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# PLAN ORGANIZATION AND TOWN DEVELOPMENT

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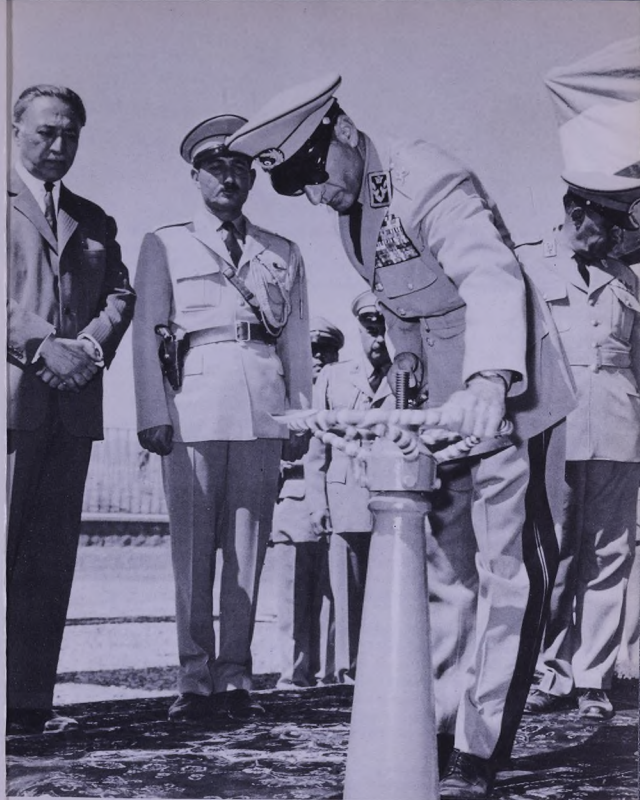


# PLAN ORGANIZATION AND TOWN DEVELOPMENT

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His Imperial Majesty the Shah performs the opening ceremony of the new piped water system at Rezaiyeh, in north-west Iran.

Urban development during the Second Seven-Year Plan consisted of the execution of projects such as the installation of drinking-water supplies, piped water and sewage systems, electrification schemes, street-asphalting, and such amenities as slaughter-houses, flood controls, public baths and wash-houses.

Activities in this field can be considered among the most successful and fundamental of all the development projects carried out. With the execution of the town development programme some 300 towns in Iran were given a complete face-lift and basic changes were brought about in the daily lives of the nation's town-dwellers.

At the start of the Second Seven-Year Plan practically all Iran's towns and cities were without uncontaminated drinking-water, regular and cheap electricity, asphalted streets, properly equipped slaughter-houses and similar urban facilities. Scientific town-planning on correct principles had been ignored in all but a few towns which were the centres of the oil industry. Even in the capital there was no piped water system before 1955.

The situation regarding electricity was no better. In some towns there were attempts at electrical installations, but in most cases the power generated was insufficient to meet the demand and in almost none of them had the distribution system been planned on a proper technical basis.

Only in the large cities were the streets asphalted and even there it was only the main streets that were, while in most towns dust and mud threatened the people's health.

It was in such conditions that town development activity began in the Second Seven-Year Development Plan. The principle on which the Second Plan was enacted was that half the cost of any urban activity should be borne by the town concerned and the other half by Plan Organization. It was also prescribed that Plan Organization would advance to each municipal authority that had an annual income of less than one million rials ( \$13,000) an interest-free loan of up to five million rials for the purposes of installing drinking-water and electrical systems.

Town development in the form of large-scale, comprehensive and harmonious planning naturally needed proper preparation and the elimination of many difficulties, the most important of which were considered to be the lack of practicable plans. No plans existed which could be immediately put

into execution, and so consulting engineers had to be sent to study such plans as were under consideration and to prepare others. In view of the great need most towns had for development, the execution of projects naturally involved difficulties, and for this reason it was decided that after the initial information on the needs of various towns had been collected and their order of priority assessed, the country would be divided into districts and in each one the consulting engineers would, after examining the financial abilities of the municipal authorities and considering their projects in order of priority, carry out those projects which were most feasible. This method of action enabled the cost of preparing and supervising the execution of projects undertaken completely by Plan Organization to be kept to the minimum, while most of the credits for town development were spent on the actual execution of projects. This method also allowed projects to be carried out as one operation wherever the technical conditions and the materials needed were similar. In this way economies were also effected in the execution of projects.

Another difficulty affecting the execution of projects, particularly as regards piped water, was the lack of accurate town maps, the preparation of which took considerable time. In addition, most municipal authorities were unable to decide on the priorities of their needs or to make plans that were in accord with their financial situation. Plan Organization therefore found it necessary to provide effective guidance in this matter and instead of representatives of the municipal authorities coming to Tehran to sign the necessary contracts, fully-empowered representatives of Plan Organization were dispatched to almost every part of the country to look into the needs of each town together with the local authorities and to determine, in the presence of provincial governors, representatives of the Ministry of the Interior and mayors of every district, the financial capabilities of the municipal councils for capital investment in development projects. On the basis of the financial estimates drawn up by the consulting engineers they then prepared on the spot a single master plan for all the projects in a given town, so that the consulting engineers could immediately be instructed to prepare plans for their execution.

Plan Organization gave priority to plans for the provision of drinking-water and electricity, which met with the approval of the town councils.

As a result, more than half of the credits for municipal development were allocated for drinking-water and piped water schemes, about 30 per cent were for electrical projects and the remainder for other development projects.

The most serious problem involved in the supply and piping of drinking-water was the discovery of sources of water. In most cases sources such as rivers, springs and qanats either did not exist, or, if they did, they were used for agriculture and therefore could not be used on a large scale for municipal supply, which meant that underground water supplies had to be used. The discovery of underground water supplies resulted in considerable surveys and other activities such as drilling experimental wells, which in turn resulted in loss of time and heavy expenditure on the part of Plan Organization.

In some cases even the discovery of water supplies led to difficulties such as the addition of substantial survey costs without satisfactory results. This was the case in the towns of Lahijan, Langerud, Astara, Rezvandeh, Ferdou Kenar and Bandar Langelu.

In general the municipal councils were not well equipped for the execution of projects and did not even possess adequate maintenance staff for existing facilities. Thus it was that Plan Organization undertook the direct execution of projects and embarked upon a programme of establishing specialist classes in technical colleges and in this way made about one hundred trained personnel available to the municipal authorities.

In spite of the need to carry out introductory measures and the occurrence of numerous difficulties, some of which have been mentioned above, Plan Organization succeeded in carrying out 451 municipal development projects during the Second Plan. The successes thus achieved have completely altered the face of Iran's towns and cities. The people now live in a better and healthier atmosphere, and the factors which formerly had adverse effects on the health of the population and which prevented improvements in the level of productivity have now been practically eliminated. The installation of piped water schemes would have been considered impossible only a decade ago, while the asphalted public thoroughfares is one of the most effective steps that have been taken to protect the health of the people. In the final analysis these services have resulted in an increase in efficiency in the various fields of social and economic activity.

## Water - The Source of Life

In Iran there are about 300 towns and cities with populations of between five thousand and two million.

The number of people living in towns is rapidly increasing. This creates favourable conditions both for new industries and for fundamental social reform, as new living habits are much more readily accepted in the towns than in the villages. In view of this rapid increase in town populations and the laudable social developments taking place in the towns, and realizing that a healthy population is a vital factor in the growth and progress of social life, Plan Organization vigorously undertook major projects for water-supply and piped water systems in all the provinces of Iran. Before the Second Plan only Tehran, Abadan and Kermanshah had a proper source of drinking-water, and then only to a limited extent. In the past death and disease caused by polluted town water supplies were commonplace in Iranian cities and a large part of the country's work-force was thus incapacitated.

With the completion of piped water systems, cases of disease caused by contaminated water declined to a very low level in most areas. Plan Organization undertook 172 projects for water-supplies and piped water. By the spring of 1964, 96 of these had been completed while the remaining 76 were in the course of execution. The total amount which Plan Organization had spent on town water-supplies had reached 3,088 million Rials (\$ 41.17 million) by the spring of 1964.

**The small town of Zarghan with a population of about six thousand was not overlooked in Plan Organization's piped water programme.**



**In towns that did not have access to a proper source of water large filtration plants were built. Here the Khorranshahr filtration plant, built at a cost of 30 million rials ( \$ 400,000), is shown.**







Originally drinking water was supplied to the populace by open culverts...



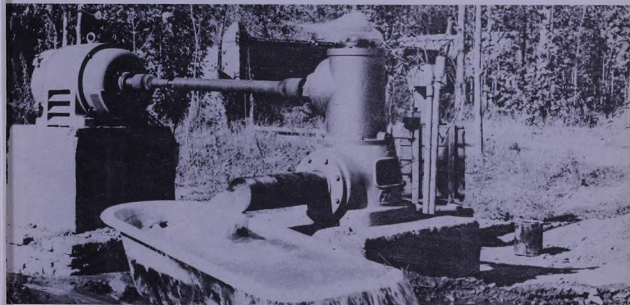
... It reached the town and the people used it for washing.

Large reservoirs for drinking-water were constructed in the bowels of the earth. And with great effort water was drawn out.





In the not too distant past, water-skins were used to transport the water from these reservoirs or from underground water-channels (qanats) to the houses. Later barrels mounted on carts were used for this purpose. Those who could afford to, dug wells in their houses and by means of pulleys drew their water from the depths of the earth.



Plan Organization first of all paid for a study of the potential water supplies of each town. If a town had no proper supply from surface or shallow sources such as rivers, springs or qanats, then deep wells were drilled to supply town piped water systems.

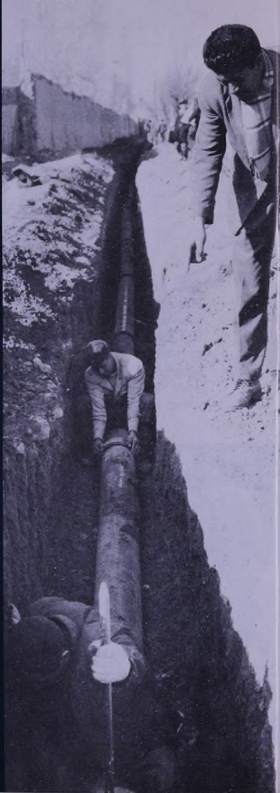




Pipelayers at work



The total length of pipes to be laid in 14 towns and cities will exceed two million metres.



Clean and healthy water is essential for the bodily and spiritual growth of the children.



Hundreds of thousands of families now have a reliable source of piped drinking water in their own homes.

# Town Lighting

Electrical installations in Iran are not very old. About 60 years ago a certain Haj Amin Al-Zarb was travelling in Europe when he became interested in the possibilities of electric lighting and brought a run-down old generator back to Tehran, where he installed it in Amir Kabir Avenue, which became known as the Street of Electric Lights.

The strange object naturally appealed greatly to the uninformed Iranians of the day, but the commissioning of such a piece of equipment needed a technical specialist, and these were then extremely rare birds. They were then compelled to call on an Iranian of Armenian descent named Petrossian, who was an electrical worker in Paris, to commission the generator. Nevertheless, because of the sorry state of the equipment and lack of proper technicians, the lights went out several times a week. Another generator was installed at Rasht by one Haj Manir Al-Saltanah but this again was not used very effectively. In the reign of Reza Shah the Great, when the gates of the machine age were opened to the Iranian people, electrical installations were established in Iran, along with other industries, and some rays of light penetrated to the country's dark streets. But the country's generating capacity was still insufficient to meet the needs of society.

In 1953 the per capita consumption of electricity in Iran was only 15 KW, while in the same year it was 1925 KW in the United States and 956 KW in Great Britain. The greatest per capita consumer in Asia was the Lebanon with an average of 64 KW per year, while the average in Turkey was 32 KW.

Night traffic makes a pattern of lights on Tehran's Queen Elizabeth Boulevard.





For centuries such methods of lighting were used in Iranian homes.



In 1957 the firm of Sanderson and Porter, at the invitation of Plan Organization, carried out a study on the supply and demand of electricity. From this it emerged that in most parts of the country the demand was several thousand times greater than the supply.

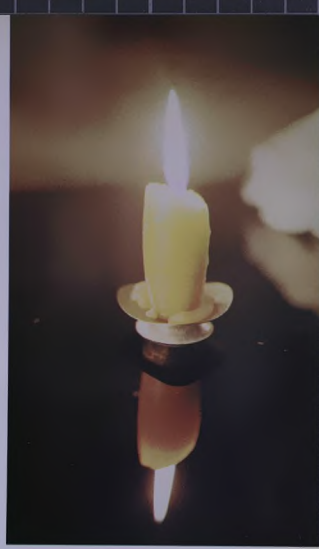
In 1937 the total generating capacity in Iran outside the oil industry amounted to 40,825 KW. By 1953 this had risen to 124,555 KW and the amount generated increased from 102 million KW in 1937 to more than 340 million KW in 1953. In Tehran generating capacity increased from 6,400 KW in 1937 to 16,410 KW in 1953.

Today the two turbine-driven generators at the Karaj Dam alone supplement Tehran's supply of electricity by 110 Million KW a year, while the total capacity of the dam will soon be 149 million KW a year.

The number of consumers of Government-generated electricity in Tehran and its suburbs, which in 1938 was only 8,278, rose by 1953 to 36,820, and in 1963 had reached 120,500. In addition, with the rapid increase in the demand for electricity, there were also 140,900 consumers of privately-generated electricity.

When the Second Seven-Year Development Plan reached the implementation stage Plan Organization was faced with a problem: whether to direct its efforts chiefly towards social improvements or towards the needs of industrial consumers. The decision which was finally taken was more in favour of the first alternative.

The authorities concerned with planning found that, bearing in mind the low standard of living and the speed with which the people were progressing, long-term projects, the effects of which would not be felt for some time, were not acceptable, and this thinking became the principle behind the planning of town development projects.



Candles...

... and poor lamp-light weakened people's eyesight.





During the Second Plan, Plan Organization carried out at a cost of about Rials 1386 million ( \$18.5 million) the design and installation of electrical networks in 167 large and small towns, and preliminary work had started on networks in four others. Half of this expenditure was paid for by the municipal authorities in instalments over four years, and the other half, which consisted of the design work and the engineering and supervision of the installation of the networks, was borne entirely by Plan Organization.

With the completion of these projects the capacity of provincial power stations increased from 135,000 K W in 1955 to 370,000 K W in 1962, and it is planned to increase this figure to 800,000 K W under the Third Plan.

Night scene at Babolsar on the Caspian.



Even in remote hamlets electricity brings light and joy into the people's lives.



# Street - Asphaltting.

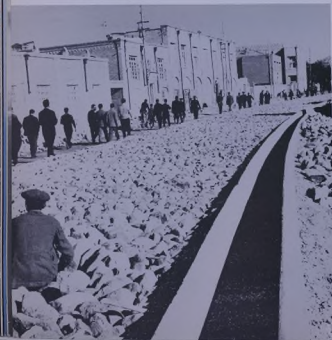
The word asphalt is of Greek origin and means "mineral gum". In ancient times liquid tar or black oil was sprinkled on the road and this was called asphalt. Experience showed that if various types of tar and gravel were heated together a better type of asphalt was obtained. Today an ideal asphalt is one which conforms to the climate of the place where it is applied, is not unduly affected by heat or cold, and can withstand stresses caused by traffic.

Asphalt by itself is not capable of being spread on soft ground. First the foundations of the road must be made properly firm. As a rule the top-soil is removed from each street and the thickness of the foundation is determined, depending on the stresses which the surface will have to bear. Then fragments of stone are packed in together and rolled so that the stones are well compacted everywhere. The asphalt is then heated to a pre-determined temperature and poured over the stones.

From the brief description given it will be noted that asphaltting is an extremely precise and sensitive operation. If the type of soil and stone and asphalt do not conform to scientific principles during various tests, the results will be unsatisfactory.

Before the Second Plan street-asphaltting, like piped water and electrical schemes, was for the inhabitants of most Iranian cities just a dream.

Preparing the foundations of one of the streets of Tabriz



Preparing foundations and asphaltting in Ahar



The asphaltting of thoroughfares has completely changed the appearance of most Iranian towns.



Laying asphalt in Borazjan







The spacious and attractive Queen Elizabeth II Boulevard in Tehran, which cost more than ten million Rials ( \$133,000), was also built with financial help from Plan Organization.

A street in Mashhad



Except in Tehran and a few large cities the people of Iran scarcely enjoyed the benefits of asphalted streets, and naturally the adverse effects which were thereby inflicted on their health contributed greatly to a reduction in social activity and a weakening of the work-force. During the Second Plan street-asphalting was undertaken by Plan Organization together with other development activities. With the co-operation of and in partnership with the municipal authorities projects for asphalted the streets were carried out alongside projects for electricity and water supplies.

The value and importance of this work lie in the fact that it was carried out in conditions of limited facilities and in the face of great difficulties. Under the supervision of specialist engineers and in accordance with proper scientific principles another of the long-standing ambitions of the Iranian people was brought to reality by Plan Organization.

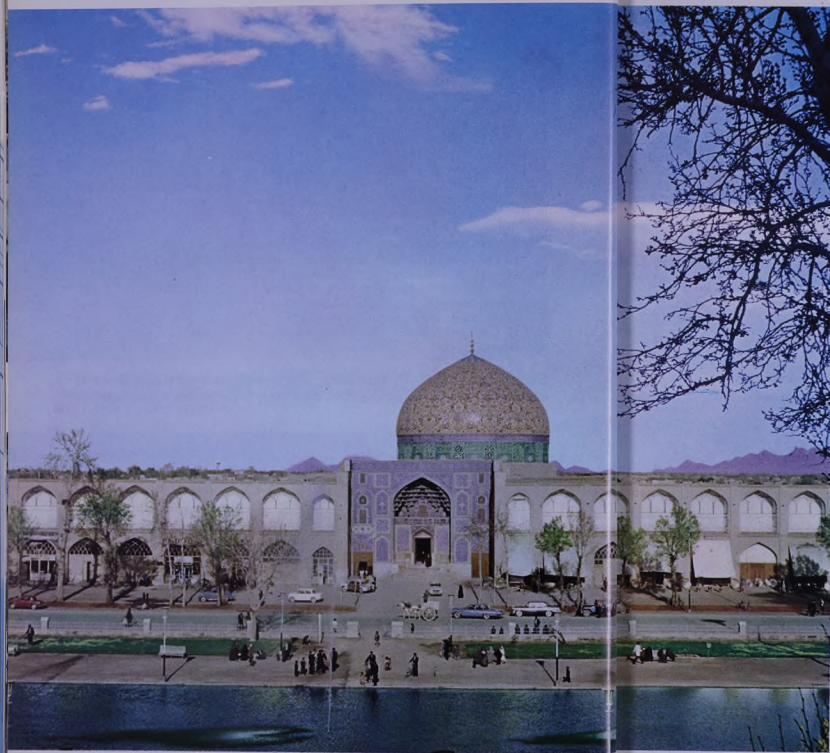
By the spring of 1964 a total of 66 schemes for asphalted town streets and thoroughfares had been completed and a further seven, which had been delayed by technical and natural difficulties, were in progress.

The total cost of this work amounted to 1,300 million Rials ( \$17.3 million).

Even the small town of Marvdasht, near Persepolis, with a population of about eight thousand, has benefited from Plan Organization's street-asphalting programme.







Meidan-e Shah in Esfahan

In this fabulously beautiful city over 50 kilometres (30 miles) of streets have been asphalted. The total area of street-asphalting carried out in 66 towns and cities amounted by the spring of 1964 to more than two million square metres.

In addition to water, electricity and street-asphalting projects, Plan Organization also allocated some of its credits to various projects for public health and protective facilities, such as the construction of community bath-houses, bridges, flood-control systems, slaughter-houses and embankments. In all, such projects totalled 41, of which 35 had been completed by the spring of 1964 and the remainder were in the course of execution. Plan Organization was also responsible for other town development schemes, the most important of which were the construction of 720 houses in flood-stricken areas, 144 apartments in Nazliabad, a Tehran suburb, the construction and equipping of four buildings for sport and physical training in Tehran, and, with the co-operation of the U.S. agency A.I.D., the construction of 204 workers' houses in Esfahan. The total expenditure made by Plan Organization on social activities in various towns amounted, by the spring of 1964, to 2,156 million Rials (U.S. \$28.7 million).

Flood control system near Shiraz



Esfahan sewerage system



One of the biggest urban development projects is the Shushtar bridge, built at a cost of about 58 million Rials ( \$773,000).

The construction of the Reza Shah the Great Hospital, in the south of Tehran, is another Plan Organization project. When commissioned, the hospital will be run by Iran's Red Lion and Sun Society.



Diagram showing breakdown of 468 town development projects carried out by Plan Organization from the start of the Second Plan to the spring of 1964.

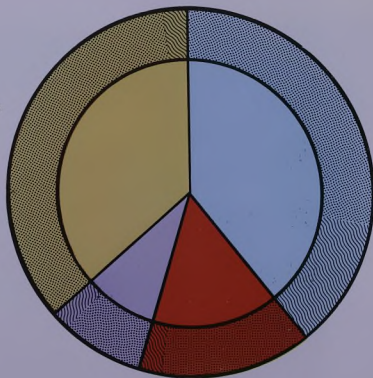
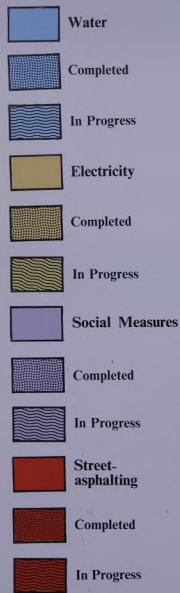


Table showing total number of town development projects carried out by Plan Organization, according to provinces.

Province	PROJECTS			
	Electricity	Water	Asphalting	Social Activities
Central	16	17	9	6
Gilan	19	13	4	7
Mazanderan	23	23	8	1
East Azarbaijan	11	22	7	2
West Azarbaijan	12	10	4	0
Kermanshah	4	6	1	1
Khuzestan	11	11	4	4
Fars	8	13	5	3
Kerman	11	10	3	3
Khorasan	17	21	8	3
Esfahan	13	5	3	5
Baluchistan & Sistan	6	6	1	4
Kordestan	7	7	4	0
Governorate of Islands in Sea of Oman	5	5	1	1
Governorate of Semnan	2	3	2	1
Governorate of Hamadan	2	3	3	0
Governorate of Lorestan	0	4	2	0
Governorate of Bakhtiari Regions	1	2	2	0
Governorate of Islands in Persian Gulf.	3	2	2	0
<b>Total</b>	<b>171</b>	<b>183</b>	<b>73</b>	<b>41</b>





