eleven experimental farms conducted trials on sixty-five varieties of perennial grasses and legumes which could be grown in desert areas.

The companion program in livestock improvement was particularly successful.

Livestock inspectors and veterinarians were trained in disease diagnosis, parasite identification, and the administration of curative measure and preventive vaccination programs. Within a few years, the size and health of livestock herds increased dramatically.

USAID-supported demonstration stations also taught chicken farming, artificial insemination, and farm management. To insure a cadre of well-informed Jordanians to carry on this extension work, dozens of officials from the Ministry of Agriculture received on-the-job training while others studied at U.S. agricultural institutions.

Additional funds enabled the Ministry of Agriculture to establish an experimental seed farm at Shobak to introduce more productive varieties at low cost. By 1958, nearly two tons of superior and inexpensive wheat seeds produced in field trials were sold to farmers. USAID also established a dairy herd management center at

Jubeiha, a livestock range management station at Shaumari, and fruit and vegetable experimental laboratories in the Jordan Valley.

By the late 1950s, the designs for extensive irrigation systems were completed. For the next two decades, the U.S. embarked on a series of major construction efforts to provide a continuous supply of water to croplands and orchards. When the systems were in place, farmers were able to extend their growing season to include both spring and summer vegetables. With better quality seeds, improved marketing practices and the application of fertilizers and other chemicals, farmers' net income increased over five fold in a period of a few years. A large portion of their extra earnings were ploughed back into farming operations resulting in higher productivity and increased cultivated acreage. By 1979, irrigated lands in the Jordan Valley had reached 220,000 danums (22,000 hectares).



*Experimental farm, Wadi Fara'a, 1953: Fertilizer usage demonstrations helped local farmers progress from subsistence level cultivation to modern agricultural production.*



*Animal husbandry project, 1955. Mass vaccinations and simple, easy to understand educational campaigns to combat poultry and herd diseases. Educated farmers in basic animal husbandry*



*Banana plantations, Jordan Valley, 1960s. Farm workers splash through an East Ghor Canal lateral during the transplantation of young banana plants. An adequate supply of water to croplands and orchards is now available year round.*

In the succeeding years, USAID continued to encourage agricultural investment. In 1978, it provided 1.4 million dollars to establish the Jordan Valley Farmers Association (JVFA). In addition to providing technical assistance in crop management, the program supported a farmers' loan program. By placing their anticipated crops as collateral, farmers could secure loans for their production costs. The loans were half in cash and half in kind (i.e. seeds, chemicals and fertilizers).

In 1980, with a basic Valley infrastructure in place, USAID shifted its priorities to assist farmers in increasing their crop yields. With a grant of 6.42 million dollars, USAID was instrumental in developing the Agricultural Research Center at Deir Alla into a technologically modern facility. The American-trained staff provides farmers with the results of agricultural research specific to the Valley area and provides services in soil and water testing and disease identification. The staff also makes recommendations regarding

pest control, the use of appropriate disease-resistant seedlings, irrigation methods, and the most effective combinations of fungicides and mulch. New crops such as broccoli, fennel and Chinese cabbage have also been introduced.

Local farmers appear to have made good use of the services provided by the Research Center. In the first year, those taking advantage of the services increased their output by 100 percent. They have since increased their yields another 400 percent, bringing their production per dunum up to world standards. In 1986 alone, the center examined over 800 soil samples brought in by the local farmers.

USAID is presently equipping nine additional Valley extension centers, each one serving 500 farms. These centers will be able to present audio-visual material on agricultural problems and solutions, as well as to provide advice and laboratory analyses.

USAID is also placing a high priority on assisting farmers in the rainfed highlands. Most of the country's farmers live in the highlands and

the area accounts for 60 percent of national production. Thus, this area holds the key to increasing Jordan's food supply, reducing Jordan's dependence on imported foods, and creating new employment opportunities.

In 1985, USAID launched the 27.5 million dollar Highland Agricultural Development Project. The major thrust is the identification and introduction of new and improved dryland technologies through the National Center for Agricultural Research and Technology Transfer (NCARTT) and five satellite agricultural service centers. Applied research will determine exactly which technologies will be the most effective for increasing crop yields in each specific area. Extension agents will make continually up-dated information available to the region's farmers. The NCARTT will coordinate all agricultural research and extension services in the Kingdom and, together with representatives from public and private enterprises including farmers, will formulate national agricultural policy for the Kingdom.

## AGRICULTURE

51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1953-present Agriculture Research and Extension																		
1954-present Agriculture Irrigation Projects																		
1953-1956 Animal Husbandry																		
1974-1979 Establishment of Faculty of Agriculture, University of Jordan																		
1977-1983 Jordan Valley Farmers Association																		
1981-1988 Jordan Valley Agriculture Services (Part of research and extension)																		
1985-present Highland Agriculture National Center for Agriculture Research and Technical Transfer																		

In 1952, the beginning of America's first assistance efforts in Jordan, education was a privilege mainly for urban dwellers. The number of schools was inadequate to accommodate the school-age population and there were no teacher

training colleges. The Government of Jordan was well aware of the nation's educational needs but simply lacked the necessary funds to improve the situation.



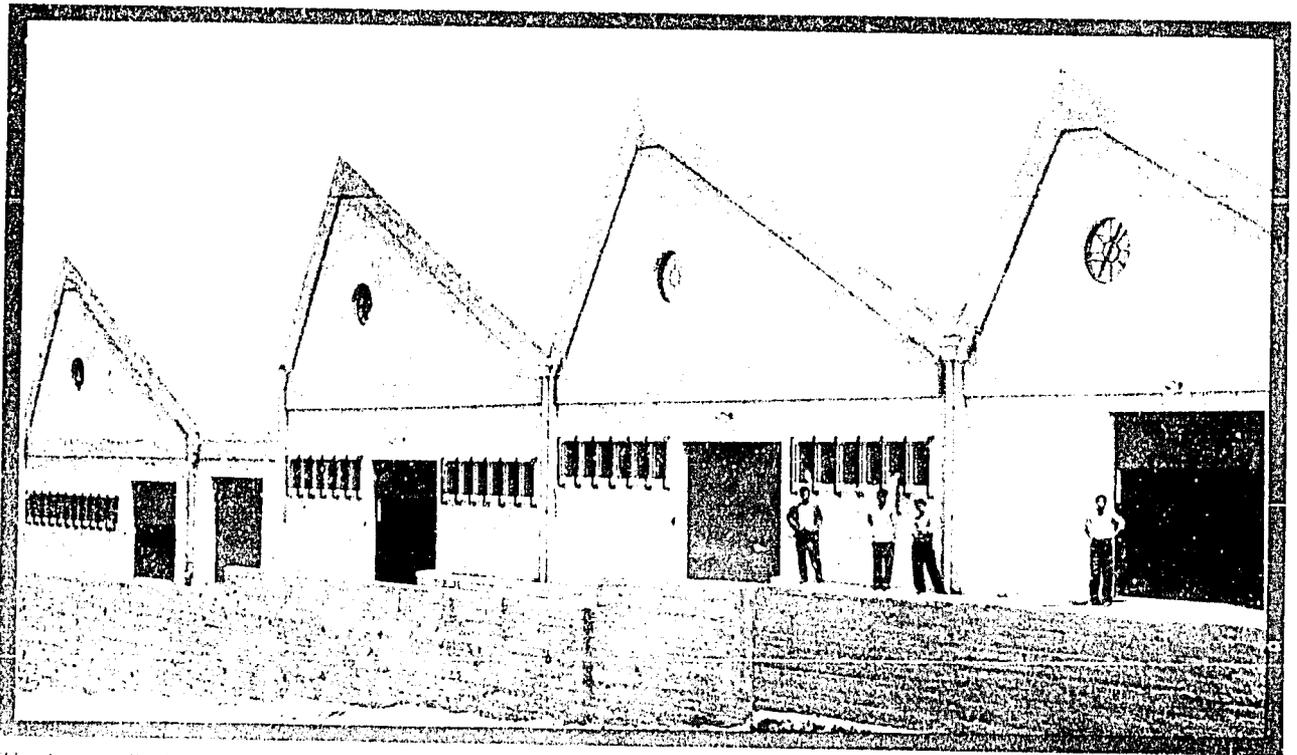
# Education and Training

The U.S. Mission, in cooperation with the Ministry of Education, immediately tackled the need for training teachers. While funding the design, construction, and equipment purchases for four teachers colleges, the U.S. provided college-level and graduate training both in the

United States and at the American University of Beirut for teachers who would staff the centers. The program also trained many of the specialists in the Ministry of Education in curriculum development, administration and the publication of textbooks. At the same time, an extensive in-service program was instituted for urban, rural and bedouin teachers. The combination of these programs soon enabled Jordan to provide adequate educators from



*Al Manaahil - The Source: Produced jointly by Jordan Television, Jordan Company for TV production and the Children's Television Workshop, makers of 'Sesame Street', the program delights viewers of all ages with basic reading skills.*



*The Amman Trade School, 1980s. The first vocational school in the country continues to prepare students in 1987 for highly paid jobs as electricians, mechanics, carpenters and metal workers.*

within its own system.

An impressive group of professional teachers was of little value to Jordanian children, however, without appropriate facilities. With funds generated from the sale of American surplus commodities, hundreds of additional primary and secondary classrooms were built in rural areas, opening the door to education for thousands of village and farm children. The U.S. also provided classroom equipment and supplies to almost 200 schools. Among the donations were 13,500 American books for supplementary reading in English.

Because Jordan in the early 1950s was essentially an agricultural society, the U.S. also placed a high priority on agricultural instruction. The Khadouri school, the most famous of the fifty-five agricultural education programs funded by the U.S., was typical of the U.S. - Jordanian commitment to enhancing the Kingdom's agricultural development. The

importation and production of better varieties of poultry, bees, rabbits, turkeys and garden stock, the provision of incubators, brooders and dairy food processing machinery, and the construction of modern laboratories and farm equipment repair centers were all a part of USAID's efforts in this sector.

To provide a broadly-based educational system geared to producing the skilled workers needed for Jordan's development, the U.S. also funded commercial departments in local schools and the construction of industrial trade schools in Amman, Ramallah and Beit Hamina. The Amman Trade School, established in 1953 as the first vocational school in the country, continues to prepare students today for jobs as electricians, auto mechanics, carpenters, and cold and hot metal workers.

To encourage young boys to pursue craft skills and to continue their education at the new vocational institutions, the United States

equipped Industrial Arts centers in twenty-two secondary schools in all districts of the Kingdom.

Within a few years, the combination of these training programs produced a large cadre of skilled workers in demand in many less advanced Arab countries. By the early 1960s, Saudi Arabia was recruiting 1,200 Jordanian teachers annually for service in Saudi schools. The remittances of these and other trained Jordanians to their families in Jordan grew to 20 million dollars by 1962. These funds constituted the largest single source of Jordan's foreign trade earnings.

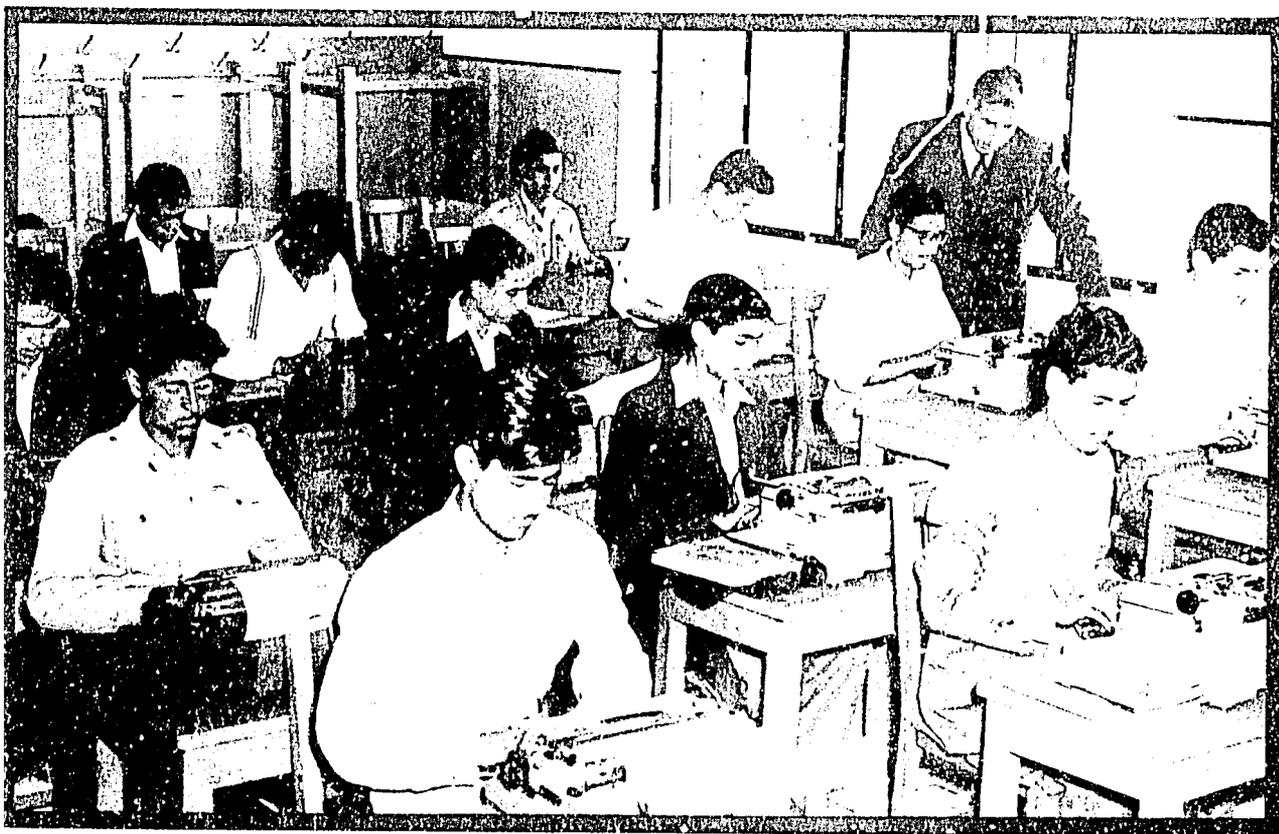
With the establishment of the University of Jordan in 1962, the United States Aid Mission shifted its training emphasis to strengthen the professional qualifications of the University faculty. Beginning in the sciences, and later including the fields of agriculture, administration and management, professors

were provided American graduate-level training.

Over the ensuing decades, USAID continued to stress educational opportunity and quality instruction. At the present time, USAID is supporting the construction of forty new school buildings, bringing the total number of American-funded schools to more than 150.

The United States is also continuing its efforts to enhance the instruction at the University of Jordan. In 1986 USAID, in cooperation with the Jordan Institute of Management and the Faculty of Economics and Administrative Sciences, funded a 5 million dollar project to upgrade administrative and technical training in manufacturing, agribusiness, and management services.

In addition to the programs at the University of Jordan, USAID is presently contributing 7.5 million dollars to the fourth



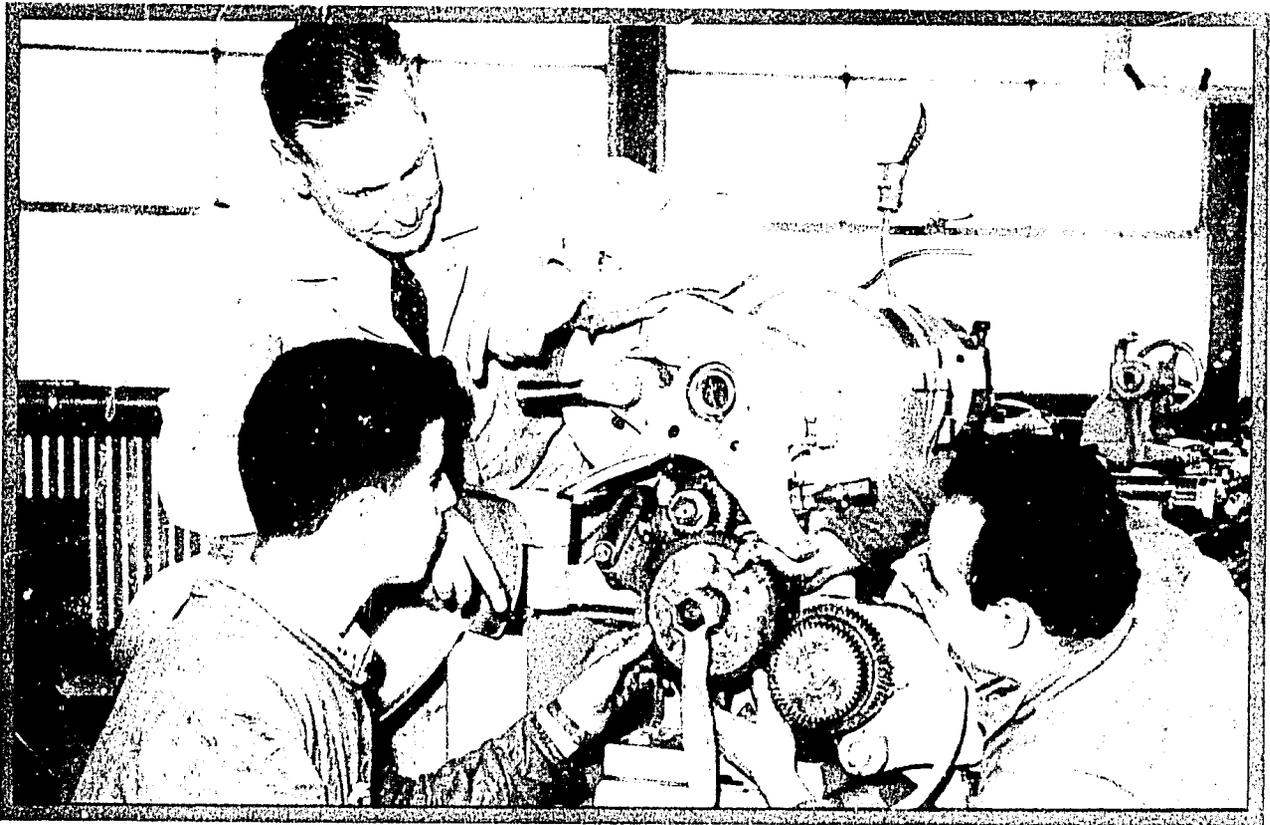
*King Hussein Men's Teachers' College, 1950s: Early grants, such as those given for this college's construction and classroom training equipment, provided opportunities for the development of vital commercial skills needed throughout the Middle East.*

segment of the Development Administration Training Project. To enhance Jordan's production and productivity, 800 participants, many from the mid-level of private sector businesses, will receive short-term training courses at U.S. universities ( long-term courses will also be available if appropriate). Courses in business management, marketing, packaging, distribution, accounting, industrial hazards, health and safety, finance, computer science, production control, quality assurance, and other technical areas will all be available to Jordanian business employees.

The popularity of many decades of U.S. training is evident by the numbers of Jordanians who have taken advantage of these programs. By 1987, more than 2,800 students had been funded for training in either agriculture, education, public administration, health or engineering. Five ministers in the current



*Ramallah Teachers' College, 1960s: Teachers learn to use teaching aids such as movie projectors during in-service training courses.*



30 *On-the-job training, 1955: Machine maintenance shops at the Amman Trade School produced a large cadre of skilled workers, demanded at home and in developing, oil rich Arab countries.*



Jordanian cabinet have received USAID-financed training in their fields.

One of USAID's most innovative educational projects since its arrival in Jordan has been the production of the television literacy series, "Al Manaahil" (The Source). This series, funded by a grant of 5.9 million dollars and produced jointly by the Children's Television Workshop of New York, the producers of the successful U.S. television series "Sesame Street", and the Jordan Company for Television Production, provides basic Arabic reading skills to viewers of all ages. Sixty-five imaginative programs will stimulate a sense of joy in reading as well as impart basic facts and skills. Fresh and attractive production techniques have resulted in a well-designed series providing Jordan Television with a high quality product to market to other Arab countries.

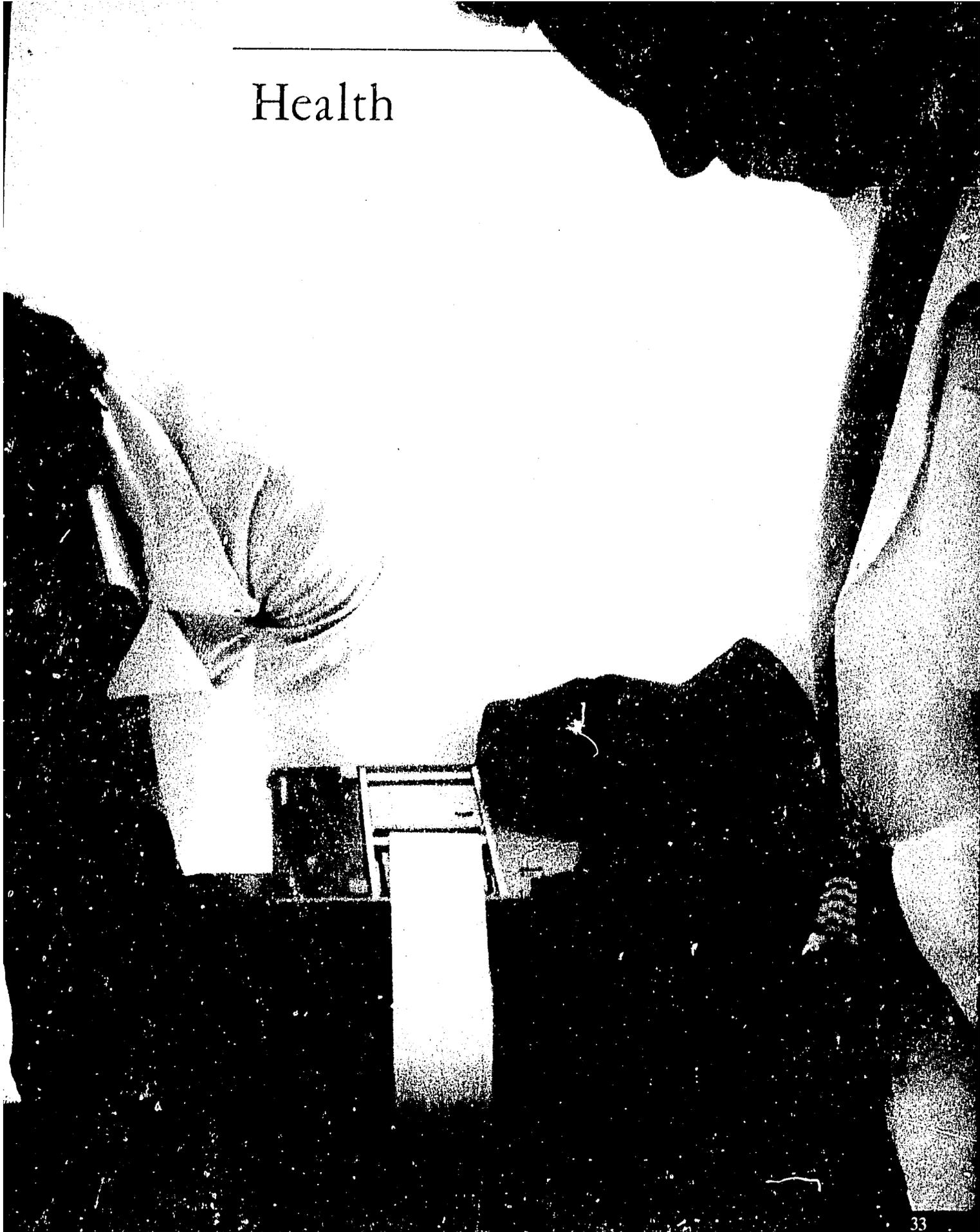
## EDUCATION

51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1953-1969 Teacher Training Colleges, Vocational Schools, Construction, Equipment and Teacher Training.																		
1952-1965 Undergraduate University Training, Mainly in Arab countries / Undergraduate and Graduate Training, and Short Term Training at the AUB and in the United States.																		
1958 - present Public Administration Organization and Training for Government of Jordan																		
1975-present Vocational Training Center and School Construction.																		
1983-1987 TV Literacy Series "Al Manaahil"																		
1987 - present Private Sector Training.																		



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# Health



*EKG test in a Jordan Valley Health Center: In the Jordan Valley alone, USAID has built more than 16 health centers and hospitals in rural communities, assisting in the development of a modern health care infrastructure.*

The health of Jordanians has been of primary concern to USAID since the inception of its programs in the Kingdom in 1952. At that time, Jordan suffered from an underdeveloped health care system, particularly in the areas outside of Amman, Jerusalem and other major cities. There were major shortages of facilities and trained health care personnel. Malaria, tuberculosis, polio and other communicable diseases were widespread.

One of USAID's first projects was to conduct a national survey to establish a coordinated, national approach to tackling Jordan's health problems. Among the recommended immediate and long-term projects was the establishment in 1952 of the Cooperative Health Service as the focal point for coordinating research and implementing specific preventive and curative programs. American technicians enabled the center to get off to a productive start.

Because a modern laboratory is the backbone of successful health care, the United States built and equipped Jordan's first laboratory for the analysis of medical specimens.

The United States also provided the administrative and technical personnel to provide two years of in-service training to the Jordanians. Over the years, the Ministry of Health expanded the facilities and services so that today, besides normal laboratory analysis, these centers also test water quality and the safety of imported foods.

To provide a health infrastructure, USAID built the Tuberculosis Sanitarium in Amman in 1954. The following year, the Ashrafiyeh Medical Complex, the first comprehensive public health facility in Amman, was opened to patients. The first Jordanian School of Nursing, constructed with U.S. funds, graduated students beginning in 1957. Subsequently, the school moved to the Ashrafiyeh complex where student nurses now train at Al Bashir Hospital.

To expand public health services, forty Maternal-Child Health Centers were constructed between 1952 and 1956 in villages throughout the Kingdom. Children suffering from malnutrition were given a high-protein meal every day through USAID's Food for Peace program and mothers were taught basic



*Malaria eradication, 1954: Malaria, tuberculosis and polio were all widespread in Jordan. Early spraying and water analysis programs reduced reported malaria cases from 15,000 annually in the mid-1950s to zero in the 1980s. Other endemic diseases are now nearly non-existent.*



*Tuberculosis vaccination campaign, 1957: U.S. funds trained this nurse vaccinating a bedouin tribesman against tuberculosis in a program administered to 41,000 people in 1,065 villages*

hygiene as well as how to prepare inexpensive, nutritious meals.

Aside from infrastructural development, one of Jordan's most immediate medical needs was the eradication of malaria, a debilitating disease found in Amman, Azraq and other areas, but concentrated in the Jordan Valley. It was clear that the agricultural potential of the Valley could not be realized without the eradication of this disease which was affecting nearly all of the Palestinian refugees who had settled there. In 1954, USAID and the Government of Jordan began a concerted program of swamp drainage and spraying. The number of reported malarial cases dropped from 15,000 in 1954 to only 28 in 1967. Today, malaria is non-existent in Jordan, and the former areas of major infestation have been converted to productive cropland.

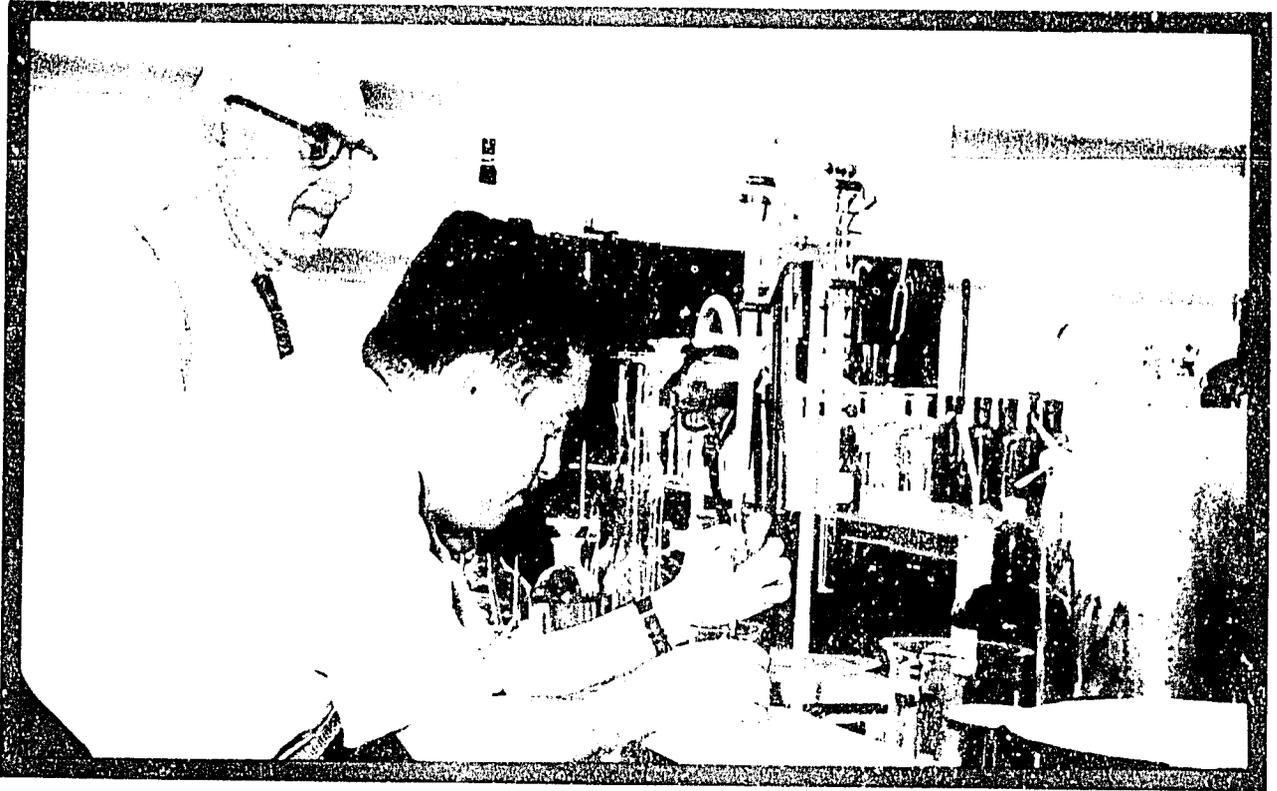
Health immunization programs, the designing of sewage systems for Amman, Salt,

and Ma'an, health inspections of public restaurants, and food processing plants were all a part of early U.S. programs in Jordan and the beginning of three decades of efforts with the Jordanians to improve health care.

In the succeeding decades, USAID continued with the development of a health care infrastructure. In the Jordan Valley, the Southern Ghors and Wadi Araba where there were few health facilities, USAID built 16 health centers and hospitals.

A shift in emphasis towards personnel development occurred in the late seventies when USAID channeled 3.8 million dollars to support the Ministry of Health in developing its management and educational capabilities. An extensive health manpower assessment study resulted in strengthening the planning and education divisions at the Ministry.

The U.S. also funded the publication of an Arabic language handbook of primary health



*Jordan's first laboratory, 1958: The Central Laboratory workrooms with young Jordanian training on AID donated equipment.*

care. This text, used in training over 1000 staff members between 1980-1985, is still the basis of a course taught to all Ministry of Health doctors, nurses, midwives and paramedics.

With U.S. assistance, the Health Ministry established a corps of health educators, assigned to regional clinics, to provide basic health information and act as referral agents. At the same time, the Public Health Service, with U.S. technical assistance and the supply of audio-visual equipment, instituted a series of television and radio health care programs.

To continue to upgrade health conditions, USAID has intensified its drive to improve delivery of basic health services with an emphasis on maternal and child health. At the present time, USAID is spending 6.5 million dollars to strengthen nursing and midwifery services. A national teacher training institute

with improved curricula and opportunities for specialization, and field sites for practical training will upgrade the quality of health procedures.

In coordination with the World Bank and the United Nations Fund for Population Activities, USAID introduced the subject of family planning into the public health system. In 1983 and 1985 USAID sponsored fertility surveys by the Statistics Department which documented public interest in birth spacing. Since 1986, a U.S. grant of 880,000 dollars has supported the Jordan Family Planning and Protective Association in its operation of three new urban clinics.

In addition, the U.S. is currently providing a half million dollars on a two year public health education project. The funding will enable the Noor Al Hussein Foundation with technical

assistance from the Academy for Educational Development to deliver health and birth spacing messages through the mass media.

To continue to reduce infant mortality, a program of oral rehydration therapy was introduced in 1984. The administration of basic body salts to children suffering from diarrheal diseases will provide inexpensive treatment which can be administered in the home. U.S. technical assistance to a local pharmaceutical company will increase the production of rehydration salts to one million packets by 1988.

USAID's financial support of the private sector has expanded, with Save the Children Federation and Catholic Relief Services each carrying out preventive health programs in selected low income rural and urban

communities. The programs will include intensive training of local community members and social workers in identification of disease symptoms, low-cost health procedures, child spacing, infant and child nutrition, sanitary procedures for food preparation and storage, immunization, and pre-natal and post-natal care for mothers.

The success of three decades of health programs is evident from the latest surveys which show an increase in national life expectancy from 49 years in 1961 to 68.4 years in 1984.

The provision of a healthy environment for all Jordanians so that they may participate in their nation's development will remain a high USAID priority.

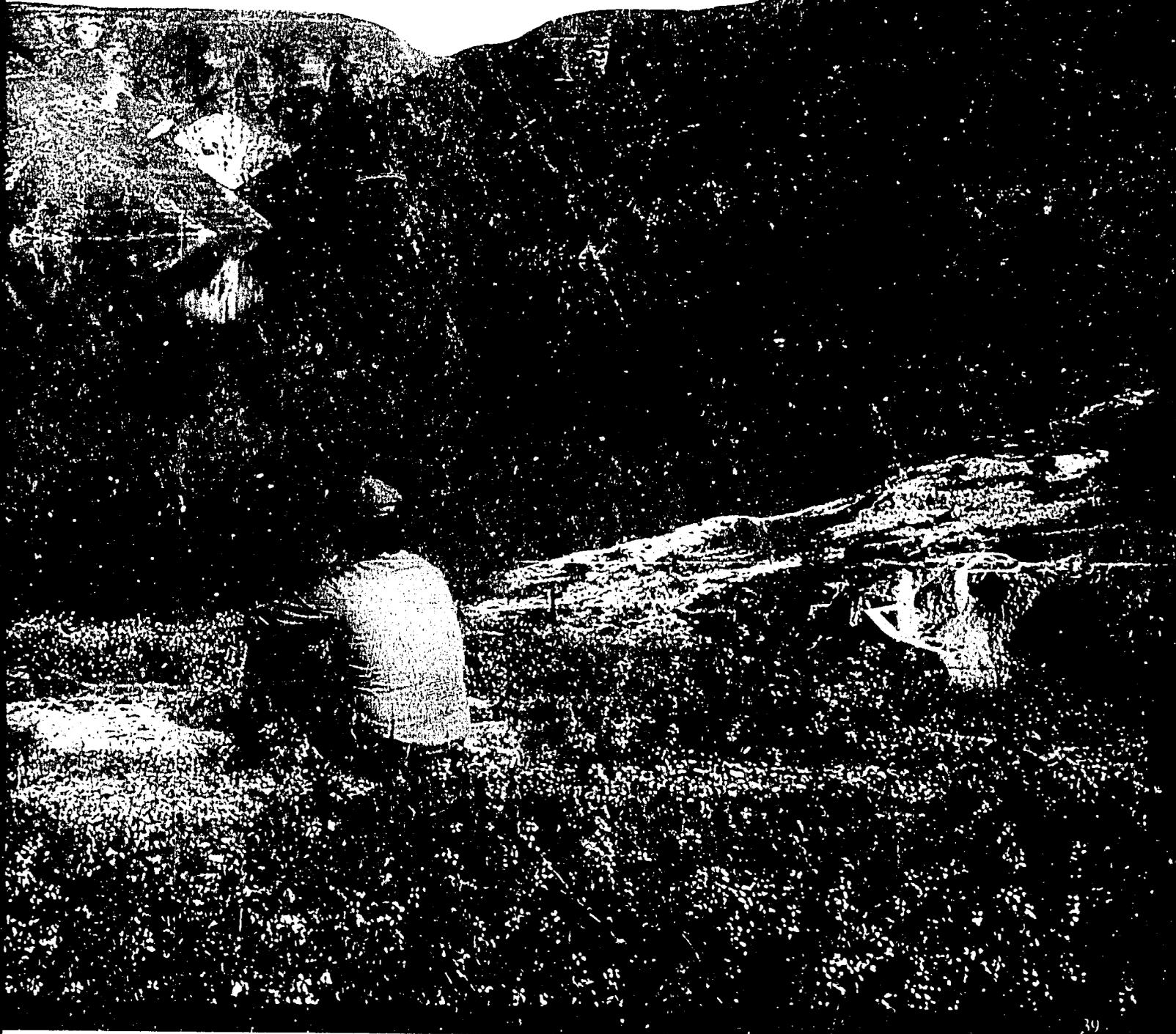
HEALTH																		
51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1952-1963 Nursing Training																		
1952-1956 Maternal-Child Health Clinics																		
1958-1968 Malaria Eradication																		
1963-1968 Health Clinics and Hospitals																		
1975-1982 Health Clinics and Hospitals																		
1977-1985 Ministry of Health Planning, Management, Administration and Services Development																		
1981-1986 Public Health Education																		
1987 - present Primary Health Care and Nursing Development																		



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# Tourism

The Hashemite Kingdom of Jordan's location in the cradle of civilization provides visitors with a series of rich cultural and archeological sites largely undiscovered by Western and Asian tourists. The "lost city" of Petra, desert castles of fabled caravans, Old and



*Unspoiled and serene: The Ziglab Dam reservoir stores 4.4 million cubic meters of water to irrigate the Jordan Valley during the dry summer. Built by USAID funds, the world's largest dam below sea level also provides a splendid scenic view of Jordan's untouched countryside.*

New Testament sites, Roman Decapolis cities and the dramatic mountain-desert area of Wadi Rum, scene of Lawrence of Arabia's most famous exploits, are only a few of the offerings for the tourist interested in a pleasant and different vacation.

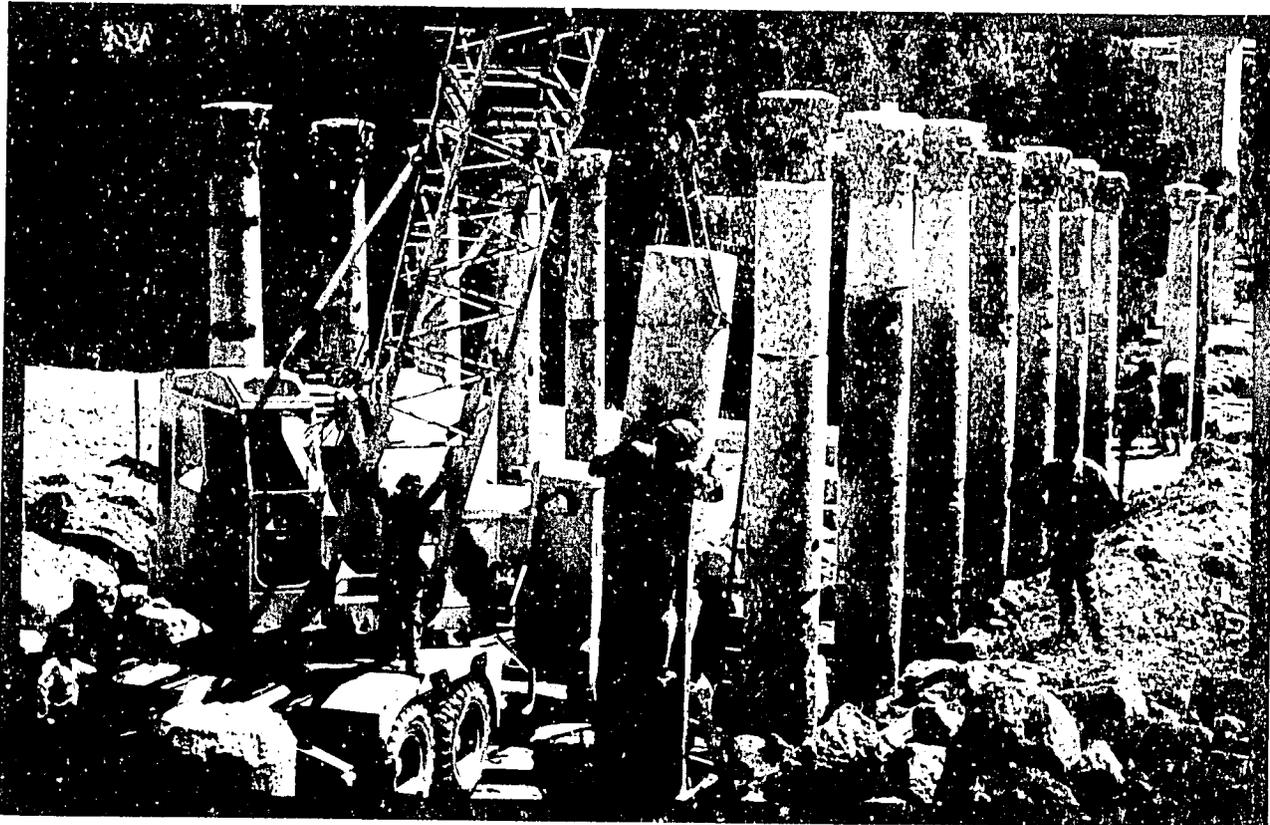
To help Jordan develop its key attractions, USAID began a tourist-site restoration program in the early 1960s. Among the early projects were excavations of Roman buildings in Jerash and Nablus, structural work on the citadel in Karak to make it safe for visitors, and restoration of part of the "Treasury Building" in Petra. To provide access to the "lost city" area, USAID funded the construction of a road between Ma'an and Wadi Musa. Local currency generated from the sale of U.S. surplus agricultural commodities was utilized on the construction of overnight resthouses in Ma'an, Jerash, and Qumran, the site of the discovery of the Dead Sea Scrolls. An AID-financed Industrial Loan Fund provided small, short-term loans for the improvement of existing hotels.

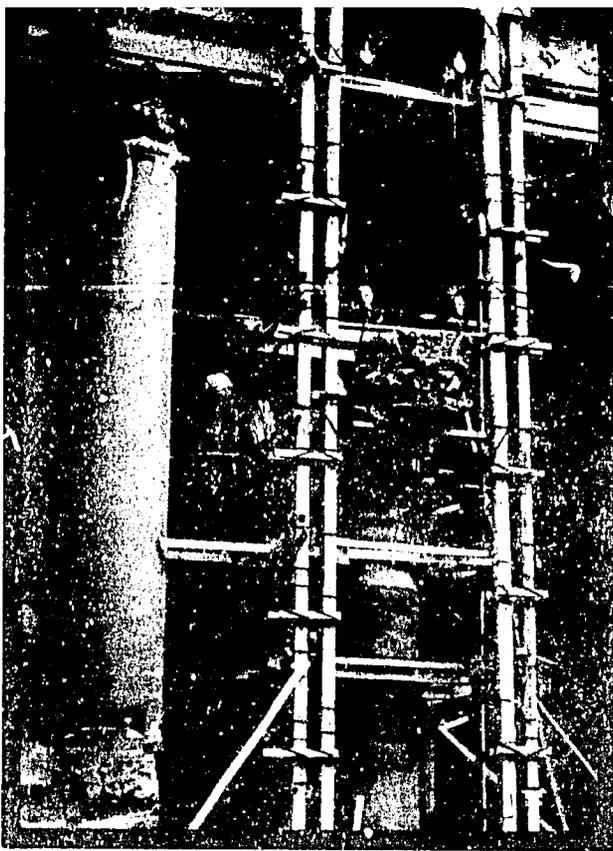
The U.S. also assisted the Government of Jordan in obtaining loans for the financing of new, first class hotels.

To develop a National Park System, a 13-member team of advisors from the U.S. National Park Service worked with the Tourism Authority in drawing up designs. The Amman National Park and the Dibbin Park are direct results of these efforts. USAID's first tourism development program expended more than 2.1 million dollars over a period of 15 years.

In the early 1980s, USAID again considered the tourism sector as a potential source for employment and foreign exchange earnings.

In cooperation with the Ministry of Culture, Tourism and Antiquities, USAID funded a study in 1985 to inventory Jordan's tourist sites and accompanying facilities and to develop an overall tourism strategy. With an emphasis on improving overseas marketing, creating tour packages, and coordinating plans among tourist industry businesses, such as hotels, transportation companies, and tourist agencies,





Restoration of Petra, 1965: One of the Seven Wonders of the Ancient World, lost until its re-discovery in 1812, Petra was the focus of the Jordanian tourist-site restoration program along with Jerash.

USAID expects Jordan's tourist trade to increase substantially.

One of USAID's most successful tourism-enhancing projects undertaken in the past 35 years is the 1987 excavation of the well-preserved early Islamic city of Ayla in Aqaba, a city on the Red Sea. USAID is providing funding to the American Center for Oriental Research (ACOR) for the uncovering of what is expected to be the best preserved early Islamic site in the Arab world. It is hoped that excavation of this unusual "find" will increase tourist interest and development of Jordan's southern port.

TOURISM																		
51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1953-1956 Hotel Improvement Loans																		
1960-1965 Restoration Projects in Petra, Jerash, Karak																		
1960-1965 Ma'in - Wadi Moussa Rd. and Construction of Rest Houses in Petra, Jerash, Karak same years																		
1966-1970 Master Plans for National Parks.																		
1987 - present Ayla Archeological Dig in Aqaba.																		
1986 - present American Center for Oriental Research.																		

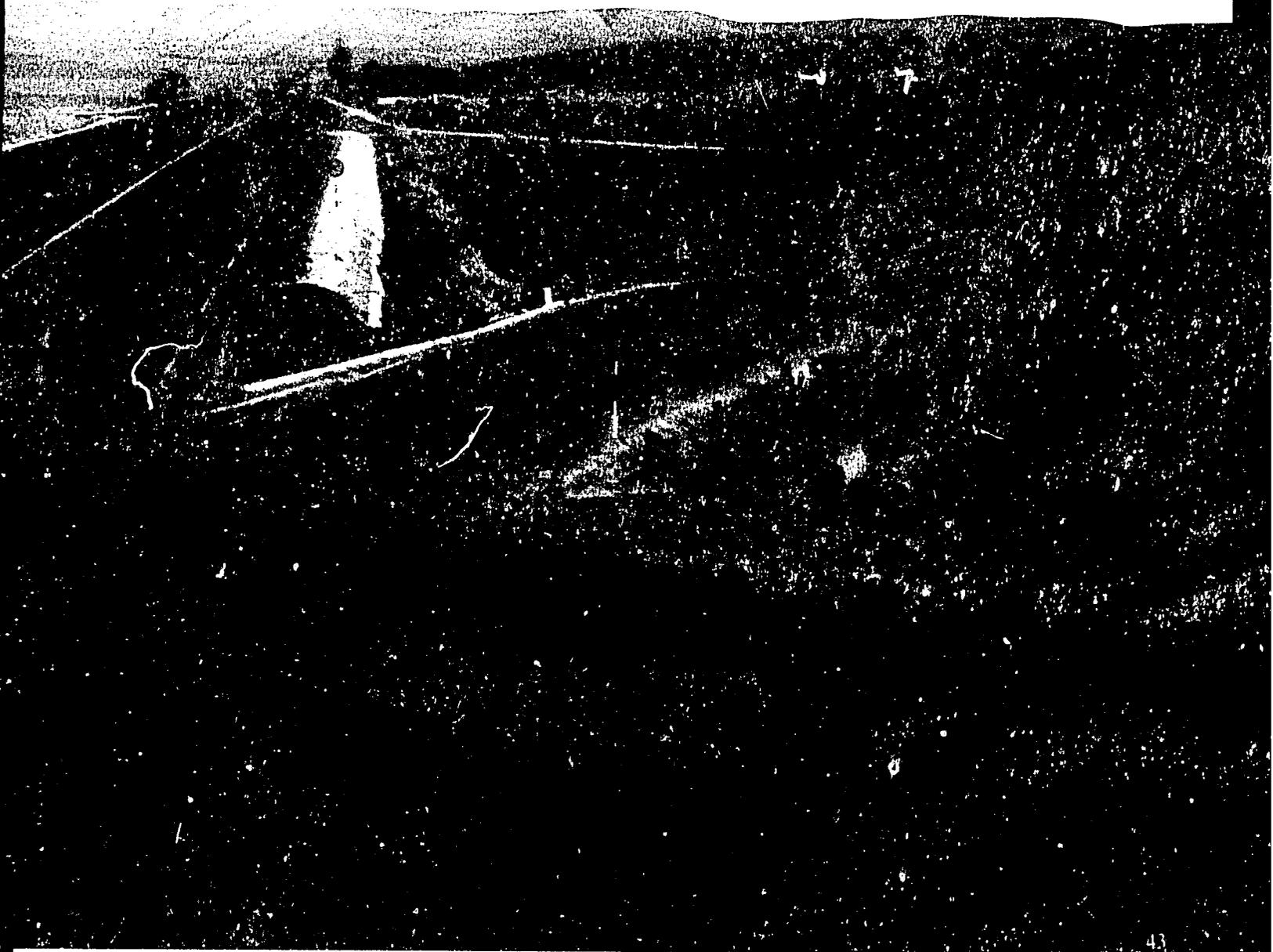


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# Transportation, Energy and Industry

When the first U.S. highway project was initiated in Jordan in 1953, there were only a few roads suitable for modern transport in the Kingdom. Those that existed were narrow, and there were many towns and areas which were not

served by any form of road at all. Road construction and maintenance was limited to hand labor. There was not one piece of modern road building equipment in the country.



*Primary highways nationwide: Highways such as these have all been part of the on-going investment of more than 85 million dollars in Jordan's road network.*

Aware of the importance of transportation in regional development, America's first assistance mission initiated a comprehensive road program for the country. Experts from the U.S. brought state-of-the-art technology and equipment, and provided on-the-job training for hundreds of Jordanians. At the same time, many were sent to the U.S. for long-term academic training in engineering, road construction, operation, maintenance and management. One of the most significant results of this early partnership effort was the publication of the first standard specifications for construction of roads and bridges, and the introduction of design and maintenance methods for the Kingdom.

The U.S. also funded a comprehensive aerial mapping program which produced one-to-50,000 scale maps (one centimeter = 500 meters) for the entire Kingdom. These maps have been used for many development purposes including road construction routings.

The first major road built with American funds in Jordan was the main 80 kilometer highway between Amman and the Dead Sea. The second leg, completed in 1963, connecting the Dead Sea to Jerusalem, cut travel time by car between these two cities by 50 percent.

With the southern end of the Jordan Valley more easily accessible, farmers flocked to develop the area and take advantage of the improved outlet for their tropical fruits and vegetables. The construction of this major artery stimulated requests by village people who wanted assistance in planning self-help neighborhood projects improving roads serving their areas.

In addition to the Amman-Jerusalem road, the American mission also funded the construction of the main highway connecting the capital with the Syrian border, the main artery running through the Jordan Valley from the Dead Sea to Irbid, the Amman-Mount Nebo road and the access road to Petra from Ma'an.



*Aerial mapping program, 1955: USAID funded a comprehensive contour mapping program for the entire Kingdom, producing 1:50,000 scale maps still used today.*

In the succeeding years, USAID has continued to support the upgrading and expansion of Jordan's transportation infrastructure. This includes 200 kilometers of farm-to-market roads in the Jordan Valley and reconstruction and improvements of additional major arteries. At the present time, USAID is spending 25 million dollars on upgrading the original Amman-Dead Sea road to a four-lane, divided highway. Re-siting the present road to eliminate dangerous curves along the 1,400 meter (4,000 foot) drop from the highlands will provide a safer route for the heavy produce traffic being brought to market from the Jordan Valley.

An additional USAID focus has been training and technical assistance for Ministry of Public Works and Municipality of Amman officials in road maintenance and management. The recently published transportation master plan for the nation will assure the most effective development of this sector.

The total of 85 million dollars in support of transportation needs has been an excellent investment. Currently, Jordan boasts a large network of primary, secondary, rural and farm roads. Governing institutions are strong and technically capable, and sophisticated standards are in place.

At the same time that the road construction projects were underway, USAID began programs in rural and urban electrification. In 1977, a 9 million dollar loan enabled the Jordan Electric Power Company to provide electric service to 37 communities in and around Amman. Funds were also provided for material and equipment to strengthen and upgrade the Amman high and low tension power networks.

Industrial development in Jordan has been more of a challenge due to scarce natural resources. The country does, however, possess two minerals in world demand; salt and phosphate.



*Amman-Syrian border road, 1950s: Sweeping past the famous Hadrian's Arch in Jerash, USAID funded Jordan's first major highway linking Amman and the Syrian border. This artery also provides easy access to the country's most important tourist site of Roman ruins.*

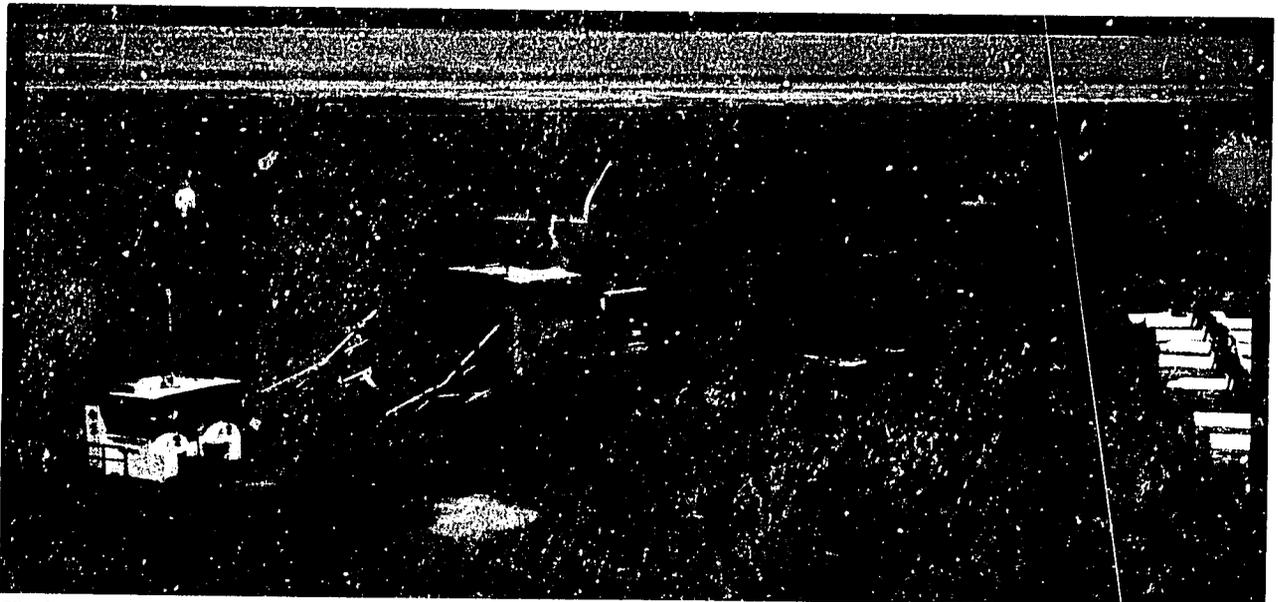


*The Dead Sea Road, 1960s: USAID funds built the Naur Road, completing the linkage between the Jordan Valley food production centers, the capital and the northern borders.*

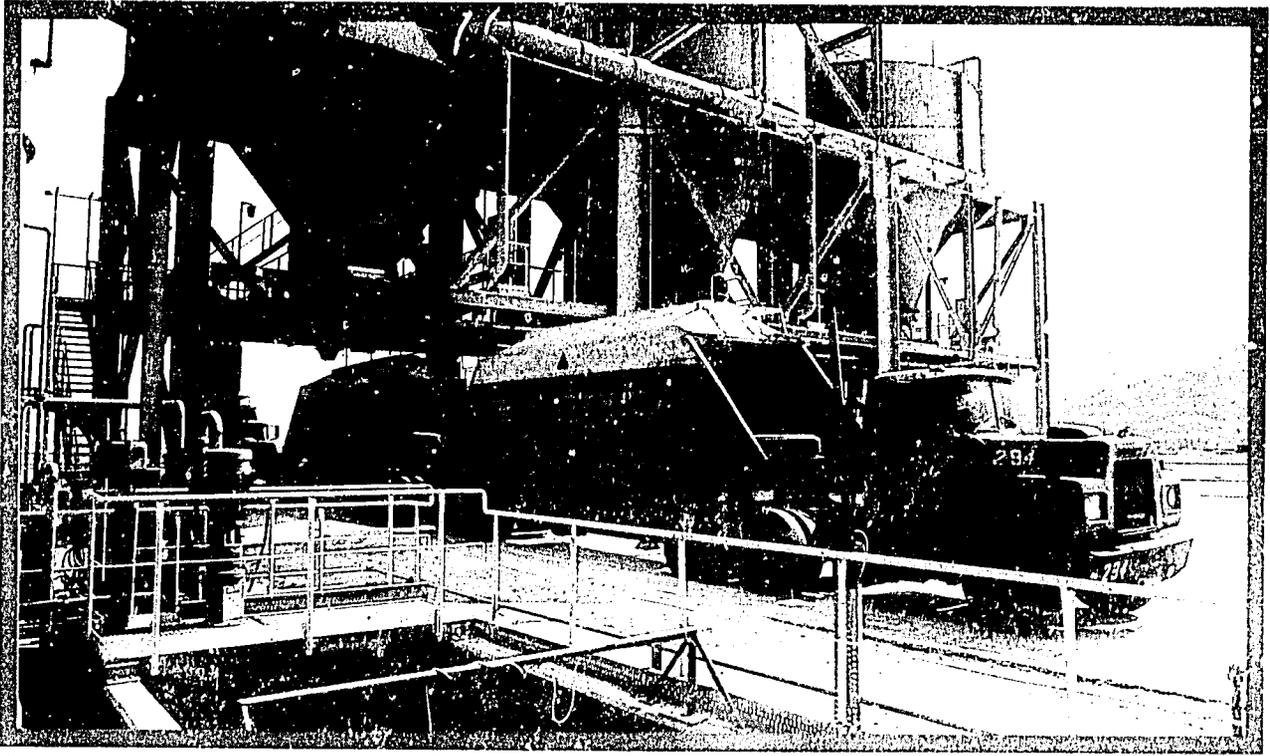
To determine whether the production of potash fertilizer from the salt deposits in the Dead Sea could be made profitable enough to warrant expansion, the U.S. funded an elaborate feasibility study in 1978. It was felt that with efficient design and management, and with modern equipment, the mining works could greatly increase production and add stability to Jordan's industrial base. Consequently, American technicians aided the Arab Potash Company in the design and construction supervision of its modern facilities. USAID also funded the purchase of the dredging and production equipment. Today, potash output has increased to the point where Jordan is a significant supplier for world markets.

In 1986, USAID turned to privatization as the most appropriate catalyst for providing increased growth and better service in transportation, business and industry. With the cooperation of the Government of Jordan, USAID is currently studying the expected impacts and costs of public ownership of ground and air transport, and is participating in feasibility studies in energy development.

Together with the Ministry of Energy and Natural Resources, USAID is also funding a pilot project in the direct burning of oil shale, available in large quantities in the country, to produce electricity. The plan calls for having the private sector design, finance, build and operate a 20 megawatt power plant which would sell energy to the Jordan Electric Authority. If this first facility is successful, a larger power station producing several hundred megawatts could be constructed.



*The Potash Plant, Ghor as Safi, 1970s: AID funds assisted in the establishment of the Potash Plant development from feasibility study design and construction supervision at site to purchasing the equipment for dredging and production.*



*Potash, 1980s: At the end of production, the finished product is transported from as Sali to Aqaba for ocean shipment to international markets.*

## TRANSPORTATION, ENERGY AND INDUSTRY

51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
1955-1968 Road Construction and Maintenance																		
1966-1969 Tourism Development																		
1974-1982 Road Construction																		
1975-1984 Village Development (Schools, Clinics, Housing, Public Administration Buildings, Farm-to-Market Roads, etc.)																		
1974-1983 Rural + Urban Electrification																		
1985-present Tourism Development																		
1986-present Energy Studies on Oil Shale Burning																		
1986-present Road Construction (Amman, Na'ur, Dead Sea Rd.)																		



# Looking Ahead : Incentives for the Private Sector



*Commercial plant greenhouse, Jordan Valley: The Jordan Valley area has progressed from subsistence level crop production in the 1950s to sophisticated private commercial investments such as this nursery growing indoor plants for Jordanian homes and exportation.*

During the past 35 years, the U.S. Government's economic assistance to Jordan has focused primarily on public infrastructure development. Over 400 projects, encompassing the construction of irrigation, domestic water and wastewater systems, schools, health centers and roads have been either partially or wholly funded through U.S. assistance.

In recent years, however, a changing economic environment has caused both the U.S. Government and the Government of Jordan to rethink their development strategies. Primarily as a result of a reduction in oil earnings in the Gulf States, the Jordanian economy has performed sluggishly. Remittances from Jordanian workers in the Gulf have leveled off and Arab aid to Jordan has declined. Demand for Jordanian goods from Arab countries, Jordan's major market, has slackened. The Iran-Iraq war has depressed the Iraqi market and consumed most of the aid available from countries in the region. Low world prices for Jordan's chief exports, phosphate and potash, have further reduced Jordan's export income. As Jordanian workers have returned from the Gulf, unemployment in Jordan, already under pressure from high population growth, has worsened.

As a result of these factors, the two most serious economic issues facing Jordan today are its growing balance of payment deficit and a rapidly increasing unemployment rate. With the public sector unable to keep pace with the continually growing demand for production and employment opportunities, the development of the private sector has become increasingly important.

Accordingly, USAID, in coordination with the Jordanian government, has entered a new phase of programming aimed at strengthening Jordan's private sector as the catalyst for economic growth.

This will not be an easy task nor one which will yield immediate large-scale results. Yet with the commitment of the people of Jordan and the appropriate mix of external assistance in the form of modern technologies blended with local

and external capital, the entrepreneurial spirit which marked Jordan's growth in the 1970s and early 1980s can be rekindled. But, many ask, can Jordan:

- Produce manufactured goods of a quality and at a price which can compete with imports and fulfill export needs?
- Mobilize its human and financial resources through open market mechanisms to move the country forward as a modern and sophisticated producer of goods and services?
- Motivate its private services sector to become a leading force in meeting the management requirements of domestic industry and to eventually become a service exporter?
- Help its private agricultural sector to prosper through open markets, improved agricultural practices and processing technologies?
- Mobilize its small and micro enterprises to expand and assume an even greater role in the country's economy?
- Institute policies to help its economy regain its vitality by allowing private business the freedom to function effectively and compete in the international marketplace?

The answer to each of these questions is a resounding "Yes".

By instituting proper policies, taking advantage of the innate entrepreneurial skills which Jordanians possess, and embarking on a series of interrelated projects, the country will be able to realize its development objectives: improved quality of goods and services, increased employment opportunities, increased private investments directed at the export of quality goods and services, and the domestic production of goods to replace imports.

Through close cooperation with the government and people of Jordan, the U.S. will continue its fruitful, decades-long partnership to enable the Hashemite Kingdom to continue to grow and prosper.





*Village Development Program School, Jordan Valley 1987; 50% of Jordan's population is under 15 years of age. Schools, homes, jobs and a decent quality of life are all critical issues for a small country with few natural resources, dependent on human initiative for survival.*

# CUMULATIVE ECONOMIC AID TO JORDAN

(FISCAL YEARS 1965 - 1987)

