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Development of Infrastructure in Syria during the Past 25 Years and it's Prospects - Current Situation and Investments

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1-Introduction

The infrastructure is a set of assets needed to supply certain desired services. For example, transportation, energy, telecommunication, drinking water supply and sanitation.

Along with supportive economic and financial policies, infrastructure (including electricity to power industry, telecommunications to support commerce, and roads to transport goods) has long been recognized as a key element of the enabling environment for economic growth and in turn rural development. More recently, the development community has also emphasized that by promoting growth; reliable and affordable infrastructure can reduce poverty and contribute to the achievement of the Millennium Development Goals (MDGs)¹. It can contribute directly by providing and supporting the delivery of key services, such as those seeking to increase households' access to safe drinking water and basic sanitation. Similarly, the goals related to human development (education and health) rely on services that require supportive infrastructure (water and sanitation) to prevent disease, electricity to serve schools and health clinics, and roads to access them.

The linkages between infrastructure services, growth and social outcomes like the Millennium Development Goals operate through multiple channels. The delivery of services like water, sanitation, transportation and energy directly benefit households and can dramatically improve their welfare. Furthermore, many of the benefits of infrastructure services go to firms, so costs could be lowered and, most importantly, market opportunities could be expanded (especially through telecommunications and transport). The resulting gains in competitiveness and production are what drive the gains in economic growth and ultimately welfare.

II- Sectors of Infrastructure

- **Transportation Sector**

Poor access to transport in the rural areas of developing countries constrains economic and social development and contributes to poverty. Alternatively, improving rural people's access to essential services requires improving mobility, through better transport infrastructure and services and drawing attention to the location, quality, and price of facilities. Better mobility gives people better access to services (education, health, and finance), markets, income-earning opportunities, and social, political, and community activities.

Syria has witnessed an expansion of the road network, which grew from 19,819 kilometers in 1980 to 49,977 kilometers in 2005, at an average annual growth rate of 4%. Moreover, in 2005, the length of total asphalted roads amounted 37,554 km, divided into local 30,496 km and central 7,058 km, achieving an annual average growth rate of 4.5% in the period 1980-2005. In the same year, non-asphalted roads accounted 10,000 km. As for leveled roads, it is stood at 2,424 km.

One of the most significant direct consequences of the landmark Law N. 10, passed in 1991 to provide a more suitable environment to private sector investment, was the complete overhaul of the national transport sector. The law provides a number of incentives, including income tax exemptions, capital repatriation facilities and customs duty exemptions for all capital investments. Private investors in the transport industry used that latest article of the law, which

¹ The Millennium Development Goals are concrete targets endorsed by 189 countries at the September 2000 UN Millennium General Assembly in New York aiming at cutting by half the proportion of people in extreme poverty worldwide by 2015, provide education, improve health, and preserve the environment.

exempted them from paying standard import duties on motor vehicles that can rise up to 250%, to set-up transport ventures. Since the launch of the Law, more than two-third of the projects put forward for licensing were in the transport sector.

- **Electricity Sector**

Providing reliable, affordable electricity is essential to the economic well-being and quality of life for all of the nation's rural residents. Furthermore, electricity is important for a mix of domestic uses (e.g. lighting, television, and radio), productive uses (e.g. water pumping, refrigeration, mills, and sewing machines) and public uses (e.g. schools, health centers, etc). The programs of rural electrification typically aim at making electricity available to individual households, farms, and businesses, not only for community uses.

Electricity production increased from 3,837 Million Kilo Watt per Hour (M.K.W.H) in 1980 to 36,048 in 2005 at an average annual growth rate of 9.8%. During the same period, electricity consumption for lighting increased from 1,331 to 15,109 (M.K.W.H) achieving an average annual growth rate of 10.7%; moreover, the industrial electricity consumption increased from 1,564 to 7.164 (M.K.W.H) in 1980 and 2005 respectively, at an average growth rate of only 6.5%, Central Bureau of Statistics (CBS).

The Syrian electricity demand is growing at an average of 8-10 percent annually. The demand rose from 31.9 billion KWH in 2004 to 34.8 billion KWH in 2005. According to the projections of the Ministry of Electricity, the figure is expected to reach 49 billion KWH in 2010 and 94 billion KWH in 2020. To meet these figures the Ministry is investing heavily to increase capacity through new power plants and renewable energy.

Furthermore, the available data represents that the distribution percentage of houses according to electricity supply means applied in the whole country in 2004 was as follows: public network 98.5%, private 0.3%, other sources 0.9%, and unknown sources 0.3% (CBS, 2004).

Investment by the government in this sector is on the rise. It reached SYP 8.5 billion in 2005 and SYP 9.4 billion in 2006. Furthermore, Syria received strong support from international financial institutions to develop its distribution network, and to install an automatic management and control center for the whole electricity network.

Finally, the regional power network linking Syria, Lebanon, Iraq, Jordan and Turkey, has been completed and has allowed the set-up of a common pool of electricity reserve. The network aims at reducing costs and allowing trade and exchange of electricity between the different countries.

The government is seeking the involvement of the private sector to meet growing electricity demand. In this context, a German company is expected to be the first private sector operator in the Syrian electricity field, after four decades of state monopoly, and to build a wind power plant with a total capacity of 300 megawatts, near the city of Homs (Ministry of electricity, 2006).

- **Communication Sector**

Information and Communication Technology (ICT) plays a major role in global economic growth. ICTs are excellent developmental mechanisms that provide developing countries with opportunities to achieve sustainable development. They help increase productivity, stimulate growth, increase job opportunities, advance the welfare of society, and keep businesses abreast of developments in world markets. ICTs are also the major means to move towards the information society and knowledge-based economy.

There is currently a good fixed telephone network available but there is still a need to increase the penetration rate towards reaching a better capacity of providing new subscriptions, shorter waiting periods (weeks) and improved customer services (Ministry of Communication and Technology, 2004). In 2005, the telephone's numbers, main lines in use amounted 2.91 million,

and the number of fax subscribers reached 27,245 subscribers. Furthermore, mobile cellular telephone subscribers amounted 2.77 million. The e-mail and internet subscribers are 216,000 and the number of subscribers in integrated digital network was 6,961 (CBS, 2006).

The decision to formulate a strategy for ICTs in Syria comes from a commitment by the government to utilize the potential of these technologies to achieve the objectives of socio-economic development. The strategic targets Syria is seeking to reach by 2013 are:

- ✓ Fixed and mobile telephone line penetration ratio of 30 lines per 100 people (at least one fixed telephone line per family).
- ✓ Internet penetration ratio of 20 sub-scribers per 100 people, i.e. reaching 4 million subscribers.
- ✓ Computer penetration ratio of 30 computers per 100 people.

• **Water Supply and Sanitation**

Potable water and, to a lesser extent, sanitation services, are often a priority for rural communities. Willingness to pay for improved services depends on the distance to, and quality of, existing sources of water and sanitation facilities, as well as the consumers' perceptions of the health threats of unimproved services.

According to official statistics of Central Bureau of Statistics, in 2005, the actual production of water in Syria reached 1,297,785 m³ increasing from 301,432 m³ in 1980, achieving an average annual growth rate of 6.3%. Furthermore, the consumption of water was divided into three categories, priced consumption, free consumption, and lost in the network. The volume of priced water consumption increased from 155,534 m³ in 1980 to 781,154 m³ in the year 2005 achieving an average growth rate of 7% annually. Moreover, during the same period, the consumed amount of drinking water increased from 62303 m³ in 1980 to 105,132 m³ in 2005. The number of subscribers stood at 2,808,515 subscribers in 2005 increasing from 469818 subscribers in 1980 achieving an average growth rate of 7.7% yearly, reflecting the growth rate and diffusion of drinking water supply services in the country.

According to "The Multi-indicators Survey about Health, Social and Rearing the Child in Syria, CBS, 2000"², The relative percentage of population benefited from safe drinking water in rural areas is 89%, and 97.5% in urban areas. By comparing rural and urban areas in terms of drinking water facilities, we find that 93.4% of urban populations get water from public network and only 69% of rural population gets water from public network.

As for drinking water supply, the distribution percentage of houses according to type of drinking water connection means in the country³ in 2004 was as follows: Public network 87.4%, common source 0.9%, collective well 1.2%, well owned by the household 5.2%, other sources 5.1%, and unknown sources 0.3% (CBS, 2004).

The main findings of "the multi-indicators survey about health, social, and rearing the child in SAR, by CBS in 2000" highlights that about 71.6% of population are served by public sanitation network, this figure increases to 96.2% in urban areas and decreases to 43.9% in rural areas. Furthermore, the relative percentage of houses using closed hole is 22.6% at country level, this figure increases in rural areas to reach 45.2% but in urban areas is 2.5% only. The other 5.3% of

² For more details about relative distribution of population who benefited from safe drinking water services geographic regions and residential areas, the reader can refer to "The main report of multi indicators survey about health, social and rearing the child in SAR, 2000", CBS & UN Organization for Children.

³ The report of basic findings of population and houses survey for 2004" published by CBS includes more details at governorate level.

total Syrian houses use uncovered streams or in the open area, 10.5% in rural and 1% in urban areas.⁴

The “report of basic findings of population and houses survey for 2004” published by CBS indicates that the relative distribution of houses according to sanitation means in Syria⁵ were as the following: 78.8% of houses are connected to public network, 26% of houses use covered holes, 3% are unknown.

The budget allocated to sewage projects is rising 600 percent in the current five year plan, where a total budget of SYP 37 billion had been allocated to develop sewage and sanitation projects across the country in the period 2006-2010. Moreover, Syria and Malaysia inked an accord to build 20 stations to treat sewage water at a cost of USD 31 million in Damascus countryside. Furthermore, the two countries also signed a memo of understanding to execute 34 stations to treat sewage water and to deal with 50 wells for potable water in Daraa region southern Syria. The first project will serve housing compounds joining from 5,000 to 25,000 inhabitants and will treat 120 wells for potable water to desalinate nitrates in Damascus surrounding.

III- Other Investments in Infrastructure – Industrial Cities

The development of industrial cities (IC) has been a top priority for Syrian decision makers, who want to attract investments in the country and lessen the pressure on the cities of Damascus, Aleppo and Homs. In 2004 the Syrian President issued a decree establishing three ICs in Damascus (Adra, spreads over an area of 70 million m²), Aleppo (Sheikh Najjar, has a total area of 44.1 million m²) and Homs (Hessia, has total area of 25 million m²).

The cities include all type of industrial sectors and have dedicated areas for each specific sector (textile, agro-food, chemicals, etc). The plots are either sold or rented to investors. The Syrian authorities bank a lot on the development of these cities. Syria is supposedly a competitive place to attract industries due to its relatively cheap labour and energy costs as well as its strategic geographic location. A new IC in the eastern area of Deir-ez-Zor is also under consideration.

IV- Conclusion and Recommendation

In addition to macro-economic policies, infrastructure is considered one of the main components that provide communities by the appropriate environment for sustainable social and economic development. Infrastructure is not developmental goals by itself but excellent developmental mechanisms, which help to increase productivity, promote growth, increase work opportunities, and improve social welfare.

The road network in Syria achieved an annual average growth rate of 4% during the period 1980-2005. Moreover, a special attention should be devoted to this sector aiming at improving its services and motivate private sector to play its role in costly construction works and improved transport facilities.

During the same period, the electricity sector grew by average rate 9.8% yearly for production. The relative distribution of houses supplied by public network amounted 98.5%. However, the demand for electricity increased also by 10% annually. Consequently, there are needs to improve the quality of grid networks, rationalize energy consumption, and use the renewable resources, such as water and wind power, in addition to involve private sector in the development process of this sector for both production and distribution of electricity.

⁴ For more details about relative distribution of houses according to sanitation means and geographic regions and residential place, refer to “The main report of multi indicators survey about health, social and rearing the child in SAR, 2000”, CBS

⁵ The report includes more details at governorates level

Regarding the development of communication sector during the past 25 years, the number of fixed lines increased annually by 10.1% growth rate in average, but the coverage rate still low compared to neighboring countries. Furthermore, the number of mobile phones increased remarkably to be 2.77 Million lines in 2005, but the fees for calls still high relatively with the income per capita. due to the main role plaid by this sector in business world and achieving the information society, there should be a devoted attention to achieve the goals of the National Strategy for Information and Communication Technologies of diffusion rate 30 fixed and mobile lines and computers (internet services) by 2013, in addition to reduce cost for using these facilities according to the income per capita to help people achieve the information society.

The sector of drinking water and sanitation has improved during 1980-2005. Water production by the General Institution for Drinking Water has achieved an annual growth rate of 6.3% and the consumption grew by 7% yearly in average during the same period. In general, Syria is suffering from the scarcity of its water resources, so it is important to rationalize water consumption and treat sanitation water and polluted wells, and support the role of private sector in this field.

In conclusion, providing infrastructure services to areas where it not exists, and improve it where there are some of these services, is a basic instrument to improve economic status in general and consequently social welfare.

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