

1-1. National Development Strategy

1-1-1. Building activity

The building activity plays a key role in the socioeconomic development process since it contributes in providing the implementation capacity for many national development projects. This sector has been suffering from many problems, whether related to financing or implementation sources, and in order to revive this sector, the necessary financial and implementation requirements should be provided. The investments needed to develop the building activity within the National Development Strategy for 2007-2010 were estimated to worth around 6 billion dollars (7200 Iraqi dinars), or 1.5 billion dollars per year. This activity constituted 3.2% of the overall investment expenditures needed to develop all economic activities estimated to be 187.7 billion dollars.

1-1-2. Water and sanitation

Drinking water and sanitation services began to deteriorate after 1991. The percentage of people who receive drinking water dropped from 95% to 75% in urban areas and from 74% to 48% in rural areas.

Sanitation services were not in a better condition where the percentage of people provided with sanitation services is still the same: 75% in urban areas and 50% in rural areas. This doesn't mean that the household sanitation pipe is connected to a sanitation network since in this case the percentage will be much less, hence sewage disposal is now posing a huge environmental and health risk.

In order to develop this sector, 3.13 billion dollars was allocated by the National Development Strategy to the water sector and 4.98 billion dollars to the sanitation sector, or 9689.080 billion Iraqi dinars for both sectors.

1-1-3. Housing

Iraq faces a severe shortage in housing and this may have negative impact on all aspects of life and urban development unless this issue is dealt with urgently and seriously. The problem lies in the fact there is no housing market based on a strong housing financing system that can provides home loans for limited-medium income families.

In order to revive this key sector, the National Development Strategy for 2007-2010 estimated the required investments to worth 52 billion dollars (62160 Iraqi dinars) over the said period, which constitutes 27.7% of the overall investment expenditure required to develop all economic sectors over the same period, which amounts to 187.7 billion dollars, since there is a pressing need for one million housing unit to built by the state and the private sector with the basic services.

1-1-4. Health

The health sector in Iraq deteriorated sharply after 1991 due to the wars and international sanctions. And in addition to the decline of health services, Iraq witnessed an increase in diseases and malnutrition. The situation became worst after the last war due to the devastated infrastructures, which are in a very bad condition in the first place, shortages of drinking water, sanitation and electricity services and the severe housing shortage, not to mention the effects of the weapons used in the war which added further misery to public health concerns.

The main objective of the health sector in Iraq is to elevate public health and improve the quality of health care, which will require investments estimated by the National Development Strategy for 2007-2010 to worth around 14.7 billion dollars (17635 Iraqi dinars).

4. Education and higher education sector

Up to 1980, the education sector in Iraq was once the best in the Middle East. Since that date, and due to the scarce resource and the migration of teachers and specialists abroad, the education sector deteriorated sharply and this is manifested in the illiteracy rate where 39% of the rural population is illiterate, 47% of Iraqi women are illiterate or semi illiterate, 22% of Iraqi adults never attended school and only 9% completed intermediate education.

In order to elevate the educational services to their previous levels through implementing the National Program for the Construction and Maintenance of Schools, the National Development Strategy for 2007-2010 estimated that the required investments to worth 4.2 billion dollars, or 1.3 of the overall volume of investment.

2- Evaluation of investments in 2005-2008

2-1. Building, housing and services sector

The overall investments dedicated to this sector in 2005-2008 reached 8641.646 billion dinars (6.63 billion dollars) distributed on the secondary activities of the sector as follows:

- a. Government buildings: 2788.43 billion dinars (2.19 billion dollars).
- b. Water: 1926.73 billion dinars (1.09 billion dollars).
- c. Sanitation: 1444.72 billion dinars (1.49 billion dollars).
- d. Municipalities: 732.38 billion dinars (0.51 billion dollars).
- e. Health: 310.06 billion dinars (0.24 billion dollars).
- f. Housing: 587.95 billion dinars (0.44 billion dollars).
- g. Social services: 558.46 billion dinars (0.44 billion dollars).
- h. Culture: 105.12 billion dinars (0.80 billion dollars).
- i. Awqaf and religious affairs: 187.80 billion dinars (0.15 billion dollars).

2-2. Education and higher education sector

The overall investments dedicated to this sector in 2005-2008 reached 1723.60 billion dinars (1.39 billion dollars) distributed on education and higher education as follows:

- a. Education: 891.19 billion dinars (0.72 billion dollars).
- b. Higher education: 832.41 billion dinars (0.67 billion dollars).

The above figures show that the funds allocated by the Ministry of Planning and Developmental Cooperation to the building and housing sector is incompatible with the figures stated in the National Development Strategy for 2007-2010; hence the activities of the two sectors failed to achieve their objectives, which had a negative impact on the level of services provided such as water and sanitation. Table 1 shows the size of investments dedicated for the two sectors.

Table 1

The finds allocated by the Ministry of Planning to develop the building & housing sector and the education and higher education sector for 2005-2008 (in millions of dinars)

Activity	2005	2006	2007	2008	Total
Building & housing sector and services					
Government buildings	244594	467568	449098	1627174	2788434
Water	267371	365062	339188	955106	1926727
Sanitation	90065	582850	170500	601303	1444718
Municipalities	70738	129664	191500	340479	732381
Health	38000	31542	98250	142263	310055
Housing	111215	139544	110952	226243	587954
Social services	64400	54270	193000	246789	558459
Culture	20108	17600	23875	43538	105121
Religious endowments	13482	20450	22700	121156	187797
Total of the sector	919973	1808550	1599063	4314060	8641646
Education and higher education sector					
Education	13483	35190	361330	481183	891186
Higher education	50000	59500	258971	463941	832412
Total of the sector	63483	94690	620301	945124	1723598

3- Current state of the building & housing and services

This sector is the key for progress on governorate level and elevating its implementation level depends basically on the availability of raw materials and skilled labor. However this was not materialized due to the fact that the sector did not assume its effective role for reasons that may be visible or for other reasons, such as:

- a. The deteriorating security situation in the period after the fall of the regime (this doesn't mean that it is the main reason behind the low implementation level but there are other reasons).
- b. The rise of a class of contractors who emerged after the fall of the regime. These contractors were conducting mainly small but expensive contracting works, which raised their ranking but most of them have no real experience.
- c. Most efficient contractors and large Iraqi companies refrain from bidding for construction contracts because they are unable to compete with these contractors.
- d. Approvals are delayed when expensive projects are referred to the high government authorities.
- e. Projects are scattered over a number of districts and sub-districts and consequently became useless, particularly concerning regional development.
- f. Most projects have no feasibility studies, which led changes on a large scale to implement the project according to the real situation.
- g. Most experienced persons in charge of conducting the studies and composing the contacts were replaced with newly graduated technicians and engineers, which hugely affected implementation.
- h. The ethnic and sectarian conflicts had a major impact and caused many experienced persons not to surface.

Key activities of this sector

3-1. Housing

Iraq is facing a severe shortage in housing, which may have negative effects on all aspects of life and also on urban development unless serious efforts are exerted to address the problem. Estimates of the Ministry of Building and Housing show that there is a shortage of around 3.5 million housing units, including the net housing deficit and the replacement of old housing units or those built from unstable materials, in addition to meeting the needs of the natural population growth.

This problem varies from a governorate to another and the quality of housing units has also deteriorated due to congestion and poor maintenance during the past two decades; 30-35% of all housing units is below standard, particularly in big cities. Therefore the Ministry of Building and Housing created a fund to

grant small loans (\$ 5000-12000) to enable small earners construct homes, in addition to allocating small pieces of land to them sold in symbolic prices.

Hence the situation requires elaborating a comprehensive housing strategy and policy on national level to determine the housing needs accurately based on an acceptable housing standard, determine the role of the public sector in boosting the capacity of the housing private sector, consolidate the housing financing mechanism and make housing affordable to various social categories, including the marginalized and the vulnerable social groups.

3-2-1. Water

The water sector in Iraq suffers from tremendous problems, whether in regard to quantity or quality, as a result of the long years of wars and economic sanctions and depletion of the country's financial and human resources. This situation has a negative impact on implementing the development plans necessary to provide this key public service, against which the progress and development of nations and peoples is measured. And after the drinking water system in the 1980s was providing water services to 95% of the urban population and 75% of the rural population, these services began to deteriorate since 1991 causing the percentage of urban population serviced with drinking water to drop to 74% and that of the rural population to drop to 48%, not to mention the deteriorating quality of water provided.

There are two authorities in charge of water production and distribution in Iraq:

1. Ministry of Municipalities and Public Works and Public Directorate for Water, which produce and deliver water to 14 governorates, in a addition to the districts and sub-districts of Baghdad Governorate. The number of people benefiting from this service is around 22 million and the number of operating projects is 245, in addition to 2128 water collector units with various capacities. The volume of water produced from these projects and water collector units is around 7.2 million m³ daily, but the daily water need is 9.8 million m³, so the daily water deficit is 2.6 million m³, or 26.5%.

Table 6 shows the production capacities in 2004-2008.

Table 6

Design, available and actual capacities of water projects and water collector units on governorate level in 2004-2008

Capacity / Year	2004	2005	2006	2007	2008
Design capacity	6626324	6674633	6719250	8415905	9075560
Available capacity	6427534	6473894	6517672	8303317	8859261
Actual capacity	1715544.9	1714531.8	1788652.6	2569267.5	2671807.7

Source: Ministry of Municipalities and Public Works/Public Directorate for Water.

It is noted in table 6 the actual production in the said period and that the production rate reached around 11.7%.

2. Baghdad Governorate/Baghdad Water Department, which produce and distribute water to the city of Baghdad through the 7 water projects they operate, in addition to the water collector units, which have various production capacities. The city of Baghdad suffers from acute water shortage of 1.25 million liter/day, or 35%, particularly in Al Rasafa where the water per capita dropped to 110 liter/day, which requires establishing a water project in the area. Indeed, The Council of Ministers approved Al Rasafa water project and allocated 1131324700000 dinars to it. The production capacity of the project will be 910million m³/day and the implementation period will be 28 months. However, only a fraction of the financial allocations is provided, which will delay the implementation of the project in time and will worsen the situation in Al Rasafa over the coming period. The following chart shows the development of per capita consumption of fresh water (liter/day), and table 7 shows the production capacities of water projects and water collector units.

Year/capacity	2004	2005	2006	2007	2008
Design capacity	963000	1030000	1040000	1040000	1050000
Available capacity	850000	905000	873000	873000	942000
Actual capacity	726000	729000	736000	766000	788000

Source: Baghdad Governorate/Water Department

It is noted in table 7 that the actual capacities of water projects and water collector units have slightly increased and that the production growth rate reached 2.1% during the said period.

3-2-2. Sanitation

Sanitation projects have always been below standard. Failure to implant the development plans to elevate this sector led to a decrease of the percentage of people provided with sanitation services; 13% in all governorates, with the exception of the city of Baghdad in 2003, while in rural areas there isn't any sanitation. The Ministry of Municipalities has been seeking to increase the number of people provided with sanitation services, currently 26% of the population is covered. The is also the case in terms of sanitation projects in Baghdad where the percentage of people serviced increased from 50% in 2003 to 70% in 2008. Recent studies indicate that most sanitation facilities are fairly operating and that wastewater collection and treatment services cover 80% of the population in the city of Baghdad, but only 9% of the population of the urban areas surrounding the city of Baghdad is covered by sanitation services. Hence, sanitation poses now a serious environmental and health risk and according to the latest reports there are no wastewater treatment plants operating outside the city of Baghdad at all and that wastewater is discharged into the river. The erosion of sewer pipes and the pressure of

groundwater led to polluting the drinking water and now around 50% of wastewater is discharged into the river and watercourses. The city of Baghdad alone contributes 75% to this pollution and tables 8 and 9 show the current situation of the sanitation sector in the Governorates and Baghdad.

Table 8

Wastewater disposal projects in the governorates, with the exception of Kurdistan.

Serial No	Governorate	Design capacity	Number of people serviced	Number of wastewater stations	Number of pumps	Length of network	Number of wastewater gutters
1	Nainawa	17820	61500	5	14	51	3300
2	Kurkuk	3500	9000	2	5	26	870
3	Salah Al Deen	27000	82000	16	62	345	-
4	Deyala	21600	22610	1	-	74691	-
5	Al Anbar	7000	35500	6	10	7500	150
6	Baghdad	3000	12000	6	10	7500	150
7	Babel	12000	55000	13	22	128	6682
8	Karbala	41000	165000	4	14	224	4000
9	Al Najaf	42000	180000	7	17	125	2740
10	Al Deewaniya	12000	50000	19	31	175	3351
11	Wasit	-	-	-	-	-	-
12	Al Munthana	1000	4000	5	5	16.277	1620
13	Thi Qar	18000	95000	14	11	13.617	4785
14	Maysan	30000	75000	31	68	120	4800
15	Al Basrah	118100	1000000	65	98	866.436	16302
	Total	345020	1846610	194	369	84529.41	57610

Table 9

Sewage treatment projects in the city of Baghdad

Serviced areas	Supply: m ³ /day	Design capacity: m ³ /day	Project
The areas located west of Al Jaish channel, from Al Adhamiya to Al Rustumiya Project.	250000-225000	175000	Old Al Rustumiya Project
The areas located east of Al Jaish channel, from Alsha'ab area - Al Sadr City - Al Baladiyat	325000	300000	Al Rustumiya Project, 3 rd Expansion
The project treats wastewater of the areas located near Al Karkh.	625000	205000	Al Karkh Project

Source: Baghdad Governorate

The above table shows that the wastewater supply meant for treatment exceeds the design capacity of operating projects

3-4. Health

The Ministry of Health and private hospitals provide their treatment and preventative and services to citizens through their health institutions that spread all over Iraq (hospitals, health centers and popular clinics). However, the quality of these services has considerably deteriorated following the economic sanctions and the last war that led to the destruction of the infrastructure, which was in a very bad shape in the first place, in addition to the severe shortage of medicines, medical requirements and vaccines. The situation was made worst by the migration of many highly experienced doctors with rare specializations due to the bad security conditions in Iraq during the few years that followed the war, in addition to the scarcity of health investments, whether public or private. All these factors led to the spread of many epidemics and diseases, particularly amongst children and women. The maternal mortality rate per 1,000 live births rose from 60 during 1979-1989 to 193 during 2004-2004, compared to 41 deaths in Jordan and 25 deaths in Kuwait.

The infant mortality rate (the number of deaths under 1 year of age per each 1,000 live births) rose from 25 during 1989-1993 to 32 during 1999-2003 to drop to 30 again in 2007. The mortality rate in children under age five rose from 36 deaths to 40 deaths.

Tables 10, 11 and 12 show the number of hospitals, health centers in Iraq.

3-5. Culture

The Iraqi cultural heritage (historical sites, arts and traditional crafts) suffered immensely during the few past decades. And although this heritage suffered from looting and sabotage after 2003, there are still today many cultural assets and these are the natural source for creating jobs in the fields of protection and preservation of antiquities and cultural tourism. Working in these fields will guarantee sustainable management of historical sites and will reduce the losses suffered by deeply-rooted Iraqi cultural heritage such as music, poetry, dancing, etc, which should be protected and preserved by the state and the private sector alike.

Sponsorship of the state and civil society organizations to maintain and protect Iraq's cultural heritage should lead in the near future to establishing and developing a broad range of areas in the tourism industry and will help Iraq in its reconstruction and socioeconomic development processes through:

- Achieving structural reforms via public and technical education, HR development and training in the field of protecting the cultural and artistic heritage.
- Review and activate the laws pertaining to the protection of cultural heritage, provide HR in this field and develop the capacity of officials in charge of protecting this heritage.
- Boost the protection, maintenance, rehabilitation and development of Iraq's cultural heritage.

- Create a special armed unit to protect the cultural heritage.
- Develop the training programs and special education related to tourism and heritage.
- Develop the small sized industries related to tourism (handicrafts and artistic professions).
- Analyze and diagnose the factors affecting and endangering the historical sites.

3-6. Education and higher education sector

After the devastation of most of the country's facilities and infrastructures following the economic sanctions and the last war, which hit hard this sector, whether directly or indirectly, and affected the outputs of education and higher education activities alike. Table () shows the number of education and higher education buildings during the period 2003-2004 and 2006-2007.

This sector suffered many technical and financial problems, which led to very long delay in construction, rehabilitation and provision of the necessary requirements and supplies.

The demand for all stages of higher education in Iraq has increased as result of the social development process. Thus many civil and public colleges and universities were established, which had huge impact on the education system in Iraq as a whole. Hence the relation between this type of education and state education has been determined by the Ministry of Higher Education, where the high demand for education opportunities in civil universities and colleges will guarantee the flow of students in the required specializations, but this doesn't mean fulfilling the actual needs of graduates in the labor market.

Key problems

- 1- Lack of school buildings and maintenance necessary to meet the needs of quantitative and qualitative development in the education system, the natural growth in the number of students, the two-shift and three-shift school time, large number of unfit buildings and the aggravating problems related to the restoration and maintenance of existing buildings.
- 2- Sever shortage of educational requirements and aids, in addition to the difficulty of providing books and stationery and going on school trips.
- 3- In the field of higher education: severe shortage of labs and medical, engineering and chemical educational tools, which resulted in inefficiency and lack of vocational experience of students in all specializations.
- 4- Lack of academic communication with the outside world in the fields of research and literature and the declining contribution of Iraq during the blockade and the period that followed it, which had a negative impact on the standard of education in the country.
- 5- The security conditions that followed the war led to a brain drain in the field of teaching, which had a negative impact on the educational process in Iraq as a whole.

Recommendations

I. Building sector

- 1- The bodies involved should cooperate with Iraqi universities and other specialized institutions to issue a guidebook that specifies the technical specifications of materials, methods of work and examination for civil engineering works and the relevant electrical, mechanical and health works. This guidebook shall be a binding reference for implementing works and projects.
- 2- Underline the need for quality control of (natural and manufactured) construction materials.
- 3- The bodies involved should expand the process of preparing vocational and professional cadres in the field of construction given their huge impact in improving the quality of building. The bodies involved should also study the issue of granting degrees and licenses for construction professionals.
- 4- The officials in charge of projects should dedicate special attention in selecting the bodies which prepare and implement projects and should ensure that they are highly experienced and qualified.

II. Drinking water and sanitation

- 1- Provide financial and technical support to enhance and develop existing projects and establish new ones, particularly in Baghdad where Al Rasafa has been in a severe water shortage since 1986, especially in the summer, given that no water project was implemented. However, Al Rasafa water project was included in 2008 in the Investment Plan but sufficient funds were not allocated in order to be implemented according to schedule.
- 2- Provide sufficient water sources to operate the water pumping stations in the country in order to reduce the use of fresh water for purposes other than drinking.
- 3- Maintain and rehabilitate the existing wastewater purification projects in order to attain the required environmental specifications for the treated wastewater before being transported to the discharge points in order to protect the environment and public health.
- 4- Maintain and rehabilitate the existing pumping stations and sanitation networks and enhance their efficiency.
- 5- Review the subsidy policies in the sector and set a schedule to gradually raise the price of drinking water, taking into consideration the price variance between social categories, areas and the volume of water consumed.

III. Housing

- 1- Elaborate a comprehensive housing strategy and policy to accurately determine the housing needs based on an acceptable housing criterion.
- 2- The state should establish low-cost housing complexes for small earners and state employees.

- 3- Strengthen state partnership with the private sector and funding institutions in a comprehensive investment framework.

IV. Health

- 1- Rehabilitate hospitals and compensate the shortage of medical equipment and requirements.
- 2- Prepare the specialized cadres in the field of project management and implementation.
- 3- Call up for national, regional and international resources for the reconstruction of the infrastructures of this sector, which requires providing data on the current situation and requirements of this sector and also consolidating cooperation with the broadcast media and the written press.

V. Education and higher education

- 1- Provide financial and technical support to rehabilitate primary and secondary schools and build new ones.
- 2- Continue the efforts to develop the education and higher education services by equipping schools and universities with modern technologies such as computers and other.
- 3- Qualify and train teachers to achieve the highest teaching and learning standards

VI. Culture

- 1- Consolidate, develop and maintain the tangible and intangible cultural heritage.
- 2- Develop the training and educational programs and means related to tourism and culture.
- 3- Review the needs of historical sites and the sectors to which the infrastructures are related, in addition to boosting the capacity of local communities in the fields of management, tourism and entertainment.
- 4- Develop the handicrafts and arts related to tourism.